Table of Contents

Municipal Claimants' Supporting Documents

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February 20, 2024
Commission on
State Mandates

Volume 1, pp. 1-376	County 2011 Co-Permitee Surveys
Volume 2, pp. 377-743	Co-Permittee 2010 Declarations
Volumes 2 – 11	JURMP Annual Reports
Volume 12	Water Quality Improvement Project Annual Reports
Volume 13, pp. 1-10756	WURMP Annual Reports
Volume 13, pp. 10757-10784	County Fiscal Analysis Documents
Volume 13, pp. 10785-10907	Cost-Sharing Memorandums of Understanding
Volume 13, pp. 10908-10916	County Watershed Workgroup Expenditure Records
Volume 13, pp. 10917-13074	Regional Cost Sharing Documentation
Volume 14, pp. 1-7	Resume of John Quenzer
Volume 14, pp. 8-189	D-Max Files

CITY OF SANTEE



2008/2009
JURISDICTIONAL URBAN RUNOFF MANAGEMENT PROGRAM ANNUAL REPORT

IDDE SECTION

DECEMBER 2009

PREPARED BY:

D-MAX ENGINEERING, INC.
7220 TRADE STREET, SUITE 119
SAN DIEGO, CALIFORNIA 92121
858.586.6600

CITY OF SANTEE

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CERTIFICATION STATEMENT

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Pedro Orso-Delgado
Director of Development Services/Deputy City Manager

Date: December 9, 2009

Telephone: (619) 258-4100 ext. 168

INTRODUCTION AND CONTENTS

Introduction

The Reporting Period as originally written in Regional Water Quality Control Board (RWQCB) Order No. R9-2007-0001 (Municipal Permit) was defined as July 1 through June 30. Reporting on the City's implementation of all components of its JURMP was originally required to be submitted to the RWQCB by September 30 following the Reporting Period. However, on September 10, 2008, the RWQCB adopted Addendum No. 2 to the Municipal Permit, which requires that the City discuss its 2009 Dry Weather Monitoring Program activities in Section 7 of its 2008/2009 JURMP Annual Report.

Section 7 of the Annual Report discusses the implementation of the illicit discharge detection and elimination (IDDE) component of the City's storm water program. This program component includes both dry weather monitoring activities and other activities to prevent and respond to illicit connection and illicit discharges, such as operating a storm water hotline. The Reporting Period for the portions of this section that discuss dry weather monitoring activities was changed to extend through September 30, 2009, but the Reporting Period for other activities described in the section was not changed and thus extends through June 30, 2009, the same Reporting Period as applies to the rest of the JURMP Annual Report. Because the field work for the dry weather monitoring program is not required to be completed until September 30, 2009, the same day that the JURMP Annual Report is to be submitted, the RWQCB extended the submittal deadline for all of Section 7 of the 2008/2009 JURMP Annual Report until December 15, 2009.

Contents

This submittal includes a certification statement, the text of Section 7 of the 2008/2009 JURMP Annual Report, and the attachments associated with that section. For clarity, the items included in this submittal are listed below.

- Certification statement for Section 7 submittal
- Introduction and Contents
- Section 7 (IDDE component) of the 2008/2009 JURMP Annual Report
- JURMP Annual Report Requirements Checklist (for Section 7 only)
- Attachment 7.1, City of Santee Dry Weather Field Screening and Analytical Monitoring Program 2009

Please note that the complaint log, referenced as Appendix B in Section 7, was already submitted with the main JURMP Annual Report submittal in September 2009 and is not included again with this submittal.

7.0 ILLICIT DISCHARGE DETECTION AND ELIMINATION

7.1 INTRODUCTION

The City maintains several programs to prevent and to seek out and eliminate illicit connections and illicit discharges (IC/IDs), which can be significant sources of pollutants to the City's MS4. Illicit discharges may result from activities such as vehicle washing or equipment cleaning without the use of proper BMPs. Illicit connections include improper links to the MS4, typically of conveyances that should be plumbed to the sanitary sewer system, such as car wash facility drains. City storm water personnel work with residents, businesses, and City staff to make them aware of BMPs to prevent IC/IDs and to encourage reporting of IC/IDs. The following activities are the primary components of the City's program to combat IC/IDs:

- Inspecting local businesses, construction sites, and municipal facilities;
- Conducting the Dry Weather Field Screening and Analytical Monitoring Program (Dry Weather Monitoring Program);
- Operating a public complaint hotline.

These activities enable the City to provide a comprehensive system to improve the quality of storm water and urban runoff throughout the City through detection and elimination of IC/IDs.

7.1.1 SUMMARY OF NOTABLE ACCOMPLISHMENTS

Some notable achievements for the illicit discharge detection and elimination component during the 2008/2009 Reporting Period are presented in the following bulleted list. Please note that per Addendum No. 2 to the Municipal Permit, the Reporting Period for the Dry Weather Monitoring Program was extended through September 30, 2009. The Reporting Period for all other components of the City's illicit discharge detection and elimination (IDDE) program ended on June 30, 2009.

- The City continued to operate a storm water hotline; the City received and responded to 59 complaints during the Reporting Period.
- The City performed all of the recommended corrective actions proposed in the 2008 Dry Weather Monitoring Program Report to prevent possible pollutants from entering the storm drain system.
- The City conducted two rounds of monitoring during the 2009 Dry Weather Monitoring Program, and performed the recommended corrective actions based on Round One results.

7.2 Public Reporting of Illicit Discharges and Connections

See Section 4.10 of this JURMP Annual Report, which was submitted in September 2009. Additionally, the City received a report of a fish kill in the San Diego River toward the eastern boundary of the City in October 2008. City staff followed up with the County and was provided with monitoring data collected by Lakeside Land Company, which indicated that low dissolved oxygen levels (less than 5.0 mg/L) were present in the river east of the Santee City boundary. City staff also contacted the plant manager at RCP Block and Brick, located along the San Diego River at the eastern side of Santee, to see if he had noticed any discharges or similar circumstances that might have contributed to reduced dissolved oxygen levels. He reported that he had seen evidence of a fish kill but had not noticed any sources or discharges that would directly reduce oxygen levels. City staff also directly visited this segment of the San Diego River to visually investigate and did not note any evidence of discharges that could result in low dissolved oxygen. Based on the results of the investigation, it appears that reduced dissolved oxygen was present in the river upstream of the City of Santee. Given that the observation occurred at the very end of the summer before any rain events, it is possible that effects of high temperature and very slow flow velocities in that portion of the river contributed to the observed conditions. Additionally, the City conducted sampling for dissolved oxygen in the portion of the river at the eastern boundary of the City in May and September 2009. Dissolved oxygen readings in those samples were 7.95 and 7.91 mg/L, respectively, both well above the Basin Plan standard of 5.0 mg/L.

7.3 Spill Reporting, Response, and Prevention

See Section 4.9 of this JURMP Annual Report, which was submitted in September 2009.

7.4 Urban Runoff Monitoring

The City has continued to conduct a Dry Weather Monitoring Program, as required by the Municipal Permit. This program assists the City in detecting and eliminating IC/IDs to the storm drain system. There are three major components to the Dry Weather Monitoring Program:

- Field observations, which include site descriptions and qualitative observations
- Field screening, which includes flow estimation and sample testing using meters and test kits at the site
- Analytical monitoring, which involves submittal of collected samples from selected sites, constituting 25 percent of all flowing or ponded sites, to an analytical laboratory for additional testing

The City visits all designated primary monitoring stations each year between May 1 and September 30 to collect dry weather monitoring data. When a primary monitoring station is found to be dry, the City visits designated alternate monitoring stations.

For both the 2008 and 2009 Dry Weather Monitoring Programs, the City visited 20 monitoring stations with ponded or flowing water to collect Dry Weather Monitoring Program data. The City conducts two rounds of dry weather monitoring each season, one early in the season and one near the end.

Numeric action levels are used as the primary approach for the interpretation of most constituent concentrations measured in the field and laboratory. Action levels for dissolved metals follow the California Toxics Rule (CTR) Criteria Maximum Concentration (CMC). Temperature, turbidity, and conductivity parameters are evaluated using best professional judgment to determine if further investigation is needed. The action levels for pH, surfactants, ammonia-nitrogen, nitrate-nitrogen, orthophosphate-phosphorus, oil and grease, diazinon, and chlorpyrifos were adopted in 2003 and were based on statistical analyses of previous Dry Weather Monitoring Program data, established water quality benchmarks from the Basin Plan, and the United States Environmental Protection Agency Multi-Sector General Permit.

The Regional Monitoring Workgroup in November 2008 requested the Dry Weather Monitoring Sub-workgroup to evaluate dry weather action levels that were submitted in April 2003 by the County of San Diego on behalf of the Copermittees. The Dry Weather Monitoring Sub-workgroup determined that the bacterial indicators action levels required additional analysis. All other action levels were deemed appropriate and will not change. The Dry Weather Monitoring Sub-workgroup contracted the services of D-MAX Engineering (D-MAX) to conduct the evaluation of historical bacterial data collected from dry weather monitoring from 2002 through 2007. Details of their evaluation are posted on the Project Clean Water Website at http://www.projectcleanwater.org/pdf/science_mon/dry_weather_2009bacteria_action_level_report_draft.pdf. The Regional Monitoring Workgroup on May 19, 2009 evaluated the recommendations of the Dry Weather Monitoring Sub-workgroup and selected the 80th percentile values to be proposed as the dry weather action levels for bacterial indicators beginning on May 1, 2010. The current levels and the levels proposed for use beginning May 1, 2010 are presented in Table 7-1.

TABLE 7-1
Bacterial Indicators Action Levels for Dry Weather Monitoring Program

	Total Coliform (MPN/100 mL)	**Fecal Coliform (MPN/100 mL)**	***Enterococcus* (MPN/100 mL)**
2003-2009 Action Levels	50,000	20,000	10,000
Proposed 2010 -2012 Action Levels	130,000	13,000	7,000

7.4.1 2008 DRY WEATHER MONITORING PROGRAM

Both rounds of the City's 2008 Dry Weather Monitoring Program were conducted during the 2008 dry season. For information about how the City addressed issues discovered during the 2008 Dry Weather Monitoring Program and responded to the resulting recommendations, see Section 7.5.1 of this report.

7.4.2 2009 DRY WEATHER MONITORING PROGRAM

Both rounds of the 2009 Dry Weather Monitoring Program were completed as scheduled during the 2009 dry season. Twenty-two routine site visits to the monitoring stations were performed.

If the results of the field or laboratory analyses exceed specific action levels, follow-up investigations are required within two business days. Upstream investigations are performed when exceedances are verified during confirmation visits. See the City's JURMP for a complete discussion of upstream investigation procedures.

Table 7-2 presents a summary of the action level exceedances observed in 2009. Tables 7-3 and 7-4 present the results of confirmation visits and, where necessary, upstream investigations conducted during Round One and Round Two, respectively. A list of all the monitoring stations visited is displayed in Table 7-5. At the end of this section, tables 7-6 and 7-7 provide the complete field analytical results and laboratory analytical results, respectively, from both rounds of the 2009 Dry Weather Monitoring Program.

Table 7-2
Summary of 2009 Action Level Exceedances

Field Screening (20 samples)						
Analyte	**Number of Exceedances**		**Percentage of Sites with Exceedance**		**Site Exceeding Action Level**	
	R1	**R2**	**R1**	**R2**	**R1**	**R2**
pH	0	1	0	5	---	V40d
Conductivity	0	0	0	0	---	---
Turbidity	0	1	0	5	---	Q5l
Surfactants	0	0	0	0	---	---
Ammonia-N	1	0	5	0	E5g	---
Nitrate-N	0	1	0	5	---	P15b
Orthophosphate-P	0	1	0	5	---	Q5l

Laboratory Analyses (5 samples)						
Analyte	Number of Exceedances		Percentage of Sites with Exceedance		Site Exceeding Action Level	
	R1	R2	R1	R2	R1	R2
Oil & Grease	0	0	0	0	---	---
Cadmium	0	0	0	0	---	---
Copper	0	0	0	0	---	---
Lead	0	0	0	0	---	---
Zinc	0	0	0	0	---	---
Diazinon	0	0	0	0	---	---
Chlorpyrifos	0	0	0	0	---	---
Total Coliforms	0	1	0	20	---	J30d
Fecal Coliforms	0	1	0	20	---	J30d
Enterococci	0	1	0	20	---	J30d

Note: Round One (R1) and Round Two (R2) data is from the routine (first) visit to each site only.

Follow-up investigations conducted in response to action level exceedances are summarized in Section 7.5.2 of this report.

A formal trash assessment was performed in 2009 in accordance with the Municipal Permit requirements. A qualitative estimate of the abundance of trash is made based upon a general impression of the site. The Trash Assessment Form's five categories are primarily qualitative descriptions of the amount and extent of trash although a number of trash pieces is also included in each category as a rough guideline. The five categories are defined as follows.

- Optimal: On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
- Suboptimal: On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
- Marginal: Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
- Submarginal: Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (~100-400 pieces). Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
- Poor: Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

The threat to human health and threat to aquatic health is also assessed at each site. Prior to the beginning of the 2009 dry weather season, the Dry Weather Monitoring Sub-workgroup added additional detail to the definitions of these categories to help achieve a greater level or inter-jurisdictional consistency. The definitions are as follows:

- *Threat to Human Health* – Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment.
- *Threat to Aquatic Health* – Large amount (50 pieces or more) of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amounts of settleable, degradable, and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries, or spray cans; any evidence of large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment.

Twenty-two sites were assessed in each of the two rounds, and most of the sites were rated optimal or suboptimal, having little or no trash. One site in Round One and two sites in Round Two received a marginal trash assessment rating. No sites in either round were considered submarginal or poor, and no sites were considered to pose a threat to human or aquatic health.

The 2009 Dry Weather Monitoring Program Report, which includes results of field screening and analytical monitoring, can be found as Attachment 7.1.

Note that no substantive changes were made to the City's MS4 map as a result of the 2009 Dry Weather Monitoring Program.

7.5 Follow-up and Enforcement

7.5.1 Actions Taken in Response to the 2008 Dry Weather Monitoring Program Findings

Based on the 2008 Dry Weather Monitoring Program results, several recommendations were made. The following is a list of actions the City performed, based on the recommendations made in the 2008 Dry Weather Monitoring Report.

- The City has continued to work with the responsible parties for landscaping at the industrial park near 10911 Wheatlands Avenue as necessary to encourage appropriate use of fertilizers. Based on the results of Round Two monitoring, it appeared that the City's actions taken after Round One had been effective.

- In response to field reports of high turbidity at Site Q5l, City crews cleaned out sediment from the catch basin.
- Sediment, litter, and other debris in the storm water conveyance system between the outlet pipe at Site J25c and the junction box at upstream location J25c-2, near El Nopal and Molina Road was cleaned out. These conveyances were also cleaned in the spring, at the end of the wet season, to help reduce summer bacterial growth.
- Trash observed at marginal sites G30c, J25c, and U10, submarginal sites S5c, E5g, H5e, and Y15e, and suboptimal sites J25c2, J30d, K15j2, P20f, V40d RCP1, S15h, and V45K has been removed.
- The City has initiated the process of removing the obstruction in the outlet pipe at Site S5c.

7.5.2 2009 DRY WEATHER MONITORING FOLLOW-UP INVESTIGATIONS

If the results of the field or laboratory analyses exceed specific action levels, follow-up investigations are required within two business days. Upstream investigations are performed when exceedances are verified during confirmation visits. See the City's JURMP for a complete discussion of upstream investigation procedures.

Tables 7-3 and 7-4, below, present conclusions based on the results of confirmation visits and, where necessary, upstream investigations conducted during Round One and Round Two, respectively, of the 2009 Dry Weather Monitoring Program.

Table 7-3
Round One Summary of Follow-Up Investigations

Site	Follow-Up Investigation Target Constituent		Results / Probable Sources
	Field	Laboratory	
E5g	Ammonia-N	---	Organic material decomposition and human use of the site

Table 7-4
Round Two Summary of Follow-Up Investigations

Site	Follow-Up Investigation Target Constituent		Results / Probable Sources
	Field	Laboratory	
J30d	---	Total Coliforms, Fecal Coliforms, Enterococci	Decomposing vegetation and leaves in the channel (total coliforms); transient (fecal coliforms and enterococci)

Site	Follow-Up Investigation Target Constituent		Results / Probable Sources
	Field	Laboratory	
P15b	Nitrate-N	---	Groundwater seepage into conveyance
Q5l	Orthophosphate-P, Turbidity	---	Historical agricultural activity and groundwater seepage are the most probable sources, additional research is underway
V40d	pH	---	Transient; algal photosynthesis and increased temperature removing carbon dioxide from the water, which increases pH

After the completion of Round One, the City removed trash and debris from Site E5g, which received a marginal trash assessment rating and had an exceedance of ammonia-nitrogen. Round Two observations indicated the City's action was effective; no exceedances were noted at Site E5g, and the site received an optimal trash assessment rating. The City also removed trash and debris from both of the other sites that had received marginal trash assessment ratings and removed vegetative debris from areas upstream of the bacterial exceedances prior to the wet season. The City is in the process of responding to the remaining recommendations based on Round Two of the 2009 Dry Weather Monitoring Program findings. These actions and any other actions taken with respect to the City's Dry Weather Monitoring Program during the remainder of 2009/2010 will be described in the 2009/2010 JURMP Annual Report.

7.5.3 IC/IDs Identified

During the Reporting Period, 30 IC/IDs were identified and eliminated based on investigations of reports made to the City's public complaint hotline. Details of all stormwater complaints made to the City's public complaint hotline are included in the City's complaint log, included with the September 2009 JURMP Annual Report submittal as Appendix B.

7.5.4 Enforcement

The enforcement actions taken by the City of Santee during the 2008/2009 Reporting Period are discussed in sections 4, 5 and 6 of this JURMP Annual Report, which was submitted in September 2009.

7.6 Illicit Discharge Detection and Elimination Component Effectiveness Assessment

The effectiveness assessment of this program component is provided in Section 11 of this JURMP Annual Report, which was submitted in September 2009.

7.7 PROGRAM REVIEW AND MODIFICATION

A revised version of the definitions of threat to human health and threat to aquatic health used during the trash assessment component of the Dry Weather Monitoring Program and proposed bacteria action levels to be used in the 2010 dry weather season are discussed earlier in this section. No other changes to the City's illicit discharge detection and elimination component were made during the Reporting Period.

Table 7-5
2009 Dry Weather Monitoring Locations

Site	Location	Conveyance	Primary Land Use	Secondary Land Use	Hydrologic Subarea	Latitude	Longitude
A5c	Next to 8335 Carlton Oaks Drive, between Cadorette Avenue and Praful Street.	Outlet	Residential	None	907.12	32.84081	-117.02160
E5g	Santee Recreation Lakes, west of the Southern Lake, outfall on east bank of Sycamore Creek.	Outlet	Residential	None	907.12	32.84854	-117.00723
G30c	South end of River Trail Place, north of San Diego River, down trail to the west.	Outlet	Residential	Open	907.12	32.84501	-116.99122
H5e	South of River Park Drive, at end of walkway between Brookview Court and River Rock Court, north of San Diego River.	Outlet	Residential	None	907.12	32.84561	-116.98769
J25c	West end of Carefree Drive, on the west side of channel.	Outlet	Residential	None	907.12	32.85813	-116.97601
J25c2	At the east end of Country Scenes, east of Conejo Road.	Outlet	Residential	None	907.12	32.85639	-116.97598
J30d	In the Woodglen Vista Channel on the south side of Mast Boulevard, 100 feet east of San Remo Road.	Natural Creek	Residential	None	907.12	32.85485	-116.97588
K15j2	North side of Woodglen Vista Drive, east of Woodrose Avenue, south side of the park.	Concrete Channel	Residential	Parks	907.12	32.86596	-116.97418
O40b	At the north end of Abraham Way, south of San Diego River.	Outlet	Commercial	Industrial	907.12	32.84851	-116.96392
P15b	Northeast corner of the North Magnolia Avenue and Rockville Street intersection.	Manhole	Commercial	Residential	907.12	32.83704	-116.96633
P20f	East of North Magnolia Avenue, at the east end of Chubb Lane.	Concrete Channel	Residential	Commercial	907.12	32.84674	-116.96920
Q5I	North side of Prospect Avenue, 50 feet east of Railroad Avenue.	Catch Basin	Commercial	Industrial	907.12	32.83121	-116.97090
RCP1	North bank of the San Diego River in the RCP Brick Factory, across from the southwest corner of the antennae field.	Outlet	Residential	None	907.12	32.84959	-116.96659

Table 7-5 (Continued)
2009 Dry Weather Monitoring Locations

Site	Location	Conveyance	Primary Land Use	Secondary Land Use	Hydrologic Subarea	Latitude	Longitude
RCP3*	North bank of the San Diego River in the RCP Brick Factory, across from the southeast corner of the antennae field.	Outlet	Residential	None	907.12	32.84975	-116.96341
S15h	North of Town Center Parkway, between Mission Gorge Road and Cuyamaca Street, north of Walmart, west of trail.	Outlet	Commercial	None	907.12	32.84326	-116.98969
S5c	North of Town Center Parkway, between Mission Gorge Road and Cuyamaca Street, northwest of Michael's.	Outlet	Commercial	None	907.12	32.84371	-116.98798
T5e*	Northwest of the Prospect Avenue and Argent Street intersection, south of Forester Creek.	Outlet	Commercial	Industrial	907.12	32.83393	-116.98956
U10a*	South bank of Forester Creek, 450 feet south of the Mission Gorge Road and Carlton Hills Boulevard intersection.	Outlet	Commercial	Industrial	907.12	32.83745	-116.99586
V40d	On the south side of Prospect Avenue, east of Fanita Drive.	Concrete Channel	Residential	None	907.12	32.83375	-117.00005
V45k	On the north side of Mission Gorge Road, at the north end of freeway 125.	Natural Creek	Commercial	Open	907.12	32.83895	-117.00251
Y15e*	On the north side of Mission Gorge Road, between Crossway Court and Big Rock Road, across from a shopping center.	Outlet	Commercial	Residential	907.12	32.83670	-117.02158
Z15b	On the north side of Mission Gorge Road, east of Father Junipero Serra Trail.	Outlet	Residential	None	907.12	32.83770	-117.02997

Note: * Alternate sites RCP3 and T5e replaced dry primary sites U10a and Y15e

Table 7-6
Field Analytical Results from the 2009 Dry Weather Monitoring Program

Site	Date	Time	Flow (gpm)	Temp (°C)	pH	Turbidity (NTU)	Conductivity (mS/cm)	Surfactants (mg/L)	Ammonia-N (mg/L)	Nitrate-N (mg/L)	Ortho-phosphate-P (mg/L)
Round One											
A5c	5/26/09	11:45	Ponded	21.4	8.2	5.83	2.14	0.50	0.183	4.83	0.472
E5g	5/20/09	16:00	2	22.1	7.0	7.72	5.12	0.50	**1.590**	8.38	0.985
E5g (Confirmation 1)	5/21/09	15:45	1	22.1	7.3	na	2.80	na	**2.924**	na	na
E5g (Confirmation 2)	5/22/09	14:40	<1	22.4	7.3	na	3.02	na	**>3.00**	na	na
G30c	5/20/09	11:45	1	29	8.9	3.49	3.02	0.25	0.199	3.40	0.080*
H5e	5/20/09	14:50	1	25.3	8.3	0.92	1.52	0.25	0.049*	1.10*	0.090*
J25c	5/21/09	12:15	2	20.8	8.2	0.78	4.39	0.75	0.220	6.98	0.044*
J25c2	5/19/09	15:25	2	25.2	8.0	2.26	4.47	0.50	0.257	5.93	0.098
J30d	5/22/09	9:50	23	20.9	8.2	0.01	2.68	0.25	0.233	4.89	0.010*
K15j2	5/19/09	14:10	2	28.6	8.1	1.80	2.44	0.38	0.281	5.16	0.020*
O40b	5/20/09	9:20	Ponded	19.1	8.1	9.17	1.51	0.25	0.069*	2.26	0.485
P15b	5/21/09	15:15	4	24.6	7.7	0.79	1.62	0.13	0.130	7.00	0.126
P20f	5/21/09	11:40	15.5	23.8	8.8	10.30	1.36	0.13	0.232	2.59	0.049*
Q5I	5/21/09	9:25	<1	19.8	8.2	49.91	1.84	0.50	0.568	6.37	0.722
RCP1	5/21/09	10:45	5	21.5	8.3	0.64	1.60	0.25	0.059*	9.27	0.090*
RCP3	5/26/09	10:25	7.7	21.8	8.2	0.42	1.84	0.25	0.172	0.87*	0.103
S15h	5/26/09	14:10	<1	24.6	8.7	15.00	1.64	0.38	0.194	1.32	0.444

Table 7-6(Continued)
Field Analytical Results from the 2009 Dry Weather Monitoring Program

Site	Date	Time	Flow (gpm)	Temp (°C)	pH	Turbidity (NTU)	Conductivity (mS/cm)	Surfactants (mg/L)	Ammonia-N (mg/L)	Nitrate-N (mg/L)	Ortho-phosphate-P (mg/L)
S5c	5/20/09	12:45	2	24.7	8.1	2.59	1.02	0.13	0.038*	0.33*	0.043*
T5e	5/26/09	13:00	<1	24.4	8.2	5.89	1.05	0.25	0.146	0.36*	0.390
U10a	5/22/09	9:10	Dry	ns	ns	ns	ns	ns	ns	ns	ns
V40d	5/22/09	11:10	33.5	27.9	8.6	1.68	4.19	0.50	0.138	0.14*	0.004*
V45k	5/22/09	12:00	6	21.6	7.9	0.01	4.55	0.50	0.152	0.14*	0.019*
Y15e	5/26/09	12:35	Dry	ns	ns	ns	ns	ns	ns	ns	ns
Z15b	5/26/09	9:20	<1	19.8	8.1	5.14	1.13	0.13	0.034*	0.98*	0.303
Round Two											
A5c	9/8/09	12:30	<1	25.1	8.0	18.10	2.16	0.75	0.432	1.33	0.712
E5g	9/8/09	16:00	Ponded	24.8	7.4	12.68	3.26	0.50	0.693	0.55*	0.465
G30c	9/2/09	15:50	1	33.0	8.8	3.46	2.58	0.25	0.214	2.86	0.186
H5e	9/4/09	14:50	<1	27.9	7.9	1.14	2.70	0.25	0.285	0.81*	0.414
J25c	9/3/09	11:10	1	26.4	8.3	0.18	4.36	0.38	0.221	7.94	0.196
J25c2	9/2/09	15:00	1	30.1	7.9	0.41	5.42	0.38	0.240	6.01	0.054*
J30d	9/4/09	11:30	10	30.8	8.0	8.66	3.11	0.25	0.643	2.43	0.044*
J30d (Confirmation 1)	9/15/09	14:45	3	29.9	8.9	2.82	na	na	na	na	na
J30d (Confirmation 2)	9/21/09	14:00	5	29.5	8.7	2.45	na	na	na	na	na

Table 7-6(Continued)
Field Analytical Results from the 2009 Dry Weather Monitoring Program

Site	Date	Time	Flow (gpm)	Temp (°C)	pH	Turbidity (NTU)	Conductivity (mS/cm)	Surfactants (mg/L)	Ammonia-N (mg/L)	Nitrate-N (mg/L)	Ortho-phosphate-P (mg/L)
J30d (Confirmation 3)	9/23/09	16:00	2	27.4	8.6	2.92	15.65	na	na	na	na
K15j2	9/3/09	14:40	1	29.9	7.7	0.80	2.02	0.13	0.210	5.36	0.037*
O40b	9/8/09	14:15	Ponded	26.2	8.0	1.21	1.36	0.25	0.430	0.71*	0.228
P15b	9/4/09	13:45	3	30.5	7.7	0.82	1.60	0.13	0.202	**13.42**	0.156
P15b (Confirmation)	9/8/09	15:00	3	27.7	7.4	6.70	1.61	na	na	7.56	na
P20f	9/4/09	10:40	3	28.0	8.2	3.50	1.53	0.25	0.268	5.66	0.016*
Q5I	9/8/09	11:20	Ponded	25.2	8.0	**112**	1.86	0.75	0.595	2.88	**9.34**
Q5I (Confirmation)	9/9/09	10:35	Dry	ns	ns	ns	ns	ns	ns	ns	ns
RCP1	9/3/09	12:00	3	28.0	8.2	0.50	1.50	0.13	0.170	9.96	0.103
RCP3	9/9/09	9:45	3	23.6	8.0	0.49	1.73	0.25	0.177	9.93	0.152
S15h	9/9/09	11:20	<1	27.1	7.9	16.76	1.46	0.75	0.750	1.27	0.839
S5c	9/3/09	16:10	<1	28.8	7.8	1.60	2.48	0.25	0.273	1.30	0.267
T5e	9/8/09	10:05	Ponded	23.0	7.5	7.68	1.59	0.25	0.110	0.18*	0.057*
U10a	9/8/09	10:50	Dry	ns	ns	ns	ns	ns	ns	ns	ns
V40d	9/3/09	12:40	23	34.4	**9.1**	1.95	3	0.25	0.177	0.09*	0.015*
V40d (Confirmation)	9/4/09	10:05	31	27.4	8.0	na	3.62	na	na	na	na
V45k	9/9/09	12:30	5	26.1	7.7	3.70	2.60	0.25	0.271	0.12*	0.064*

Table 7-6(Continued)
Field Analytical Results from the 2009 Dry Weather Monitoring Program

Site	Date	Time	Flow (gpm)	Temp (°C)	pH	Turbidity (NTU)	Conductivity (mS/cm)	Surfactants (mg/L)	Ammonia-N (mg/L)	Nitrate-N (mg/L)	Ortho-phosphate-P (mg/L)
Y15e	9/8/09	9:35	Dry	ns	ns	ns	ns	ns	ns	ns	ns
Z15b	9/4/09	9:20	<1	25.9	7.6	7.79	2.35	0.50	0.256	0.60*	0.163
PRACTICAL DETECTION LIMIT				**0.0**	**0.0**	**0.01**	**0.00**	**0.00**	**0.100**	**1.13**	**0.098**
ACTION LEVEL				**BPJ**	**< 6.5 > 9.0**	**BPJ**	**BPJ**	**1.00**	**1.000**	**10.00**	**2.000**

Notes:
na = not analyzed
ns = not sampled (dry site)
* Value reported is below the Practical Detection Limit (PDL). Per manufacturer, the value is reported but flagged.
Red values were at or above the measured constituent's action level
denotes a confirmation visit
denotes a location sampled for laboratory analysis

Table 7-7
Laboratory Analytical Results from the 2009 Dry Weather Monitoring Program

Site	Date	Time	Oil & Grease (mg/L)	Total Hardness (mg/L)	Cadmium (mg/L)	Copper (mg/L)	Lead (mg/L)	Zinc (mg/L)	Diazinon (µg/L)	Chlorpyrifos (µg/L)	Total Coliforms (MPN/100 mL)	Fecal Coliforms (MPN/100 mL)	Enterococci (MPN/100 mL)
Round One													
J25c	5/21/09	12:15	nd	780	nd	0.006	nd	nd	nd	nd	8,000	170	1,300
J30d	5/22/09	9:50	nd	685	nd	nd	nd	nd	nd	nd	11,000	3,000	3,000
P20f	5/21/09	11:40	nd	356	nd	nd	nd	nd	nd	nd	11,000	400	500
RCP1	5/21/09	10:45	nd	520	nd	nd	nd	nd	nd	nd	8,000	70	2,300
V40d	5/22/09	11:10	nd	1,020	nd	nd	nd	nd	nd	nd	1,700	500	300
Round Two													
J25c	9/3/09	11:10	nd	931	nd	0.021	nd	nd	nd	nd	13,000	13,000	5,000
J30d	9/4/09	11:30	nd	834	nd	0.004	nd	nd	nd	nd	**300,000**	**90,000**	**30,000**
J30d** (Confirmation 1)	9/15/09	14:45	na	na	na	na	na	na	na	na	**173,000**	1,200*	1,414
J30d (Confirmation 2)	9/21/09	14:00	na	na	na	na	na	na	na	na	**242,000**	2518	na
J30d (Confirmation 3)	9/23/09	16:00	na	na	na	na	na	na	na	na	**242,000**	434	na
P20f	9/4/08	10:40	nd	534	nd	0.003	nd	nd	nd	nd	22,000	17,000	110
RCP1	9/3/09	12:00	nd	553	nd	0.002	nd	nd	nd	nd	13,000	8,000	800
V40d	9/3/09	12:40	nd	773	nd	0.005	nd	nd	nd	nd	2,300	300	130
ANALYTICAL REPORTING LIMITS			**5**	**10**	**0.001**	**0.001**	**0.001**	**0.020**	**0.05**	**0.05**	**20**	**20**	**20**
ACTION LEVELS			**15**	*******	**CTR**	**CTR**	**CTR**	**CTR**	**0.50**	**0.50**	**50,000**	**20,000**	**10,000**

Notes:

nd = not detected

na = not analyzed

Red values were at or above the measured constituent's action level

denotes a confirmation visit

* Number of fecal coliforms for confirmation samples is derived from *E. coli* count. Number of fecal coliforms = (Number of *E. coli*) / 0.85

** Bacteria confirmation samples are analyzed using the Colilert and Enterolert methods, which have a reporting limit of 10 MPN/100 mL.

*** Total hardness is not considered a pollutant, and thus has no established action level for the purposes of dry weather monitoring. Total hardness is measured because the CTR action levels for metals are dependent on the total hardness value of the water sample.

IDDE

Permit Annual Reporting Requirement—Section J.3.a.(3).(f)	Location in Report
i. Correction of any inaccuracies in either the MS4 map or the Dry Weather Field Screening and Analytical Stations Map.	7.4
ii. Reporting of all dry weather field screening and analytical monitoring results. The data should be presented in tabular and graphical form. The reporting shall include station locations, all dry weather field screening and analytical monitoring results, identification of sites where results exceeded action levels, follow-up and elimination activities for potential illicit discharges and connections, the rationale for why follow-up investigations were not conducted at sites where action levels were exceeded, any Copermittee or consultant program recommendations/changes resulting from the monitoring, and documentation that these recommendations/changes have been implemented. Dry weather field screening and analytical monitoring reporting shall comply with all monitoring and standard reporting requirements in Attachment B of Order No. R9-2007-0001 and Receiving Waters Monitoring and Reporting Program No. R9-2007-0001.	7.4, 7.5; Tables 7-2 through 7-7; Attachment 7.1
iii. Any dry weather field screening and analytical monitoring consultant reports generated, to be provided as an attachment to the annual report.	Attachment 7.1
iv. A brief description of any other investigations and follow-up activities for illicit discharges and connections.	7.5; Appendix B
v. The number and brief description of illicit discharges and connections identified.	7.5; Appendix B
vi. The number of illicit discharges and connections eliminated.	7.5; Appendix B
vii. Identification and description of all spills to the MS4 and response to the spills.	4.9, 7.3; Appendix B
viii. A description of activities implemented to prevent sewage and other spills from entering the MS4.	4.9, 7.3
ix. A description of the mechanism whereby notification of sewage spills from private laterals and septic systems is received.	4.9, 7.3
x. Number of times the hotline was called, as compared to previous reporting periods, and a summary of the calls.	4.10, 7.2, Appendix B
xi. A description of efforts to publicize and facilitate public reporting of illicit discharges.	4.10, 7.2
xii. The number of violations and enforcement actions (including types) taken for illicit discharges and connections, including information on any necessary follow-up actions taken. The discussion should exhibit that compliance has been achieved, or describe actions that are being taken to achieve compliance.	4.10, 7.5, Table 7-1, Appendix B
xiii. A description of notable activities conducted to manage illicit discharges and connections.	7.1, 7.5

ATTACHMENT 7.1

CITY OF SANTEE DRY WEATHER FIELD SCREENING AND ANALYTICAL MONITORING PROGRAM 2009

IDDE—Additional Dry Weather Monitoring Program Requirements

Permit Annual Reporting Requirement—Attachment B and Receiving Waters Monitoring and Reporting Program No. R9-2007-0001, Section II.B.3.c,d	Location in Report
Meets applicable standard monitoring and reporting requirements listed in Municipal Permit Attachment B.	Attachment 7.1
c. (1) Determining Sampling Frequency: Dry weather field screening and analytical monitoring shall be conducted at each identified station at least once between May 1st and September 30th of each year or as often as the Copermittee determines is necessary to comply with the requirements of section D.4 of Order No. R9-2007-0001.	7.4; Attachment 7.1
c. (2) If flow or ponded runoff is observed at a dry weather field screening or analytical monitoring station and there has been at least seventy-two (72) hours of dry weather, make observations and collect at least one (1) grab sample. Record general information such as time since last rain, quantity of last rain, site descriptions (i.e., conveyance type, dominant watershed land uses), flow estimation (i.e., width of water surface, approximate depth of water, approximate flow velocity, flow rate), and visual observations (i.e., odor, color, clarity, floatables, deposits/stains, vegetation condition, structural condition, and biology).	7.4; Attachment 7.1
c. (3) At a minimum, collect samples for analytical laboratory analysis of the following constituents for at least twenty five percent (25%) of the dry weather monitoring stations where water is present: (a) Total Hardness, (b) Oil and Grease, (c) Diazinon and Chlorpyrifos, (d) Cadmium (Dissolved), (e) Lead (Dissolved), (f) Zinc (Dissolved), (g) Copper (Dissolved), (h) Enterococcus bacteria, (i) Total Coliform bacteria, (j) Fecal Coliform bacteria	7.4; Table 7-7; Attachment 7.1
c.(4) At a minimum, conduct field screening analysis of the following constituents at all dry weather monitoring stations where water is present:	(n/a)
c. (a) Specific conductance (calculate estimated Total Dissolved Solids), (b) Turbidity, (c) pH, (d) Reactive Phosphorus, (e) Nitrate Nitrogen, (f) Ammonia Nitrogen, (g) Surfactants (MBAS)	7.4; Table 7-6; Attachment 7.1
c. (5) If the station is dry (no flowing or ponded runoff), make and record all applicable observations and select another station from the list of alternate stations for monitoring.	7.4; Attachment 7.1
c. (6) Develop and/or update criteria for dry weather field screening and analytical monitoring results whereby exceedance of the criteria will require follow-up investigations to be conducted to identify and eliminate the source causing the exceedance of the criteria.	7.4; Attachment 7.1
c. (7) Assess the presence of trash in receiving waters and urban runoff at each dry weather field screening or analytical monitoring station. Assessments of trash shall provide information on the spatial extent and amount of trash present, as well as the nature of the types of trash present.	7.4; Attachment 7.1

IDDE—Additional Dry Weather Monitoring Program Requirements

Permit Annual Reporting Requirement—Attachment B and Receiving Waters Monitoring and Reporting Program No. R9-2007-0001, Section II.B.3.c,d	Location in Report
c. (8) Dry weather field screening and analytical monitoring stations identified to exceed dry weather monitoring criteria for any constituents shall continue to be screened in subsequent years.	7.4; Attachment 7.1
c. (9) Develop and/or update procedures for source identification follow up investigations in the event of exceedance of dry weather field screening and analytical monitoring result criteria. These procedures shall be consistent with procedures required in section D.4.d of Order No. R9-2007-0001.	7.5; Attachment 7.1
c. (10) Develop and/or update procedures to eliminate detected illicit discharges and connections. These procedures shall be consistent with each Copermittees Illicit Discharge and Elimination component of its Jurisdictional Urban Runoff Management Plan as discussed in section D.4 of Order No. R9-2007-0001.	7.5; Attachment 7.1
d. The Copermittees shall commence implementation of dry weather field screening and analytical monitoring under the requirements of this Order by May 1, 2008. Each Copermittee shall conduct dry weather analytical and field screening monitoring in accordance with its storm water conveyance system map and dry weather analytical and field screening monitoring procedures as described in section II.B.3 above. If monitoring indicates an illicit connection or illegal discharge, conduct the follow-up investigation and elimination activities as described in submitted dry weather field screening and analytical monitoring procedures and sections D.4.d and D.4.e of Order No. R9-2007-0001. Until the dry weather field screening and analytical monitoring program is implemented under the requirements of this Order, each Copermittee shall continue to implement dry weather field screening and analytical monitoring as it was most recently implemented pursuant to Order No. 2001-01.	7.4, 7.5; Attachment 7.1

CITY OF SANTEE
DRY WEATHER FIELD SCREENING AND ANALYTICAL MONITORING PROGRAM
2009









Submitted to:

City of Santee
Development Services
10601 Magnolia Avenue
Santee, CA 92071-1266

Prepared by:

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D-MAX Engineering, Inc.
Consultants in Water & Environmental Sciences

December 9, 2009
Project No. 200919W

Ms. Helen Perry
Storm Water Program Manager
City of Santee
Department of Development Services
10601 Magnolia Avenue
Santee, CA 92071-1266

Re: 2009 Dry Weather Field Screening and Analytical Monitoring Program
City of Santee, California

Dear Ms. Perry:

Enclosed please find our final report for the City of Santee 2009 Dry Weather Field Screening and Analytical Monitoring Program.

This report presents the results from both rounds of the monitoring program conducted in the City of Santee during the 2009 dry weather season. The contents include field screening data, analytical laboratory test results, trash assessments, analyses of the collected data, and photographs of sampling locations. The report also presents the results of follow-up investigations conducted to identify the sources of pollutants detected and our recommendations for additional actions.

Review comments from the draft report submitted to the City have been incorporated into this final report. It has been our pleasure working with the City of Santee on this project. If you have any questions regarding this report, please call me at (858) 586-6600 ext. 22.

Sincerely,
D-MAX Engineering Inc.

Arsalan Dadkhah

Arsalan Dadkhah, Ph.D., P.E.
Project Manager

TABLE OF CONTENTS

SECTION ..... **PAGE**

1 INTRODUCTION **1**

1.1 PROGRAM OVERVIEW 1
1.2 HYDROLOGIC SETTING 1
1.3 REGULATORY REQUIREMENTS 1
1.4 PREVIOUS WORK 2
1.5 REPORT OUTLINE 3

2 SAMPLING LOCATIONS **4**

3 FIELD AND LABORATORY ANALYTICAL METHODS **7**

3.1 FIELD SCREENING PROCEDURES AND METHODS 7
3.2 LABORATORY ANALYTICAL METHODS 9
3.3 QUALITY ASSURANCE AND QUALITY CONTROL (QA/QC) 9
3.3.1 Field Sampling and Analysis QA/QC 9
3.3.2 Laboratory Sampling and Analysis QA/QC 11
3.4 FOLLOW-UP ACTION LEVELS 11

4 FIELD SCREENING RESULTS **14**

4.1 ROUND ONE 14
4.1.1 Qualitative Observations 14
4.1.2 Field Analytical Results 17
4.2 ROUND TWO 21
4.2.1 Qualitative Observations 21
4.2.2 Field Analytical Results 25

5 TRASH ASSESSMENT **37**

5.1 REGULATORY REQUIREMENTS 37
5.2 PROCEDURE AND DEFINITIONS 37
5.2 TRASH ASSESSMENT RESULTS 38

6 LABORATORY ANALYTICAL RESULTS **42**

6.1 SUMMARY 42
6.2 RESULTS 42

7 DATA ANALYSIS **46**

7.1 2009 RESULTS 46
7.2 PREVIOUS RESULTS 46

8 FOLLOW-UP INVESTIGATIONS **52**

8.1 INVESTIGATION PROCEDURES 52
8.2 INVESTIGATED SITES 52
Site E5g 53
Site J30d 54
Site P15b 59
Site Q5l 59
Site V40d 62

TABLE OF CONTENTS

9 SUMMARY AND RECOMMENDATIONS 64

9.1 SUMMARY OF FIELD SCREENING AND LABORATORY ANALYSIS DATA 64
9.2 SUMMARY OF FOLLOW-UP INVESTIGATION DATA 65
9.3 RECOMMENDATIONS 66
9.3.1 Inspection and Maintenance 66
9.3.2 Additional Investigation 66

TABLES

1-1 SUMMARY OF HISTORICAL DRY WEATHER SITES
2-1 2009 DRY WEATHER MONITORING STATIONS
3-1 FIELD ANALYTICAL METHODS
3-2 LABORATORY ANALYTICAL METHODS
3-3 FIELD ANALYSIS QA/AC RESULTS
3-4 ACTION LEVELS FOR FIELD SCREENING AND LABORATORY PARAMETERS
4-1 FIELD OBSERVATIONS - ROUND ONE
4-2 FIELD ANALYSIS STATISTICAL SUMMARY - ROUND ONE
4-3 FIELD ANALYTICAL RESULTS - ROUND ONE
4-4 FIELD OBSERVATIONS - ROUND TWO
4-5 FIELD ANALYSIS STATISTICAL SUMMARY - ROUND TWO
4-6 FIELD ANALYTICAL RESULTS - ROUND TWO
5-1 TRASH ASSESSMENT RESULTS – ROUND ONE
5-2 TRASH ASSESSMENT RESULTS – ROUND TWO
6-1 LABORATORY ANALYSIS STATISTICAL SUMMARY - ROUND ONE
6-2 LABORATORY ANALYSIS STATISTICAL SUMMARY - ROUND TWO
6-3 CTR – CMC FOR DISSOLVED METALS
6-4 LABORATORY ANALYTICAL RESULTS
7-1 2009 EXCEEDANCE SUMMARY
7-2 PERCENT OF SITES WITH EXCEEDANCES BY YEAR AND ROUND
8-1 SITE E5g AMMONIA-NITROGEN UPSTREAM INVESTIGATION
8-2 SITE J30d BACTERIA UPSTREAM INVESTIGATION
8-3 SITE P15b NITRATE-NITROGEN UPSTREAM INVESTIGATION
8-4 SITE Q5l ORTHOPHOSPHATE-PHOSPHORUS UPSTREAM INVESTIGATION
9-1 SUMMARY OF ACTION LEVEL EXCEEDANCES
9-2 ROUND ONE SUMMARY OF FOLLOW-UP INVESTIGATIONS
9-3 ROUND TWO SUMMARY OF FOLLOW-UP INVESTIGATIONS

FIGURES

5-1 ROUND ONE TRASH ASSESSMENT GIS MAP
5-2 ROUND TWO TRASH ASSESSMENT GIS MAP
8-1 SITE E5g AMMONIA-NITROGEN UPSTREAM INVESTIGATION MAP
8-2 SITE J30d BACTERIA UPSTREAM INVESTIGATION MAP
8-3 SITE Q5L ORTHOPHOSPHATE-PHOSPHORUS UPSTREAM INVESTIGATION MAP
A CITY OF SANTEE 2009 DRY WEATHER SAMPLING LOCATION MAP
B WATERSHED MAP OF THE SANTEE AREA SHOWING THE HYDROLOGIC SUBAREAS

TABLE OF CONTENTS

GRAPHICAL DATA

4-1 FLOW
4-2 TEMPERATURE
4-3 pH
4-4 CONDUCTIVITY
4-5 TURBIDITY
4-6 AMMONIA-NITROGEN
4-7 NITRATE-NITROGEN
4-8 ORTHOPHOSPHATE-PHOSPHORUS
4-9 SURFACTANTS (MBAS)
5-1 TRASH ASSESSMENT SUMMARY
7-1 PERCENT OF SITES WITH FIELD SCREENING EXCEEDANCES BY YEAR AND ROUND – PART 1
7-2 PERCENT OF SITES WITH FIELD SCREENING EXCEEDANCES BY YEAR AND ROUND – PART 2
7-3 PERCENT OF SITES WITH LABORATORY CONSTITUENT EXCEEDANCES BY YEAR AND ROUND – PART 1
7-4 PERCENT OF SITES WITH LABORATORY CONSTITUENT EXCEEDANCES BY YEAR AND ROUND – PART 2

APPENDICES

A HISTORICAL DRY WEATHER MONITORING DATA
B PHOTOGRAPHS OF SAMPLING LOCATIONS
C LABORATORY ANALYTICAL REPORTS
D FIELD DATA AND TRASH ASSESSMENT SHEETS

1 INTRODUCTION

1.1 Program Overview

The purpose of the Dry Weather Field Screening and Analytical Monitoring Program (Dry Weather Monitoring Program) is to detect and eliminate illicit connections and illegal discharges (IC/ID) to the storm water conveyance system, minimizing the negative impact of human activities on receiving waterbodies. The Dry Weather Monitoring Program consists of the following components:

- Field screening observations
- Field screening and analytical monitoring
- Trash assessments
- Laboratory analytical monitoring

The City of Santee has elected to perform two rounds of monitoring during each dry weather season. These two rounds typically occur near the beginning and end of the season. The data gathered from dry weather monitoring is used to characterize discharges to the storm drain system and identify conveyances that are discharging elevated levels of pollutants. Follow-up studies and source investigations are conducted as needed to detect and eliminate the sources of these pollutants. This report presents the results of both rounds of the 2009 Dry Weather Monitoring Program conducted by D-MAX Engineering, Inc., (D-MAX).

1.2 Hydrologic Setting

The City of Santee (City) is located entirely within the San Diego River Watershed, Hydrologic Unit (HU) 907. The largest receiving waterbody in the City is the San Diego River, which enters the City in the east and flows west towards the Pacific Ocean. Other major receiving waterbodies include Forester Creek and Sycamore Creek, both of which eventually drain to the San Diego River. Forester Creek enters the City from the southeast and drains into the San Diego River at a location west of Carlton Hills Boulevard. Sycamore Creek enters the City from the north, flows southward, entering the San Diego River just west of Santee Recreation Lakes. All storm water drainage in the City of Santee is routed either directly or indirectly to these creeks and ultimately to the San Diego River. The entire City of Santee, along with the whole of the City of El Cajon and portions of the cities of La Mesa, San Diego, and Poway, lie within the Lower San Diego River Hydrologic Area (HA) 907.1.

1.3 Regulatory Requirements

In accordance with San Diego Regional Water Quality Control Board (RWQCB) Order No. R9-2007-0001 (Municipal Permit), each of the Copermittees, including the City of Santee, is required to annually perform dry weather monitoring of discharges into its storm water conveyance system. During the dry weather season, May 1 through September 30, selected locations along the storm drain conveyance system are evaluated. The City of Santee conducts two rounds of monitoring during this period. Round One occurs near the beginning of this time frame, while Round Two occurs near the end of this time frame. This procedure allows the City to make necessary improvements following Round One, and to evaluate the effectiveness of their actions when sites are revisited during Round Two.

Dry Weather Monitoring procedure includes recording field observations, estimating observed flow rates, and conducting field testing. The Municipal Permit also necessitates that the Copermittees conduct laboratory analyses for at least 25 percent of the visited sites

with flowing or ponded water. If a sampling location is dry, meaning there is no flowing or ponded water, an alternative sampling station is selected. If the results of the field or laboratory analyses exceed specific action levels, follow-up investigations are required within two business days.

1.4 Previous Work

The City of Santee has conducted Dry Weather Monitoring Programs since 1996 at several locations within the City's storm water conveyance system. These programs are conducted in two rounds during each year, with the exception of 1996 and 2002. A summary of the number of sites sampled each year and round is displayed in Table 1-1. Historical dry weather monitoring data is included in Appendix A.

TABLE 1-1
SUMMARY OF HISTORICAL DRY WEATHER SITES

Year	Number of Sites Screened [1]		Number of Flowing Sites		Number of Ponded Sites		Number of Dry Sites		Number of Lab Analysis Sites [2]	
	R1	R2	R1	R2	R1	R2	R1	R2	R1	R2
1996 [3]	12		Data not available [4]				0		---	
1997	8	8	6	7	2	1	7	7	---	---
1998	14	12	11	7	3	5	1	4	---	---
1999	10	10	6	6	4	4	5	5	---	---
2000	12	12	9	10	3	2	4	4	---	---
2001	14	10	10	8	4	2	2	6	---	---
2002 [3]	20		13		7		1		6	
2003	20	20	17	17	3	3	2	0	5	5
2004	20	20	17	17	3	3	1	1	5	5
2005	20	20	19	18	1	2	1	1	5	5
2006	20	20	18	17	2	3	1	1	5	5
2007	20	20	17	17	3	3	1	1	5	5
2008	20	20	18	16	2	4	0	0	5	5

Notes:
[1] Number of Sites Screened = Number Flowing + Number Ponded. Field screening cannot be conducted at sites found to be dry. Dry sites are replaced by either a flowing or ponded site.
[2] Laboratory analyses commenced in 2002 as required by RWQCB Order 2001-001.
[3] The City conducted only one round of the field screening program for this year.
[4] Available information does not distinguish between flowing and ponded sites during this period.

1.5 Report Outline

This report is presented in the following order:

Section 1, Introduction, includes a program overview, a discussion of the City's hydrologic setting, regulatory background, a summary of previous dry weather monitoring, and the report outline.

Section 2, **Sampling Locations,** describes the sampling locations and site selection criteria.

Section 3, Field and Laboratory Analytical Methods, includes field screening and laboratory analytical procedures, quality assurance protocols, and follow-up action levels.

Section 4, Field Screening Results, presents qualitative observations of the sampling locations and quantitative results of the field screening analyses.

Section 5, Trash Assessment, discusses the procedure and results of the trash assessment.

Section 6, Laboratory Analytical Results, presents results of the laboratory analyses.

Section 7, Data Analysis, provides an analysis of this year's field and laboratory data, as well as a comparison of past results.

Section 8, Follow-up Investigations, details the results of follow-up investigations undertaken to isolate the sources of action level exceedances measured during the monitoring program.

Section 9, Summary and Recommendations, provides a summary of the program results and recommendations for follow-up actions.

Appendix A Historical Dry Weather Monitoring Data

Appendix B Photographs of Sampling Locations

Appendix C Laboratory Analytical Reports

Appendix D Field Data and Trash Assessment Sheets

2 SAMPLING LOCATIONS

Twenty primary monitoring stations have been identified for the City of Santee's Dry Weather Monitoring Program. A set of alternative sites are also available for monitoring in the event that a primary station did not have flowing or ponded water. All primary and alternative sampling sites are located in San Diego Hydrological Unit 907.

In 2009, all 20 primary sites were visited during Round One and Round Two of dry weather monitoring. Sites U10a and Y15e were dry during both rounds, therefore alternative sites T5e and RCP3 were also visited for a total of 22 sites visited in each round.

Table 2-1 provides the site name, location, conveyance configuration, land uses, hydrologic subarea, and GPS coordinates of the sampling locations that were visited. Photographs of sampling locations are included in Appendix B. A map of the City including sampling locations was extensively updated in 2008-2009, and is included as Figure A. A map of the watersheds in and around Santee, shown by Hydrologic Subareas (HSAs), is presented in Figure B.

TABLE 2-1
2009 DRY WEATHER MONITORING STATIONS

Site	Location	Conveyance	Primary Land Use	Secondary Land Use	Hydrologic Subarea	Latitude	Longitude
A5c	Next to 8335 Carlton Oaks Drive, between Cadorette Avenue and Praful Street	Outlet	Residential	None	907.12	32.84081	-117.02160
E5g	Santee Recreation Lakes, west of the Southern Lake, outfall on east bank of Sycamore Creek	Outlet	Residential	None	907.12	32.84854	-117.00723
G30c	South end of River Trail Place, north of San Diego River, down trail to the west	Outlet	Residential	Open	907.12	32.84501	-116.99122
H5e	South of River Park Drive, at end of walkway between Brookview Court and River Rock Court, north of San Diego River	Outlet	Residential	None	907.12	32.84561	-116.98769
J25c	West end of Carefree Drive, on the west side of channel	Outlet	Residential	None	907.12	32.85813	-116.97601
J25c2	At the east end of Country Scenes, east of Conejo Road	Outlet	Residential	None	907.12	32.85639	-116.97598
J30d	In the Woodglen Vista Channel on the south side of Mast Boulevard, 100 feet east of San Remo Road	Natural Creek	Residential	None	907.12	32.85485	-116.97588
K15j2	North side of Woodglen Vista Drive, east of Woodrose Avenue, south side of the park	Concrete Channel	Residential	Parks	907.12	32.86596	-116.97418
O40b	At the north end of Abraham Way, south of San Diego River	Outlet	Commercial	Industrial	907.12	32.84851	-116.96392
P15b	Northeast corner of the North Magnolia Avenue and Rockville Street intersection	Manhole	Commercial	Residential	907.12	32.83704	-116.96633
P20f	East of North Magnolia Avenue, at the east end of Chubb Lane	Concrete Channel	Residential	Commercial	907.12	32.84674	-116.96920
Q5l	North side of Prospect Avenue, 50 feet east of Railroad Avenue	Catch Basin	Commercial	Industrial	907.12	32.83121	-116.97090
RCP1	North bank of the San Diego River in the RCP Brick Factory, across from the southwest corner of the antennae field	Outlet	Residential	None	907.12	32.84959	-116.96659

TABLE 2-1
2009 DRY WEATHER MONITORING STATIONS (CONTINUED)

Site	Location	Conveyance	Primary Land Use	Secondary Land Use	Hydrologic Subarea	Latitude	Longitude
RCP3*	North bank of the San Diego River in the RCP Brick Factory, across from the southeast corner of the antennae field	Outlet	Residential	None	907.12	32.84975	-116.96341
S15h	North of Town Center Parkway, between Mission Gorge Road and Cuyamaca Street, north of Walmart, west of trail	Outlet	Commercial	None	907.12	32.84326	-116.98969
S5c	North of Town Center Parkway, between Mission Gorge Road and Cuyamaca Street, northwest of Michael's	Outlet	Commercial	None	907.12	32.84371	-116.98798
T5e*	Northwest of the Prospect Avenue and Argent Street intersection, south of Forester Creek	Outlet	Commercial	Industrial	907.12	32.83393	-116.98956
U10a*	South bank of Forester Creek, 450 feet south of the Mission Gorge Road and Carlton Hills Boulevard intersection	Outlet	Commercial	Industrial	907.12	32.83745	-116.99586
V40d	On the south side of Prospect Avenue, east of Fanita Drive	Concrete Channel	Residential	None	907.12	32.83375	-117.00005
V45k	On the north side of Mission Gorge Road, at the north end of freeway 125	Natural Creek	Commercial	Open	907.12	32.83895	-117.00251
Y15e*	On the north side of Mission Gorge Road, between Crossway Court and Big Rock Road, across from a shopping center	Outlet	Commercial	Residential	907.12	32.83670	-117.02158
Z15b	On the north side of Mission Gorge Road, east of Father Junipero Serra Trail	Outlet	Residential	None	907.12	32.83770	-117.02997

Note: * Alternative sites RCP3 and T5e replaced dry primary sites U10a and Y15e

3 FIELD AND LABORATORY ANALYTICAL METHODS

3.1 Field Screening Procedures and Methods

Field screening techniques consist of qualitative field observations, flow measurement, and quantitative field analyses of selected water quality parameters. Weather conditions, time since last rainfall, and the type of storm water conveyance are recorded as well. Specific observations and results of the field water quality analyses are documented on field datasheets, which also serve as a record of the field visit. Datasheets are completed for every site visit regardless of whether or not samples were collected. Check boxes on the datasheets indicate if the visit is for routine field screening, confirmation of an exceedance, or an IC/ID follow-up visit. A confirmation visit is a revisit of the original site, whereas an IC/ID follow-up is an upstream investigation. Datasheets from the 2009 Dry Weather Monitoring Program are included as Appendix D. Field screening and analyses were conducted according to the following procedures and methods:

Qualitative Observations

Qualitative field observations are made during each site visit. These observations include a general site assessment and description of water odor, clarity, the presence of floatable materials, visible deposits or stains, and organisms. Evidence of present or past illicit connections and illegal discharges to the storm drain system can also be discovered through careful field observations. Each field screening location is photographed to document site conditions. Photographs are included in Appendix B.

Flow Measurement

Flow measurements can help estimate pollutant mass loading, prioritize storm drains for future investigation, and identify significant changes in flow that may be indicative of an illegal discharge. Various field methods are used in formulas to estimate the flow rate. These include measuring the velocity, depth, and width of the flowing water; recording the amount of time required to fill a bottle of known volume with sample water; or, if measuring flow within a cylindrical pipe, measuring the pipe diameter as well as the depth and velocity of the flow. Low levels of flow may also be assessed visually.

Field Water Quality Analyses

At each site with ponded or flowing water, water samples were collected and analyzed in the field for the following constituents:

- Specific conductance
- Temperature
- pH
- Turbidity
- Surfactants, measured as methylene blue active substances (MBAS) (Surfactants are also referred to as detergents.)
- Nitrate-nitrogen (Nitrate-N)
- Ammonia-nitrogen (Ammonia-N)
- Orthophosphate-phosphorus (Orthophosphate-P)
- Dissolved oxygen

The methods used to perform the above field analyses, along with the reporting limit, range, and accuracy of each method, are listed in Table 3-1.

TABLE 3-1
FIELD ANALYTICAL METHODS

Parameter	Method	Reporting Limit	Range	Accuracy
Specific Conductance	Hanna Instruments HI 991301 Portable pH/EC/TDS/Temperature Meter***	0.01 mS/cm	0 – 20 mS/cm	± 2% of functional sensitivity[1]
Temperature	Hanna Instruments HI 991301 Portable pH/EC/TDS/Temperature Meter***	0.1°C	0.0°C – 60.0°C	± 0.5°C
pH	Hanna Instruments HI 991301 Portable pH/EC/TDS/Temperature Meter***	0.01	0.00 – 14.00	± 0.01 pH
Turbidity	Hanna Instruments HI 93703 Portable Turbidity Meter***	0.01 NTU	0.01 – 50.00 NTU and 50 – 1000 NTU	± 0.5 NTU or 5% of reading (whichever is greater)
Surfactants	CHEMetrics CHEMets Kit (K-9400) methylene blue active substances	0.13 mg/L	0.00 mg/L – 3.00 mg/L*	± 0.13 & ± 0.5 mg/L[2]
Nitrate-N	CHEMetrics V-2000 Multi-Analyte LED Photometer – Nitrate 3 Vacu-vials® (K-6933) Cadmium reduction[3]***	1.13 mg/L**	1.13 mg/L – 113 mg/L**	± 30%of practical detection limit[4]
Ammonia-N	CHEMetrics V-2000 Multi-Analyte LED Photometer – Ammonia 3 Vacu-vials® (K-1403) Salicylate***	0.100 mg/L**	0.100 mg/L – 3.000 mg/L**	Varies with measured concentration[4,5]
Ortho-phosphate-P	CHEMetrics V-2000 Multi-Analyte LED Photometer – Phosphate 2 Vacu-vials® (K-8513) Stannous chloride chemistry[6]***	0.098 mg/L**	0.098 mg/L – 2.608 mg/L**	Varies with measured concentration[4,5]

Notes:

EC = electrical conductivity
mS/cm = millisiemens per centimeter
°C = Degrees Celsius
NTU = nephelometric turbidity unit
mg/L = milligrams per liter
LED = light-emitting diode

[1] Functional sensitivity (FS) represents the lowest limit at which quantitative information is reliable. FS is estimated as the mean concentration for a spiked sample whose coefficient of variance (CV) is 20%. CV is the standard deviation divided by the mean.

[2] ± 0.13 for the range of 0.0 to 1.0 mg/L, ± 0.25 mg/L for the range of 1.0 to 2.0 mg/L and 0.5 mg/L for the range of 2.0 to 3.0 mg/L.

[3] This method determines the concentration of nitrate in mg/L NO_3. To determine the amount of nitrate-nitrogen, the concentration of nitrogen must be adjusted for the presence of oxygen in the NO_3 molecule. Therefore, the result is multiplied by a conversion factor of 0.226, the ratio of the molecular weight of N (14g/mol) to NO_3 (62 g/mol). The practical detection limit for nitrate is 5.0 mg/L; however, the practical detection limit for nitrate-nitrogen is lowered due to the conversion.

[4] Practical Detection Limit (PDL) is defined as the lower limit of the stated test range.

[5] Percent error adjusts as follows: ±30% at PDL, ±20% for 25% of full range, ±10% for 75% of full range, ±10% for 120% of full range.

[6] This method determines the concentration of orthophosphate in mg/L PO_4. To determine the amount of orthophosphate-P, the concentration of phosphate must be adjusted for the presence of oxygen in the PO_4 molecule. Oxygen is 67.4% of phosphate by mass but is not a plant nutrient in this form. Therefore, the result is multiplied by a conversion factor of 0.326, the ratio of the molecular weight of P (31g/mol) to PO_4 (95 g/mol). The practical detection limit for orthophosphate is 0.3 mg/L; however, the practical detection limit for orthophosphate-phosphorus is lower due to the conversion.

*Extended ranges in chemical analyses can be achieved through dilutions. Accuracies decrease proportionally with further dilutions.

** Readings below the PDL have increased percent error; measurements are reported, but are flagged as being below the PDL.

***Test method information taken from Hanna Instruments and CHEMetrics manuals, available online at www.hannainst.com and www.chemetrics.com.

3.2 Laboratory Analytical Methods

In accordance with the Municipal Permit, laboratory samples were collected at five sites, representing 25 percent of the sites where ponded or flowing water was observed. Samples were submitted to EnviroMatrix Analytical, Inc, a laboratory certified by the California Department of Health Services, for analysis of the following constituents:

- Total hardness
- Oil and grease
- Diazinon
- Chlorpyrifos
- Cadmium (Dissolved)
- Copper (Dissolved)
- Lead (Dissolved)
- Zinc (Dissolved)
- Total Coliform bacteria
- Fecal Coliform bacteria
- *Enterococcus* bacteria

The methods used to perform each of the above analyses along with method reporting limits and holding times are listed in Table 3-2.

3.3 Quality Assurance and Quality Control (QA/QC)

The QA/QC Plan used for this project includes the United States Environmental Protection Agency (USEPA) approved test methods for the field and laboratory analysis of water samples, calibration of test equipment, and pre- and post-rinsing of sample collection containers and test vials. Key components of the QA/QC Plan are described below.

3.3.1 Field Sampling and Analysis QA/QC

The pH meters, turbidity meter, and conductivity meter are tested daily before field screening begins. The pH meters are calibrated as needed with sodium/potassium phosphate, monobasic buffer solutions with pH values equal to 4.00 ± 0.01, 7.00 ± 0.01, and 10.00 ± 0.01 units. The glass electrode tube is kept moist to preserve the meter's accuracy during fieldwork. The turbidity meter and conductivity meter are calibrated as needed using standard solutions.

Field sample collection containers are rinsed first with distilled water and then with the sample water prior to sample collection. Upon completion of sampling and testing at each site, sample collection containers, test vials, and ion-sensitive electrodes are rinsed twice with distilled water and dried.

The accuracy of field analytical techniques and equipment is assessed at the beginning of each sampling week by analyzing solutions of known concentrations for ammonia-nitrogen, surfactants, nitrate, and orthophosphate. The results of the assessment are shown in Table 3-3.

TABLE 3-2
LABORATORY ANALYTICAL METHODS

Analyte	Analytical Method	Method Reporting Limit	Maximum Holding Time [1]
Oil and Grease	USEPA 1664	5 mg/L	28 days
Total Hardness	USEPA 200.7	10 mg/L	14 days
Dissolved Cadmium	USEPA 200.8	0.001 mg/L	24 hours
Dissolved Copper	USEPA 200.8	0.001 mg/L	24 hours
Dissolved Lead	USEPA 200.8	0.001 mg/L	24 hours
Dissolved Zinc	USEPA 200.8	0.020 mg/L	24 hours
Diazinon	USEPA 8141A	0.05 µg/L	7 days
Chlorpyrifos	USEPA 8141A	0.05 µg/L	7 days
Total Coliforms[2]	SM 9221	20 – 1,600,000 MPN/100 mL	6 hours
Fecal Coliforms[2]	SM 9221	20 – 1,600,000 MPN/100 mL	6 hours
Enterococci[2]	SM 9230	20 – 160,000 MPN/100 mL	6 hours
Total Coliforms	SM 9223 (IDEXX Colilert)[3]	10 – 2,419,600 MPN/100 mL	6 hours
Escherichia coli (E. coli) [4]	SM 9223 (IDEXX Colilert)[3]	10 – 2,419,600 MPN/100 mL	6 hours
Enterococci	IDEXX Enterolert[4]	10 – 241,960 MPN/100 mL	6 hours

Notes:
µg/L = micrograms per liter
MPN/100 mL = most probable number (of colony-forming units) per 100 milliliters
[1] Maximum Holding Time values listed apply to samples collected and preserved in accordance with the quality assurance and quality control procedures listed in Section 3.3.2.
[2] For D-MAX's Dry Weather Monitoring Program, EnviroMatrix Analytical, Inc. (EMA) performs standard dilutions for total coliforms to quantify from 20-1,600,000 most probable number per 100 milliliters (MPN/100 mL). For fecal coliforms and Enterococci, EMA performs standard dilutions to quantify from 20-160,000 MPN/100 mL. During the analysis and interpretation of the results, the number of tubes used to quantify the sample must fit the MPN index table from Standard Method 9221. The dilution set used will determine the detection limit. A standard dilution analysis is set up with 15 tubes at different concentrations. The reporting limit will always be adjusted depending on the dilution factor used for quantifying the actual results based on the MPN table. If the result for the analysis was less than 16,000 MPN/100 mL, the reporting limit will always be 20, and the dilution factor will be 10. As the dilution factor goes up, the reporting limit listed in the results from EMA will also go up based on the calculation made with EMA's data system. However, the lowest quantifiable number or reporting limit would still be 20 based on how the standard tubes for the sample is set up.
[3] IDEXX Colilert and Enterolert tests are used during upstream investigations only.
[4] Number of fecal coliforms is derived from number of *E. coli* through the following formula:
Fecal Coliforms = *E. coli* / 0.85. The converted fecal coliform count, not the number of *E. coli*, is reported in this report's data tables.

TABLE 3-3
FIELD ANALYSIS QA/QC RESULTS

Date	Analyte	Known Concentration (mg/L)	Acceptable Range* (mg/L)	Field Test Kit Results (mg/L)
5/18/09	Ammonia-Nitrogen	0.82	0.66 – 0.98	0.822
5/18/09	Surfactants	1.0	0.75 – 1.25	1.00
5/18/09	Nitrate **	44.3	31.0 – 57.6	43.64
5/18/09	Orthophosphate **	3.07	2.45 – 3.88	2.98
9/2/09	Ammonia-Nitrogen	0.82	0.66 – 0.98	0.786
9/2/09	Surfactants	1.0	0.75 – 1.25	1.00
9/2/09	Nitrate **	44.3	31.0 – 57.6	45.78
9/2/09	Orthophosphate **	3.07	2.45 – 3.88	2.833
9/8/09	Ammonia-Nitrogen	0.82	0.66 – 0.98	0.799
9/8/09	Surfactants	1.0	0.75 – 1.25	1.00
9/8/09	Nitrate **	44.3	31.0 – 57.6	43.97
9/8/09	Orthophosphate **	3.07	2.45 – 3.88	2.798

Notes:
* Acceptable range is calculated based on the error associated with the methods as listed in Table 3-1.
** Nitrate and orthophosphate are converted to nitrate-nitrogen and orthophosphate-phosphorus, respectively, when conducting standard field screening. This is accomplished by multiplying the results by 0.226 for nitrate and 0.326 for orthophosphate. To simplify the calibration process, the unconverted numbers are used when calibrating the instruments.

3.3.2 Laboratory Sampling and Analysis QA/QC

Samples for laboratory analysis are collected concurrently with field samples and used the same sampling procedures. Pre-sterilized sample bottles are obtained from the laboratory and thus do not require rinsing with sample water prior to sample collection. After sample collection, all laboratory samples are kept in a cooler on ice until picked up by the lab. Strict chain of custody procedures are followed, and samples are delivered and analyzed within the appropriate holding times, as listed in Table 3-2. Completed chain of custody forms are included in Appendix C.

3.4 Follow-up Action Levels

Based on dry weather field screening results, immediate follow-up investigations are sometimes necessary to identify and eliminate pollutant sources. In order to determine whether an immediate source investigation is necessary, numeric action levels and best professional judgment are used to interpret the field screening results. If visual and/or analytical evidence of gross contamination are present at a site (e.g., substantial petroleum sheen, extremely high ammonia concentration, evidence of a sewage release, etc.), then an immediate source identification investigation is initiated. For sites that exceed numeric action levels but are not perceived as an immediate threat to water quality, a re-sampling is conducted within two business days. An upstream pollutant source investigation is conducted thereafter if elevated concentrations persist and no sources can be identified in the immediate vicinity of the monitoring station. If elevated levels of pollutants are detected by the laboratory analyses, a comprehensive follow-up pollutant source investigation is conducted within two business days of receiving the laboratory analytical reports. The results of these investigations are included in Section 8.

The following three methods are employed to determine whether immediate or comprehensive follow-up investigations are necessary: (1) Numeric Action Levels; (2) California Toxics Rule (CTR); and (3) Best Professional Judgment. All three approaches are described in detail below and presented in Table 3-4.

Numeric Action Levels

Numeric action levels are used as the primary approach for interpreting pH, orthophosphate-P, nitrate-N, ammonia-N, surfactants, oil and grease, diazinon, chlorpyrifos, total coliforms, fecal coliforms, and *Enterococcus* analytical results (see Table 3-4). Prior to the 2003 dry weather season, no standard action levels had been adopted for use throughout San Diego County. D-MAX calculated the current set of numeric action levels based on county-wide sampling data. These action levels have been used by all San Diego County Copermittees since the 2003 dry weather season.

California Toxics Rule

The CTR criterion maximum concentration (CMC) is used to determine appropriate action levels for dissolved trace metals, including cadmium, copper, lead, and zinc. The CTR equations, as provided in USEPA Federal Register Doc. 40 Code of Federal Regulations (CFR) Part 131, are used to calculate benchmarks based on the total hardness of the sampled water, with the action levels increasing as hardness increases. The CTR criterion maximum concentration (CMC) is a short term concentration limit in which aquatic life can be sustained. The CMC is used to determine appropriate action levels for dissolved trace metals, including cadmium, copper, lead, and zinc. The CTR equations, as provided in USEPA Federal Register Doc. 40 Code of Federal Regulations (CFR) Part 131, are used to calculate benchmarks based on the total hardness of the sampled water, with the action levels increasing as hardness increases. More information on the CTR is available at http://www.epa.gov/region09/water/ctr.

Best Professional Judgment

Best professional judgment is used as the primary approach for interpreting turbidity, water temperature, and conductivity and as a secondary approach for interpreting the results of all other field and laboratory analyses. Under best professional judgment, the need for a follow-up investigation is left to the discretion of the D-MAX field crew. Best professional judgment may indicate that results which either exceed certain action levels or are statistical outliers may be the result of natural or background factors.

TABLE 3-4
ACTION LEVELS FOR FIELD SCREENING AND LABORATORY PARAMETERS

Field Screening Analytes	Action Levels[1]	Source/ Notes
pH	<6.5 or >9.0	Basin Plan[2], with allowance for elevated pH due to excessive photosynthesis. Elevated pH is especially problematic in combination with high ammonia.
Orthophosphate-P (mg/L)	2.000	USEPA Multi-sector General Permit
Nitrate-N (mg/L)	10.00	Basin Plan and drinking water standards
Ammonia-N (mg/L)	1.000	Based on Workgroup experience. May also consider unionized ammonia fraction.
Turbidity (NTU)	Best Professional Judgment	WQOs relevant to inland surface waters are not available. Base judgment on channel type and bottom, time since last rain, background levels, and most importantly visual observation (e.g. unusual colors and lack of clarity) and unusual odors.
Temperature (°C)	Best Professional Judgment	Base judgment on season, air temperature, channel type, shading, etc.
Conductivity (mS/cm)	Best Professional Judgment	Conductivity may be highly elevated in some regions due to high TDS, groundwater exfiltration to surface water, mineral dissolution, drought, and seawater intrusion. Normal source ID and discharge elimination work is not effective in these situations. Knowledge of area background conditions is important. Values <0.75 may indicate excessive potable water discharge or flushing.
Laboratory Analytes	**Action Levels**	**Source/ Notes**
Oil and Grease (mg/L)	15	USEPA Multi-sector General Permit. If petroleum sheen is observed, the sample should be collected from the water surface. Visual observations may justify immediate investigation.
Diazinon (µg/L)	0.5	Response to diazinon and chlorpyrifos levels above 0.5 µg/L should focus on education and outreach to potential dischargers in the target drainage basin. Highly elevated levels should be investigated aggressively as with other potential IC/IDs.
Chlorpyrifos (µg/L)	0.5	
Dissolved Cadmium (µg/L)	California Toxics Rule	Use California Toxics Rule, 1-hour criteria to determine appropriate action level for individual samples. Table provides benchmarks based on hardness and dissolved metals concentration. For example, at 300 mg/L hardness the following action levels would apply: Cd – 14 ppb; Cu – 38 ppb; Pb – 209 ppb; and Zn – 297 ppb.
Dissolved Copper (µg/L)	California Toxics Rule	
Dissolved Lead (µg/L)	California Toxics Rule	
Dissolved Zinc (µg/L)	California Toxics Rule	
Total Coliforms (MPN/100 mL)	50,000	Bacteria levels in many storm drains are likely to exceed public health guidance criteria. Use confidence interval test and best professional judgment to identify conveyances for source ID.
Fecal Coliforms (MPN/100 mL)	20,000	
Enterococci (MPN/100 mL)	10,000	

Notes:
[1] The referenced action levels are not the sole criteria for initiating a source identification investigation. Dry weather monitoring data is interpreted using a variety of available information, including within-site and between-site sample variability.
[2] Basin Plan = Water Quality Control Plan for the San Diego Basin
WQO = Water Quality Objective
ppb = parts per billion

4 FIELD SCREENING RESULTS

4.1 Round One

Round One of the Dry Weather Monitoring Program began in May 2009. Twenty primary sites and two alternative sites were visited.

4.1.1 Qualitative Observations

Qualitative observations for all Round One routine field screening visits are summarized below. Routine field screening and confirmation visit observations are presented in Table 4-1.

Light Conditions
The weather was sunny during two-thirds of the Round One routine visits; the remaining visits occurred during partly cloudy conditions.

Odor
The water sample at one site had a musty odor; all other samples were odorless.

Color
The water at four sites was yellow in color; all other samples were colorless.

Clarity
The water at one site had a slightly cloudy appearance; all other samples were clear.

Floatable Materials
A dust sheen and trash were observed on the water's surface at one site each, and two sites had bubbles/foam. No other types of floatable materials were observed.

Deposits
Sediment, gravel, and/or fine particulates were observed at all sites. No other types of deposits were noted.

Vegetation
All sites contained normal or no vegetation, appropriate to the amount of sunlight exposure and soil at the site.

Biology
The presence of organisms can be an indication of healthy waters. The presence of algae often indicates that flow is persistent. An overabundance of algae often implies high levels of nutrients in the water and can have negative effects on aquatic life. No sites had excessive algal growth this year. Insects and algae were prevalent at most sites. Some sites were also host to snails, crayfish, and/or fish.

TABLE 4-1
FIELD OBSERVATIONS - ROUND ONE

Site	Date	Time	Light Conditions	Odor	Color	Clarity	Floatables	Deposits	Vegetation	Biology
A5c	5/26/09	11:45	Sunny	None	Yellow	Clear	None	Sediment/Gravel, Fine Particulates	None	Insects, Snails
E5g	5/20/09	16:00	Partly Cloudy	None	None	Clear	Dust Sheen	Sediment/Gravel, Fine Particulates	Normal	Insects
E5g (Confirmation 1)	5/21/09	15:45	Sunny	None	None	Clear	Dust Sheen	Sediment/Gravel, Fine Particulates	Normal	Insects
E5g (Confirmation 2)	5/22/09	14:40	Partly Cloudy	None	None	Clear	Dust Sheen	Sediment/Gravel, Fine Particulates	Normal	Insects
G30c	5/20/09	11:45	Partly Cloudy	None	None	Clear	None	Sediment/Gravel, Fine Particulates	Normal	Insect/Algae, Snails
H5e	5/20/09	14:50	Partly Cloudy	None	None	Clear	None	Fine Particulates	None	Insect/Algae, Snails
J25c	5/21/09	12:15	Sunny	None	None	Clear	None	Fine Particulates	None	Insect/Algae
J25c2	5/19/09	15:25	Sunny	None	None	Clear	Trash	Fine Particulates	None	Insect/Algae, Snails
J30d	5/22/09	9:50	Sunny	None	None	Clear	None	Sediment/Gravel, Fine Particulates	Normal	Algae, Fish
K15j2	5/19/09	14:10	Sunny	None	None	Clear	None	Fine Particulates	None	Insect/Algae
O40b	5/20/09	9:20	Partly Cloudy	None	Yellow	Clear	None	Sediment/Gravel, Fine Particulates	Normal	Insect/Algae, Snails
P15b	5/21/09	15:15	Sunny	None	None	Clear	None	Sediment/Gravel	None	Insects
P20f	5/21/09	11:40	Sunny	None	None	Clear	None	Fine Particulates	None	Algae, Snails

TABLE 4-1
FIELD OBSERVATIONS - ROUND ONE (CONTINUED)

Site	Date	Time	Light Conditions	Odor	Color	Clarity	Floatables	Deposits	Vegetation	Biology
Q5l	5/21/09	9:25	Partly Cloudy	None	Yellow	Slightly Cloudy	None	Sediment/Gravel, Fine Particulates	None	None
RCP1	5/21/09	10:45	Partly Cloudy	None	None	Clear	Bubbles/ Foam	Sediment/Gravel, Fine Particulates	Normal	Insects
RCP3	5/26/09	10:25	Sunny	None	None	Clear	None	Sediment/Gravel	Normal	Insect/Algae, Snails
S15h	5/26/09	14:10	Sunny	Musty	Yellow	Clear	None	Fine Particulates	None	Insects
S5c	5/20/09	12:45	Partly Cloudy	None	None	Clear	Bubbles/ Foam	Fine Particulates	Normal	Insect/Algae
T5e	5/26/09	13:00	Sunny	None	None	Clear	None	Sediment	None	Insects
U10a	5/22/09	9:10	Sunny	na	na	na	Na	Sediment/Gravel	Normal	None
V40d	5/22/09	11:10	Sunny	None	None	Clear	None	Fine Particulates	None	Insect/Algae, Snails
V45k	5/22/09	12:00	Sunny	None	None	Clear	None	Sediment/Gravel, Fine Particulates	Normal	Insect/Algae, Snails, Crayfish
Y15e	5/26/09	12:35	Sunny	na	na	na	na	Sediment/Gravel	Normal	None
Z15b	5/26/09	9:20	Partly Cloudy	None	None	Clear	None	Sediment/Gravel	Normal	Insects

Notes:
denotes a confirmation visit
denotes a location sampled for laboratory analysis
na = not analyzed (dry site)

4.1.2 Field Analytical Results

Field analyses are conducted at all sites with flowing or ponded water. The measured constituents are described below.

Flow rate quantifies the volume of fluid passing across a given surface per unit time. Flow rate measurements are needed to calculate the load or particular amount of a pollutant discharged.

Water temperature is needed to assess the significance of other parameters, such as pH and conductivity. Also, the aquatic habitat must remain within a certain temperature range in order to sustain sensitive aquatic life. In the field, water temperature is measured immediately upon sample collection at each site.

The **pH** is an expression of acidity or alkalinity of a water sample. The pH of an aquatic system will affect a variety of chemical reactions, including the availability of nutrients and the solubility of chemical substances, particularly heavy metals.

Turbidity describes the clarity or cloudiness of a water sample, or the degree to which light is blocked by suspended material in the water. Turbid waters not only limit the amount of light that reaches submerged vegetation, thus reducing photosynthetic capacity, but excessive suspended particles can also absorb heat and increase water temperatures.

Specific conductance (conductivity) measurements indicate the total concentration of ions in an aquatic system and the ability of the water to conduct electricity. This parameter can be used to assess the mineral content of water and potentially help indicate the presence of dissolved pollutants.

Surfactant concentrations in water samples often reflect illegal discharges from industrial, commercial, or residential sources. Pollution resulting from surfactants alters the surface tension of water and disrupts the breathing mechanisms of fish gills and other aquatic organisms.

Ammonia-nitrogen (ammonia-N) is an indicator of pollution from decomposing organic matter, agricultural or household fertilizer runoff, or the presence of sewage. Ammonia occurs naturally in the environment; however, in higher quantities it can become toxic to fish and other organisms.

Nitrate-nitrogen (nitrate-N) is a common sign of nutrient pollution from agricultural or household fertilizer runoff. Nitrate pollution can cause excessive algal growth, resulting in oxygen depletion as algae decomposes and may eventually suffocate other aquatic life. During the field analysis, nitrate is measured and converted into nitrate-N using a conversion factor of 0.226. This process is explained in Note 3 of Table 3-1.

Orthophosphate-phosphorus (orthophosphate-P) is also an indicator of nutrient pollution from agricultural or household fertilizer runoff. Similar to nitrate-N, orthophosphate-P pollution can cause nutrient enrichment, stimulate algal growth, and thus deplete oxygen in the water to levels that are dangerous for aquatic life. Even low levels of orthophosphate-P can cause significant algal growth, as it is commonly the limiting nutrient in plant growth. During the field analysis, orthophosphate is measured and converted into orthophosphate-P using a conversion factor of 0.326. This process is explained in Note 6 of Table 3-1.

A statistical summary of the routine field analytical results for Round One data is presented in Table 4-2. Table 4-3 shows the results of all field analyses conducted at each dry weather monitoring station during Round One. Graphs of the various parameters and appropriate action levels for follow-up investigations are included at the end of this section.

TABLE 4-2
FIELD ANALYSIS STATISTICAL SUMMARY – ROUND ONE

Parameter (units)	Maximum	Minimum	Average	Median	Standard Deviation	Number of Exceedances	Graph
Flow Rate (gpm)	33.5	0 (ponded)	5.4	2.0	8.8	---	4-1
Temperature (ºC)	29.0	19.1	23.4	23.0	2.9	0	4-2
pH	8.9	7.0	8.2	8.2	0.4	0	4-3
Turbidity (NTU)	49.91	0.01	6.22	2.43	11.05	0	4-4
Conductivity (mS/cm)	5.12	1.02	2.46	1.84	1.35	0	4-5
Ammonia-N (mg/L)	1.590	0.030	0.254	0.178	0.337	1	4-6
Surfactants (mg/L)	0.75	0.13	0.34	0.25	0.17	0	4-7
Nitrate-N (mg/L)	9.27	0.14	3.61	3.00	3.00	0	4-8
Orthophosphate-P (mg/L)	0.985	0.004	0.229	0.094	0.272	0	4-9

Note: Calculations include complete routine visit data only. Confirmation visits, follow-up visits and dry sites not incorporated.

TABLE 4-3
FIELD ANALYTICAL RESULTS - ROUND ONE

Site	Date	Time	Flow (gpm)	Temp (ºC)	pH	Turbidity (NTU)	Conductivity (mS/cm)	Surfactants (mg/L)	Ammonia-N (mg/L)	Nitrate-N (mg/L)	Ortho-phosphate-P (mg/L)
A5c	5/26/09	11:45	Ponded	21.4	8.2	5.83	2.14	0.50	0.183	4.83	0.472
E5g	5/20/09	16:00	2	22.1	7.0	7.72	5.12	0.50	**1.590**	8.38	0.985
E5g (Confirmation 1)	5/21/09	15:45	1	22.1	7.3	na	2.80	na	**2.924**	na	na
E5g (Confirmation 2)	5/22/09	14:40	<1	22.4	7.3	na	3.02	na	**>3.00**	na	na
G30c	5/20/09	11:45	1	29	8.9	3.49	3.02	0.25	0.199	3.40	0.080*
H5e	5/20/09	14:50	1	25.3	8.3	0.92	1.52	0.25	0.049*	1.10*	0.090*
J25c	5/21/09	12:15	2	20.8	8.2	0.78	4.39	0.75	0.220	6.98	0.044*
J25c2	5/19/09	15:25	2	25.2	8.0	2.26	4.47	0.50	0.257	5.93	0.098
J30d	5/22/09	9:50	23	20.9	8.2	0.01	2.68	0.25	0.233	4.89	0.010*
K15j2	5/19/09	14:10	2	28.6	8.1	1.80	2.44	0.38	0.281	5.16	0.020*
O40b	5/20/09	9:20	Ponded	19.1	8.1	9.17	1.51	0.25	0.069*	2.26	0.485
P15b	5/21/09	15:15	4	24.6	7.7	0.79	1.62	0.13	0.130	7.00	0.126
P20f	5/21/09	11:40	15.5	23.8	8.8	10.30	1.36	0.13	0.232	2.59	0.049*
Q5l	5/21/09	9:25	<1	19.8	8.2	49.91	1.84	0.50	0.568	6.37	0.722
RCP1	5/21/09	10:45	5	21.5	8.3	0.64	1.60	0.25	0.059*	9.27	0.090*
RCP3	5/26/09	10:25	7.7	21.8	8.2	0.42	1.84	0.25	0.172	0.87*	0.103
S15h	5/26/09	14:10	<1	24.6	8.7	15.00	1.64	0.38	0.194	1.32	0.444

TABLE 4-3
FIELD ANALYTICAL RESULTS - ROUND ONE

Site	Date	Time	Flow (gpm)	Temp (ºC)	pH	Turbidity (NTU)	Conductivity (mS/cm)	Surfactants (mg/L)	Ammonia-N (mg/L)	Nitrate-N (mg/L)	Ortho-phosphate-P (mg/L)
S5c	5/20/09	12:45	2	24.7	8.1	2.59	1.02	0.13	0.038*	0.33*	0.043*
T5e	5/26/09	13:00	<1	24.4	8.2	5.89	1.05	0.25	0.146	0.36*	0.390
U10a	5/22/09	9:10	Dry	ns	ns	ns	ns	ns	ns	ns	ns
V40d	5/22/09	11:10	33.5	27.9	8.6	1.68	4.19	0.50	0.138	0.14*	0.004*
V45k	5/22/09	12:00	6	21.6	7.9	0.01	4.55	0.50	0.152	0.14*	0.019*
Y15e	5/26/09	12:35	Dry	ns	ns	ns	ns	ns	ns	ns	ns
Z15b	5/26/09	9:20	<1	19.8	8.1	5.14	1.13	0.13	0.034*	0.98*	0.303
PRACTICAL DETECTION LIMIT				**0.0**	**0.0**	**0.01**	**0.00**	**0.00**	**0.100**	**1.13**	**0.098**
ACTION LEVEL				**BPJ**	**< 6.5 > 9.0**	**BPJ**	**BPJ**	**1.00**	**1.000**	**10.00**	**2.000**

Notes:
na = not analyzed
ns = not sampled (dry site)
* Value reported is below the Practical Detection Limit (PDL). Per manufacturer, the value is reported but flagged. See footnotes to Table 3-1.
Red values are at or above the measured constituent's action level.
denotes a confirmation visit
denotes a location sampled for laboratory analysis

4.2 Round Two

Round Two began in September 2009. Twenty primary sites and two alternative sites were visited.

4.2.1 Qualitative Observations

Qualitative observations for all Round Two routine field screening visits are summarized below. Routine field screening and confirmation visit observations are presented in Table 4-4.

Light Conditions
The weather was sunny during all routine visits.

Odor
The water sample at one site had a musty odor, and an odor like that of decomposing organic waste was noted at one site; all other water samples were odorless.

Color
The water at three sites was yellow in color, and one site had brown water; all other samples were colorless.

Clarity
The water at one site had a slightly cloudy appearance, and water was opaque at another site. All other samples were clear.

Floatable Materials
Trash was the most common type of floatable material, observed at seven sites. One of these sites also had bubbles floating on the water's surface. No other types of floatable materials were observed.

Deposits
Sediment, gravel, and/or fine particulates were observed at all but one site. No other types of deposits were noted.

Vegetation
All sites contained vegetation appropriate to the amount of sunlight exposure and soil at the site. A few sites had limited vegetation, while most sites had either normal or no vegetation.

Biology
Insects and algae were prevalent at most sites. Some sites were also host to snails, frogs, and fish.

TABLE 4-4
FIELD OBSERVATIONS - ROUND TWO

Site	Date	Time	Light Conditions	Odor	Color	Clarity	Floatables	Deposits	Vegetation	Biology
A5c	9/8/09	12:30	Sunny	None	Yellow	Clear	None	Sediment, Fine Particulates	None	Insects, Algae
E5g	9/8/09	16:00	Sunny	Musty	None	Clear	None	Sediment, Fine Particulates	Normal	Insects, Frogs
G30c	9/2/09	15:50	Sunny	None	None	Clear	Trash	Sediment/Gravel, Fine Particulates	Limited	Insects, Algae
H5e	9/4/09	14:50	Sunny	None	None	Clear	Trash	Fine Particulates	None	Snails, Insects, Algae
J25c	9/3/09	11:10	Sunny	None	None	Clear	None	None	None	Insects, Algae
J25c2	9/2/09	15:00	Sunny	None	None	Clear	Trash	Sediment, Fine Particulates	None	Algae, Snails
J30d	9/4/09	11:30	Sunny	None	Yellow	Clear	None	Sediment, Fine Particulates	Limited	Insects, Algae
J30d (Confirmation 1)	9/15/09	14:45	Sunny	None	None	Clear	None	Sediment/Gravel, Fine Particulates	None	Fish, Snails, Insects, Algae
J30d (Confirmation 2)	9/21/09	14:00	Sunny	None	None	Clear	Trash	Sediment/Gravel, Fine Particulates	None	Snails, Insects, Algae
J30d (Confirmation 3)	9/23/09	16:00	Sunny	None	None	Clear	None	Sediment/Gravel, Fine Particulates	Limited	Snails, Insects, Algae
K15j2	9/3/09	14:40	Sunny	None	None	Clear	None	Fine Particulates	None	Insects, Algae
O40b	9/8/09	14:15	Sunny	None	None	Clear	None	Sediment, Fine Particulates	Limited	Insects, Algae

TABLE 4-4
FIELD OBSERVATIONS - ROUND TWO (CONTINUED)

Site	Date	Time	Light Conditions	Odor	Color	Clarity	Floatables	Deposits	Vegetation	Biology
P15b	9/4/09	13:45	Sunny	None	None	Clear	None	Sediment/Gravel, Fine Particulates	None	Insects
P15b (Confirmation)	9/8/09	15:00	Sunny	None	None	Clear	None	Sediment/Gravel, Fine Particulates	None	Insects
P20f	9/4/09	10:40	Sunny	None	None	Clear	Trash	Sediment, Fine Particulates	None	Snails, Insects, Algae
Q5I	9/8/09	11:20	Sunny	Decomposing organic waste	Yellow	Opaque	None	Fine Particulates	None	None
Q5I (Confirmation)	9/9/09	10:35	Sunny	ns	ns	ns	ns	Fine Particulates	None	None
RCP1	9/3/09	12:00	Sunny	None	None	Clear	Trash	Sediment, Fine Particulates	Normal	Insects, Algae
RCP3	9/9/09	9:45	Sunny	None	None	Clear	Trash	Sediment/Gravel, Fine Particulates	Normal	Insects, Algae
S15h	9/9/09	11:20	Sunny	None	Brown	Slightly Cloudy	Trash, Bubbles	Sediment, Fine Particulates	Normal	Insects
S5c	9/3/09	16:10	Sunny	None	None	Clear	None	Sediment, Fine Particulates	Limited	Insects, Algae
T5e	9/8/09	10:05	Sunny	None	None	Clear	None	Sediment/Gravel, Fine Particulates	Normal	Insects
U10a	9/8/09	10:50	Sunny	ns	ns	ns	ns	Sediment/Gravel, Fine Particulates	Normal	Insects
V40d	9/3/09	12:40	Sunny	None	None	Clear	None	Sediment, Fine Particulates	Limited	Snails, Insects, Algae

TABLE 4-4
FIELD OBSERVATIONS - ROUND TWO (CONTINUED)

Site	Date	Time	Light Conditions	Odor	Color	Clarity	Floatables	Deposits	Vegetation	Biology
V40d (Confirmation)	9/4/09	10:05	Sunny	None	None	Clear	None	Sediment, Fine Particulates	Limited	Snails, Insects, Algae
V45k	9/9/09	12:30	Sunny	None	None	Clear	None	Sediment/Gravel, Fine Particulates	Normal	Insects, Algae
Y15e	9/8/09	9:35	Sunny	ns	ns	ns	ns	Sediment/Gravel, Fine Particulates	Normal	Insects
Z15b	9/4/09	9:20	Sunny	None	Brown	Clear	None	Sediment, Fine Particulates	Normal	Insects

Notes:
denotes a confirmation visit
denotes a location sampled for laboratory analysis
ns = not sampled (dry site)

4.2.2 Field Analytical Results

Field analyses for Round Two of the Dry Weather Monitoring Program were conducted at all sites with flowing or ponded water. The measured constituents are described in Section 4.1.2 of this report.

A statistical summary of the routine field analytical results for Round Two data is presented in Table 4-5. Table 4-6 shows the results of all field analyses conducted at the sampled sites during Round Two. Graphs of the various parameters and appropriate action levels for follow-up investigations are included at the end of this section.

TABLE 4-5
FIELD ANALYSIS STATISTICAL SUMMARY – ROUND TWO

Parameter (units)	Maximum	Minimum	Average	Median	Standard Deviation	Number of Exceedances	Graph
Flow Rate (gpm)	23	0 (ponded)	2.8	1	5.3	---	4-1
Temperature (ºC)	34.4	23.0	27.7	27.5	3.0	0	4-2
pH	9.1	7.4	8.0	8.0	0.4	1	4-3
Turbidity (NTU)	112	0.18	13.13	2.71	28.66	0	4-4
Conductivity (mS/cm)	5.42	1.36	2.43	2.26	1.04	0	4-5
Ammonia-N (mg/L)	0.750	0.110	0.331	0.262	0.192	0	4-6
Surfactants (mg/L)	0.75	0.13	0.35	0.25	0.20	0	4-7
Nitrate-N (mg/L)	13.42	0.09	3.67	1.88	3.96	1	4-8
Orthophosphate-P (mg/L)	9.343	0.015	0.676	0.160	2.053	1	4-9

Note: Calculations include complete routine visit data only. Confirmation visits, follow-up visits and dry sites not incorporated.

TABLE 4-6
FIELD ANALYTICAL RESULTS - ROUND TWO

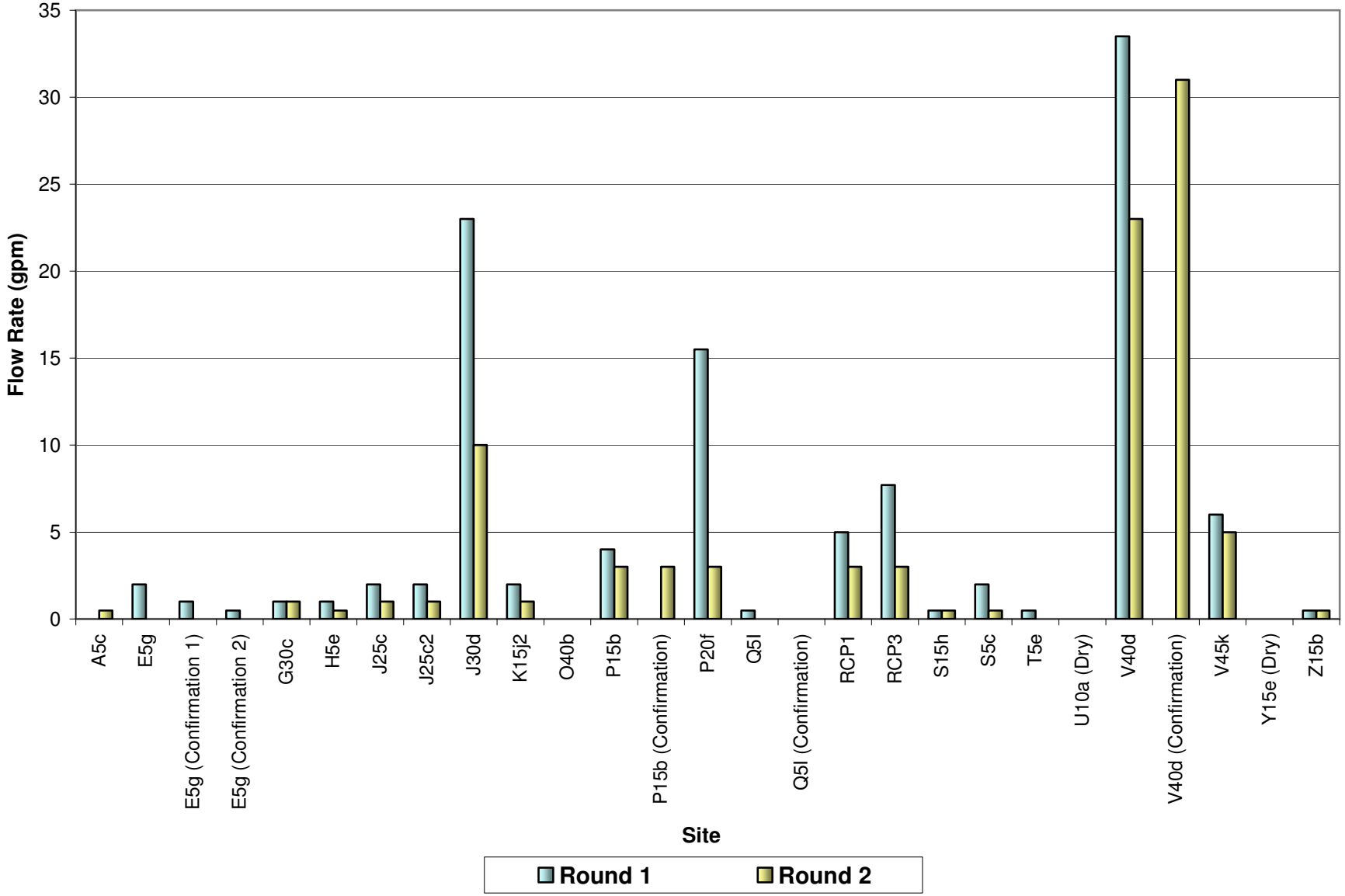
Site	Date	Time	Flow (gpm)	Temp (ºC)	pH	Turbidity (NTU)	Conductivity (mS/cm)	Surfactants (mg/L)	Ammonia-N (mg/L)	Nitrate-N (mg/L)	Ortho-phosphate-P (mg/L)
A5c	9/8/09	12:30	<1	25.1	8.0	18.10	2.16	0.75	0.432	1.33	0.712
E5g	9/8/09	16:00	Ponded	24.8	7.4	12.68	3.26	0.50	0.693	0.55*	0.465
G30c	9/2/09	15:50	1	33.0	8.8	3.46	2.58	0.25	0.214	2.86	0.186
H5e	9/4/09	14:50	<1	27.9	7.9	1.14	2.70	0.25	0.285	0.81*	0.414
J25c	9/3/09	11:10	1	26.4	8.3	0.18	4.36	0.38	0.221	7.94	0.196
J25c2	9/2/09	15:00	1	30.1	7.9	0.41	5.42	0.38	0.240	6.01	0.054*
J30d	9/4/09	11:30	10	30.8	8.0	8.66	3.11	0.25	0.643	2.43	0.044*
J30d (Confirmation 1)	9/15/09	14:45	3	29.9	8.9	2.82	na	na	na	na	na
J30d (Confirmation 2)	9/21/09	14:00	5	29.5	8.7	2.45	na	na	na	na	na
J30d (Confirmation 3)	9/23/09	16:00	2	27.4	8.6	2.92	15.65	na	na	na	na
K15j2	9/3/09	14:40	1	29.9	7.7	0.80	2.02	0.13	0.210	5.36	0.037*
O40b	9/8/09	14:15	Ponded	26.2	8.0	1.21	1.36	0.25	0.430	0.71*	0.228
P15b	9/4/09	13:45	3	30.5	7.7	0.82	1.60	0.13	0.202	**13.42**	0.156
P15b (Confirmation)	9/8/09	15:00	3	27.7	7.4	6.70	1.61	na	na	7.56	na
P20f	9/4/09	10:40	3	28.0	8.2	3.50	1.53	0.25	0.268	5.66	0.016*
Q5l	9/8/09	11:20	Ponded	25.2	8.0	**112**	1.86	0.75	0.595	2.88	**9.343**
Q5l (Confirmation)	9/9/09	10:35	Dry	ns	ns	ns	ns	ns	ns	ns	ns

TABLE 4-6
FIELD ANALYTICAL RESULTS - ROUND TWO (CONTINUED)

Site	Date	Time	Flow (gpm)	Temp (ºC)	pH	Turbidity (NTU)	Conductivity (mS/cm)	Surfactants (mg/L)	Ammonia-N (mg/L)	Nitrate-N (mg/L)	Ortho-phosphate-P (mg/L)
RCP1	9/3/09	12:00	3	28.0	8.2	0.50	1.50	0.13	0.170	9.96	0.103
RCP3	9/9/09	9:45	3	23.6	8.0	0.49	1.73	0.25	0.177	9.93	0.152
S15h	9/9/09	11:20	<1	27.1	7.9	16.76	1.46	0.75	0.750	1.27	0.839
S5c	9/3/09	16:10	<1	28.8	7.8	1.60	2.48	0.25	0.273	1.30	0.267
T5e	9/8/09	10:05	Ponded	23.0	7.5	7.68	1.59	0.25	0.110	0.18*	0.057*
U10a	9/8/09	10:50	Dry	ns	ns	ns	ns	ns	ns	ns	ns
V40d	9/3/09	12:40	23	34.4	**9.1**	1.95	3	0.25	0.177	0.09*	0.015*
V40d (Confirmation)	9/4/09	10:05	31	27.4	8.0	na	3.62	na	na	na	na
V45k	9/9/09	12:30	5	26.1	7.7	3.70	2.60	0.25	0.271	0.12*	0.064*
Y15e	9/8/09	9:35	Dry	ns	ns	ns	ns	ns	ns	ns	ns
Z15b	9/4/09	9:20	<1	25.9	7.6	7.79	2.35	0.50	0.256	0.60*	0.163
PRACTICAL DETECTION LIMIT				**0.0**	**0.0**	**0.01**	**0.00**	**0.00**	**0.100**	**1.13**	**0.098**
ACTION LEVEL				**BPJ**	**< 6.5 > 9.0**	**BPJ**	**BPJ**	**1.00**	**1.000**	**10.00**	**2.000**

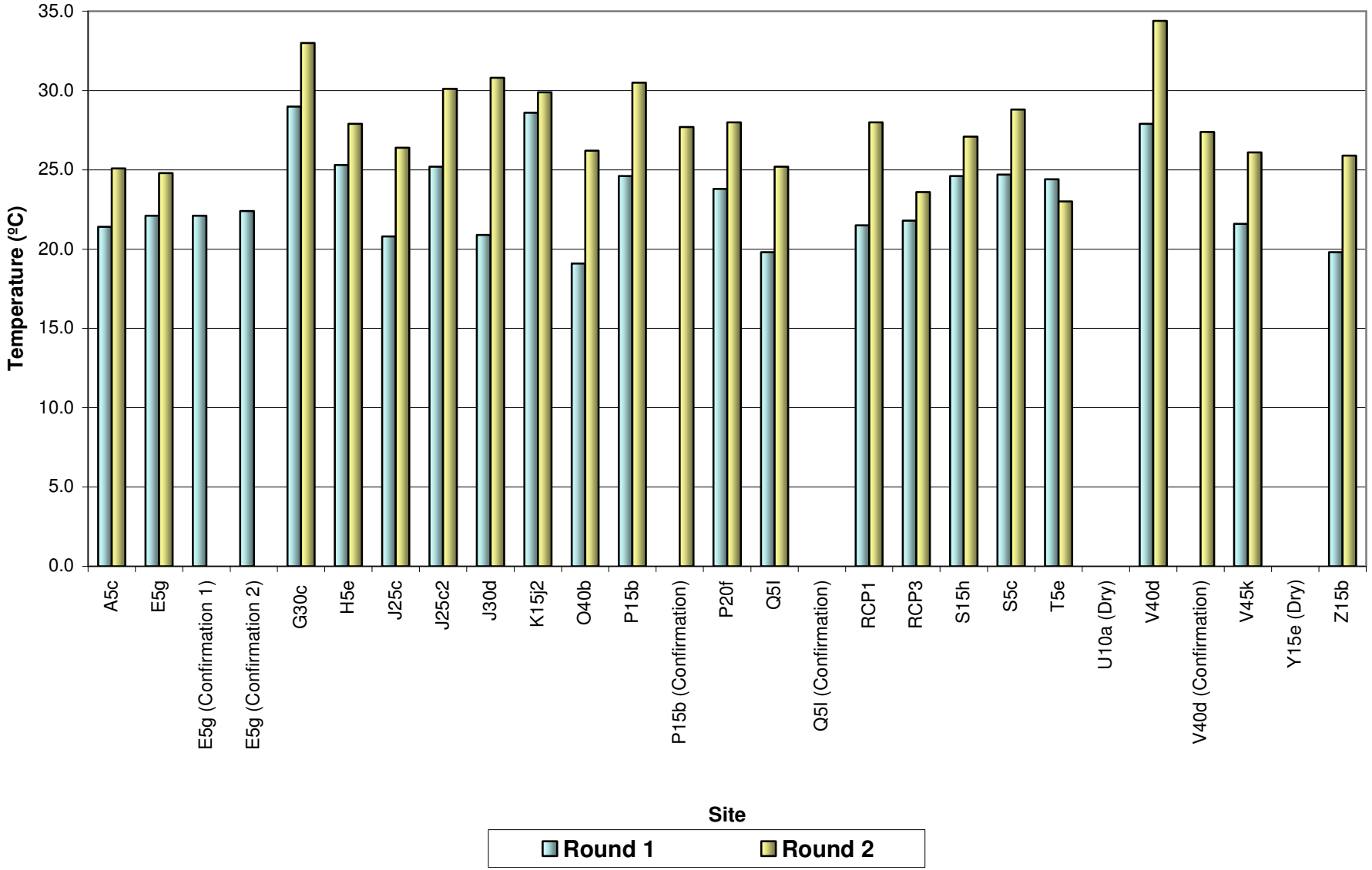
Notes:
na = not analyzed
ns = not sampled (dry site)
* Value reported is below the Practical Detection Limit (PDL). Per manufacturer, the value is reported but flagged. See footnotes to Table 3-1 for details.
Red values were at or above the measured constituent's action level
denotes a confirmation visit
denotes a location sampled for laboratory analysis

Graph 4-1: Flow



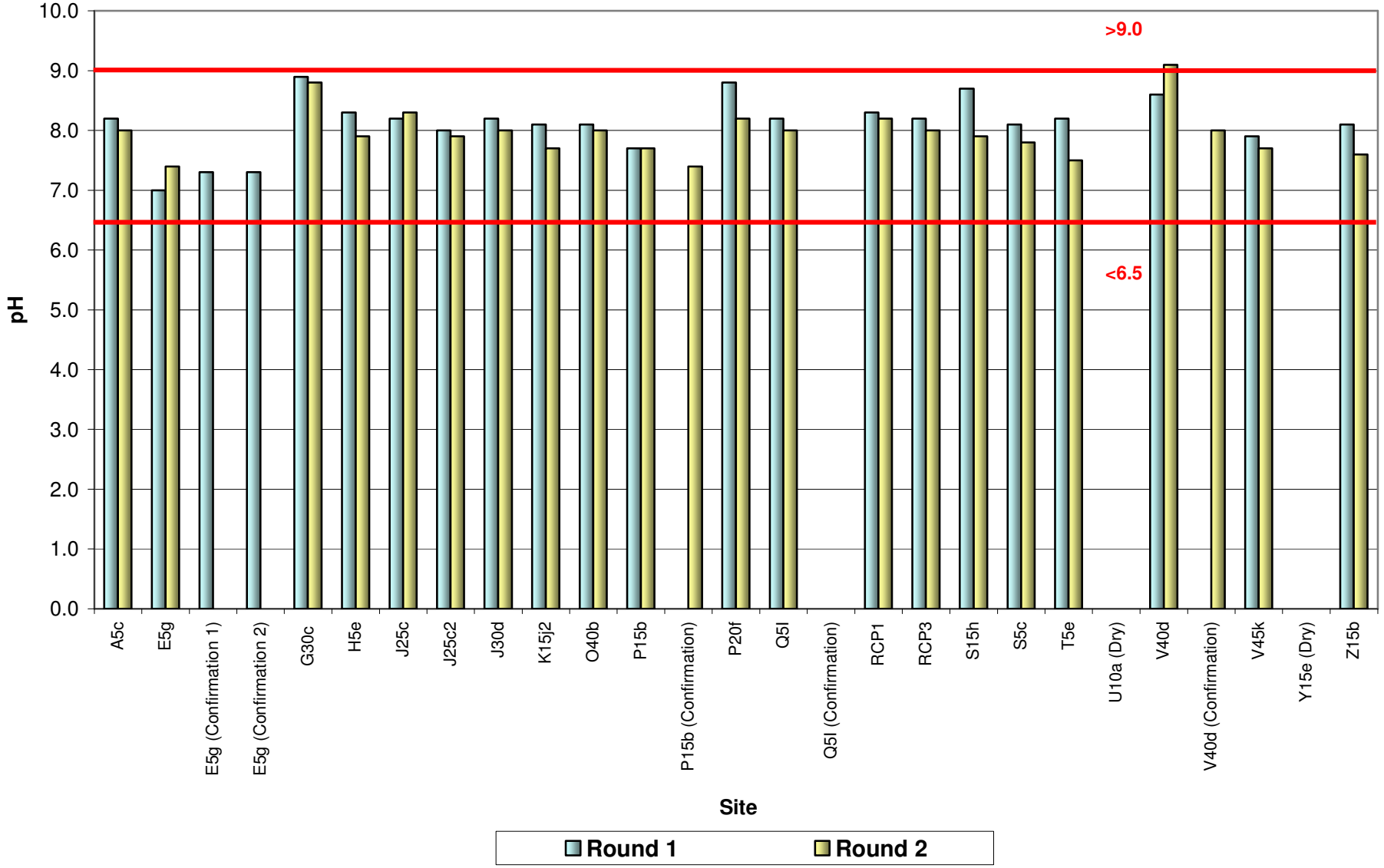
Graph 4-2: Temperature

Action level is Best Professional Judgement



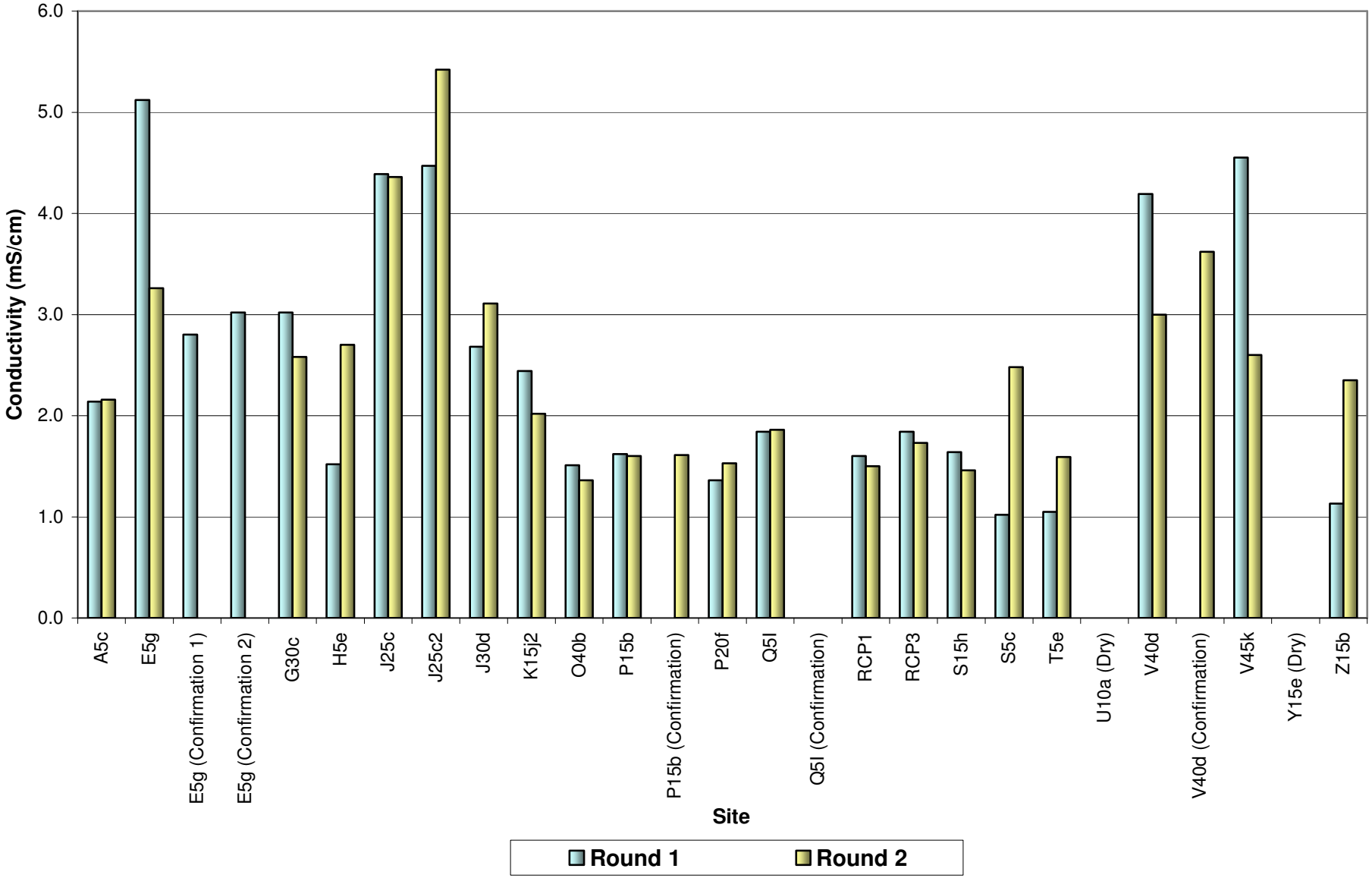
Graph 4-3: pH

Action Level is >9 or <6.5



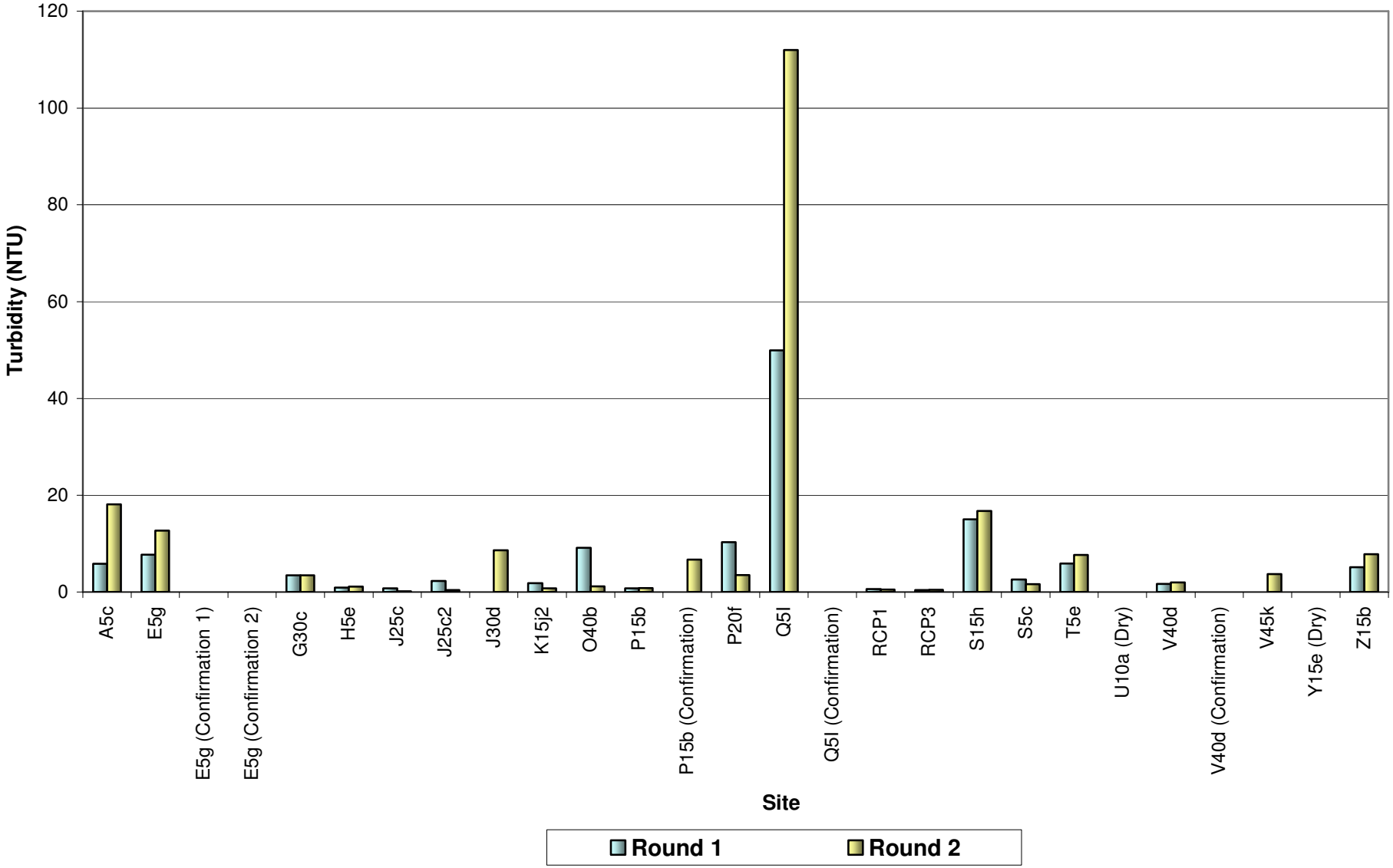
Graph 4-4:Conductivity

Action Level is Best Professional Judgement

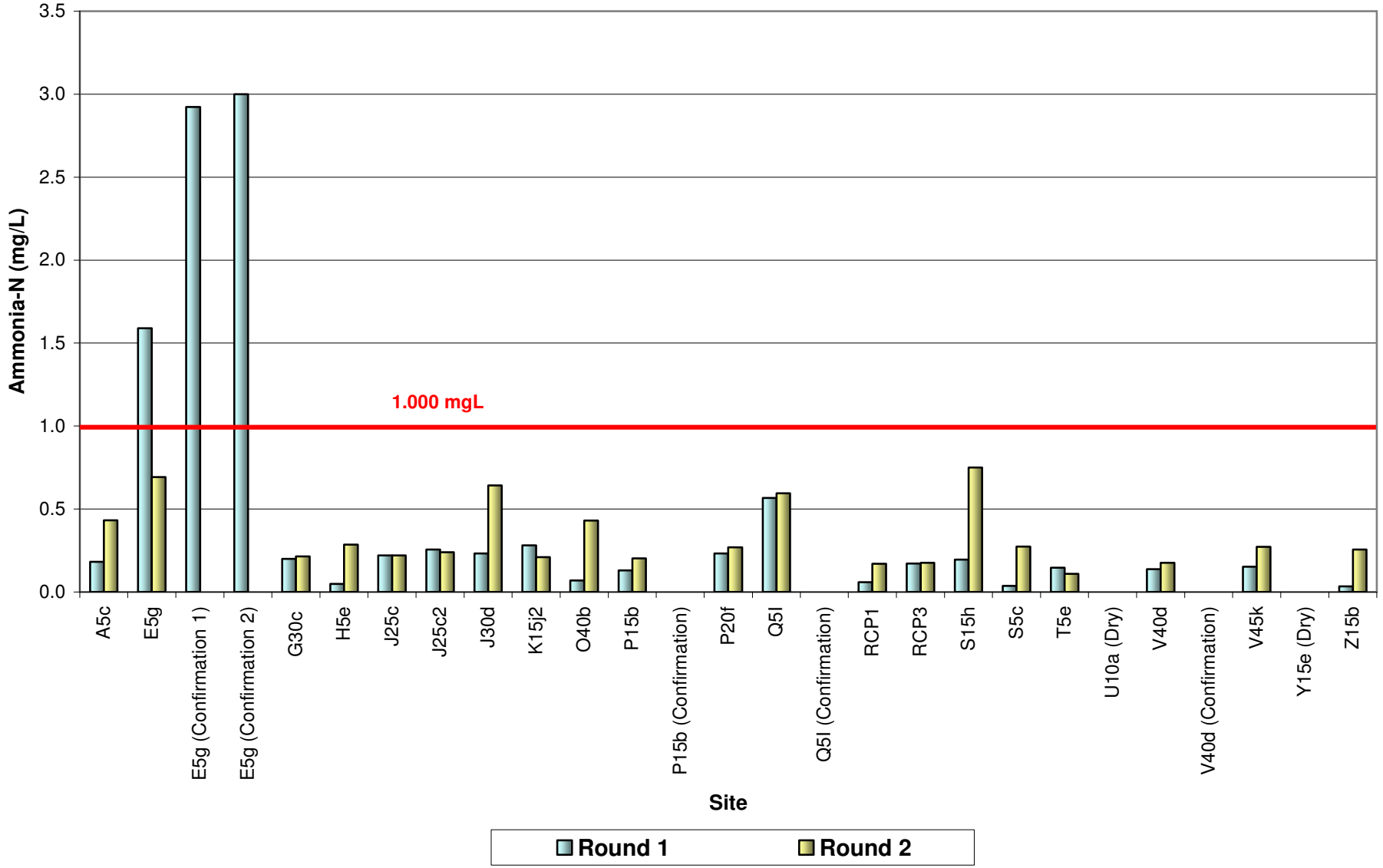


Graph 4-5: Turbidity

Action Level is Best Professional Judgement

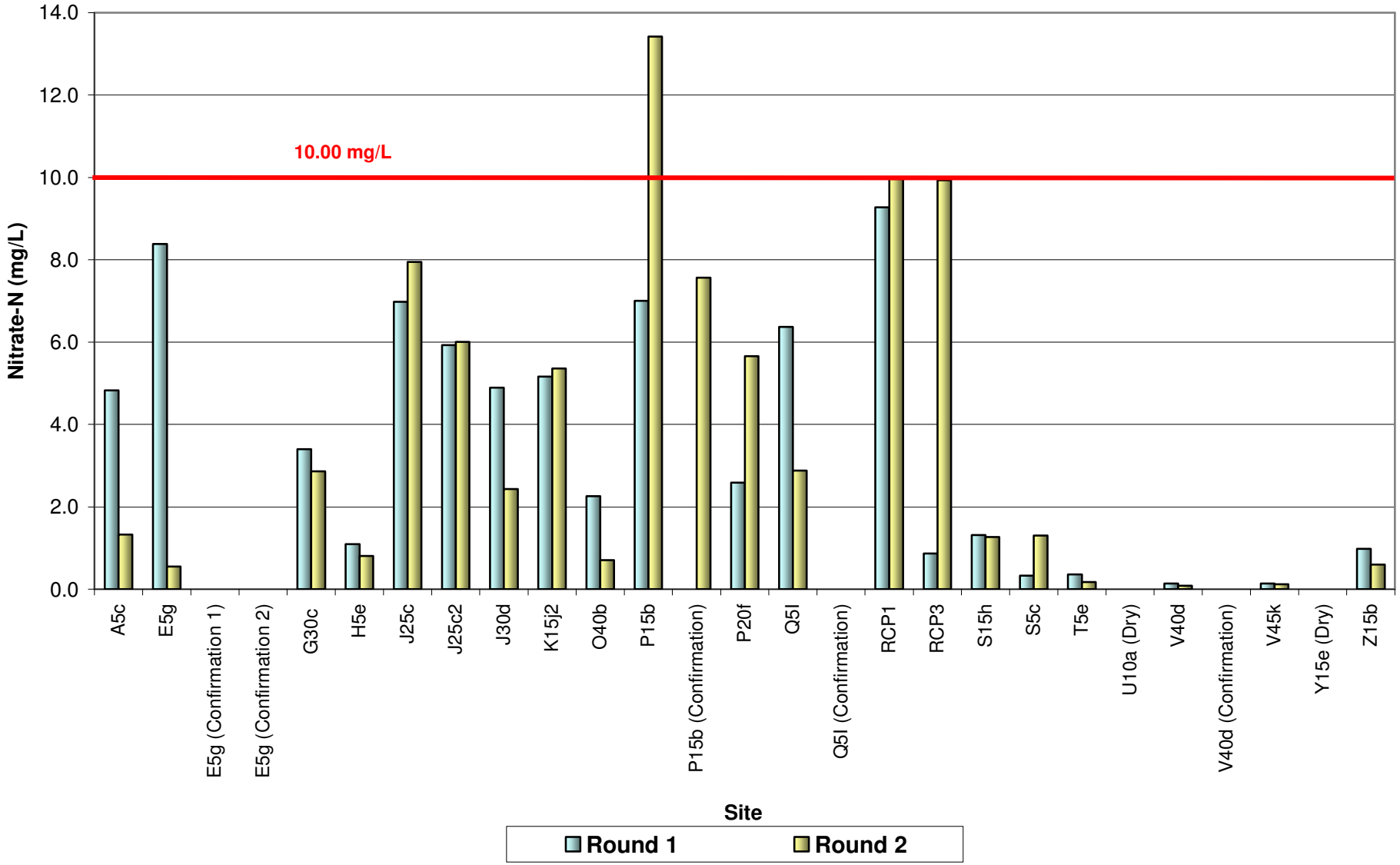


Graph 4-6: Ammonia-Nitrogen

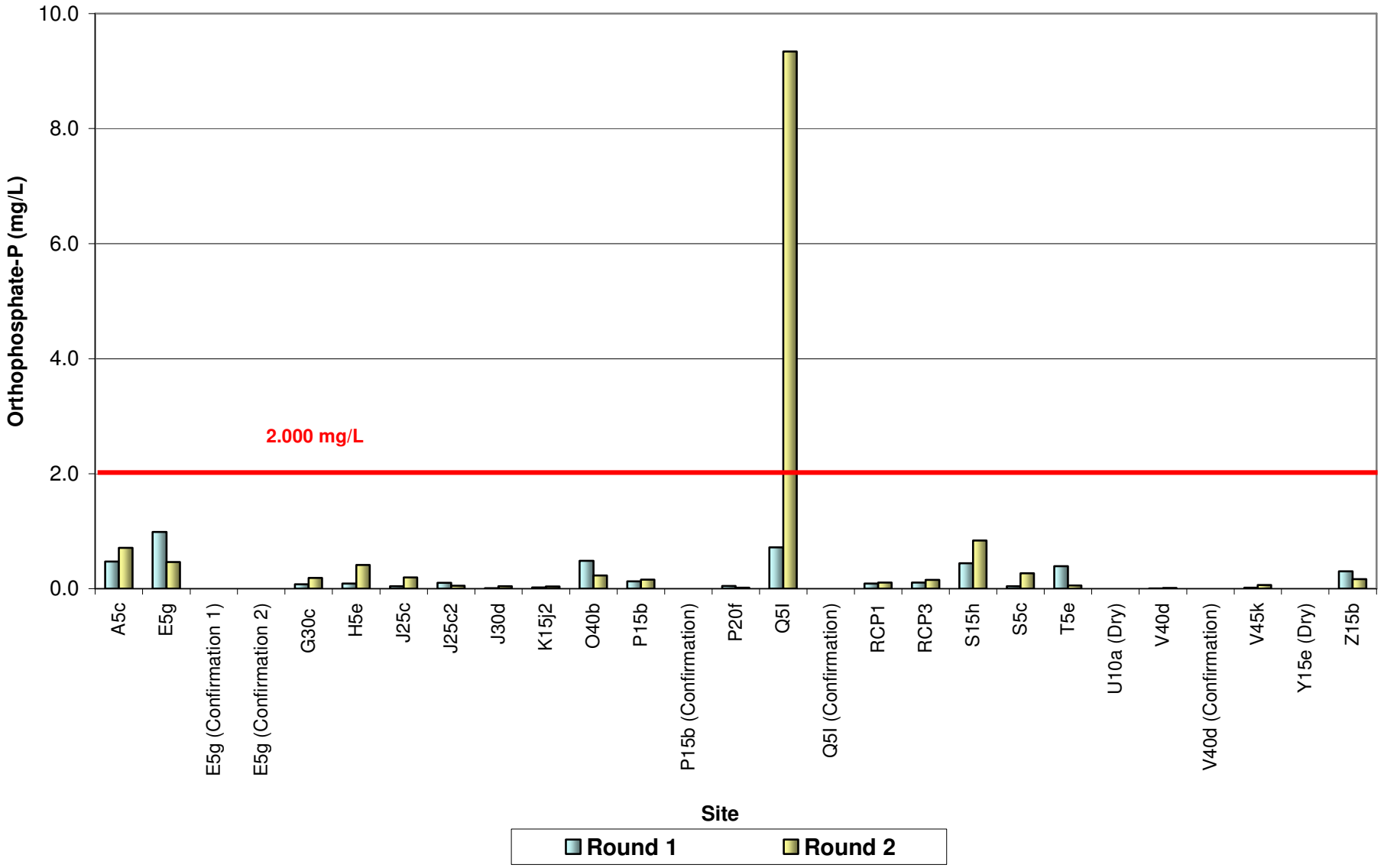


Graph 4-7 Nitrate-Nitrogen

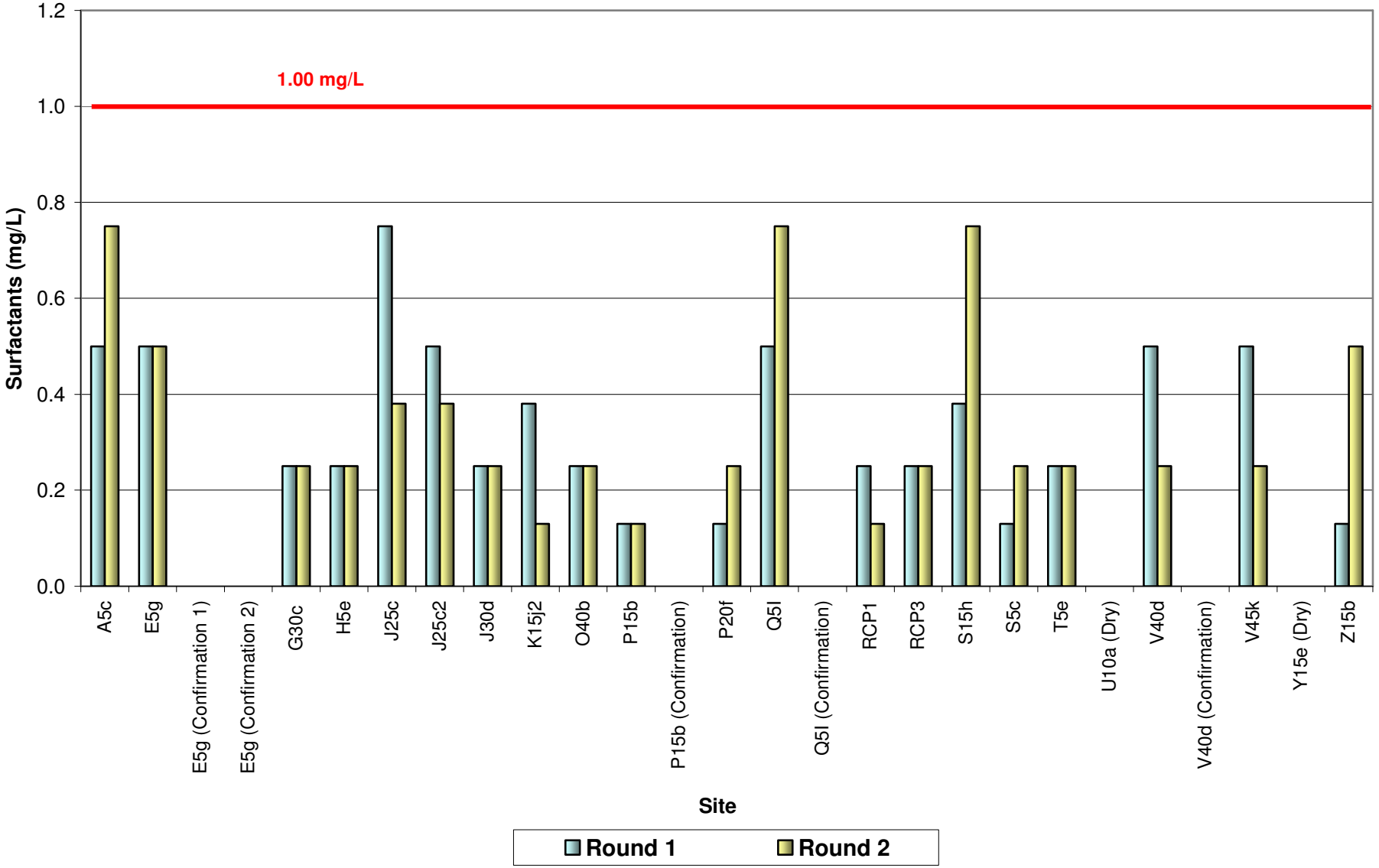
Action Level = 10.00 mg/L



Graph 4-8: Orthophosphate-Phosphorus



Graph 4-9: Surfactants (MBAS)



5 TRASH ASSESSMENT

5.1 Regulatory Requirements

Section II.B.3.C.(7) of the Municipal Permit's Receiving Waters and Urban Runoff Monitoring and Reporting Program requires all Copermittees, including the City of Santee, to assess the presence of trash in receiving waters and urban runoff at each dry weather monitoring site. This trash assessment program is designed to provide information on the spatial extent and relative amount of trash present, as well at the nature and origin of the trash at the site.

5.2 Procedure and Definitions

The San Diego Copermittee Dry Weather Monitoring Workgroup developed a Trash Assessment Form to document the amount and extent of trash at each evaluated site. The form categorizes the site into one of five trash categories: optimal, suboptimal, marginal, submarginal, or poor. The form also addresses any potential threats that the trash may pose to human or aquatic health. For sites rating submarginal or poor, the form includes a section to record types, prevalence, potential routes, and sources of trash.

- A qualitative estimate of the abundance of trash is made based upon a general impression of the site. The Trash Assessment Form's five categories are primarily qualitative descriptions of the amount and extent of trash although a number of trash pieces is also included in each category as a rough guideline. The five categories are defined as follows.
- Optimal: On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
- Suboptimal: On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
- Marginal: Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
- Submarginal: Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (~100-400 pieces). Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
- Poor: Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

The threat to human health and threat to aquatic health is assessed at each site using the following definitions:

- *Threat to Human Health* – Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment.

- *Threat to Aquatic Health* – Large amount (50 pieces or more) of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amounts of settleable, degradable, and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries, or spray cans; any evidence of large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment.

In the event that a site is noted as potentially posing a threat to human or aquatic health, additional descriptive comments are recorded in the "Comments" section of the Trash Assessment Form.

If a site is labeled as submarginal or poor, it is assessed for types of trash present (e.g., automotive, biohazard, food waste), which are ranked based on their prevalence and the potential threat to water quality they pose. Lastly, the potential mechanism through which trash reached the site (e.g., dumping, littering, upstream sources) and the potential source of the trash (e.g., construction, commercial, transient) are identified.

5.2 Trash Assessment Results

During both Round One and Round Two, the majority of sites in the City of Santee were rated optimal or suboptimal. None of the sites were considered submarginal or poor, or were determined to pose a threat to aquatic health. During round one, Site E5g received a marginal trash assessment rating and was determined to pose a potential threat to human health due to the probable presence of human waste. The City was notified of the conditions at the site, and promptly removed all trash and debris from the site and surrounding area.

Tables 5-1 and 5-2 and Graph 5-1 summarize the trash assessment results for both rounds of monitoring. Figures 5-1 and 5-2 are maps of sampling sites and their corresponding trash assessment in Round One and Round Two, respectively.

TABLE 5-1
TRASH ASSESSMENT RESULTS – ROUND ONE

Optimal (18 Sites)			Suboptimal (3 Sites)	Marginal (1 Site)	Submarginal (0 Sites)	Poor (0 Sites)
G30c H5e J25c J25c2 J30d K15j2	O40b P15b P20f Q5l RCP1 S15h	S5c T5e U10a V40d V45k Z15b	A5c RCP3 Y15e	E5g	(None)	(None)

TABLE 5-2
TRASH ASSESSMENT RESULTS – ROUND TWO

Optimal (11 Sites)		Suboptimal (9 Sites)		Marginal (2 Sites)	Submarginal (0 Sites)	Poor (0 Sites)
A5c E5g G30c J25c J30d K15j2	P15b RCP1 S5c T5e V45k	H5e J25c2 O40b Q5l S15h	U10a V40d Y15e Z15b	P20f RCP3	(None)	(None)

GRAPH 5-1
TRASH ASSESSMENT SUMMARY

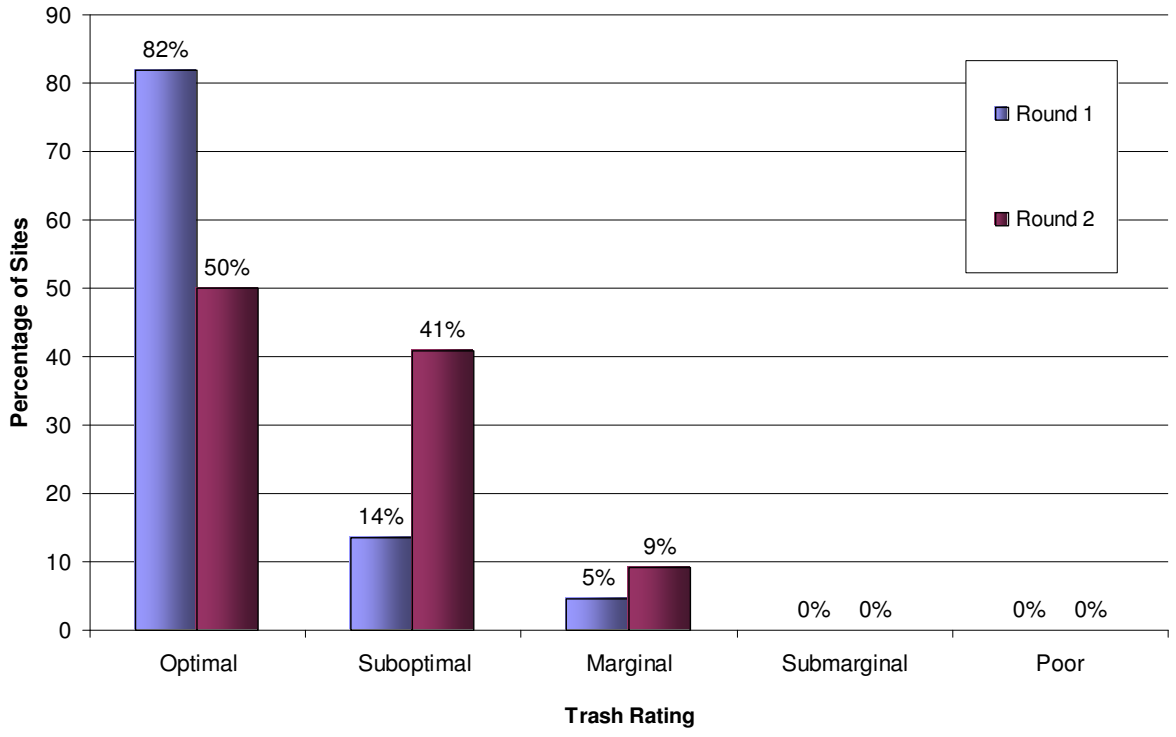


FIGURE 5-1
ROUND ONE TRASH ASSESSMENT GIS MAP

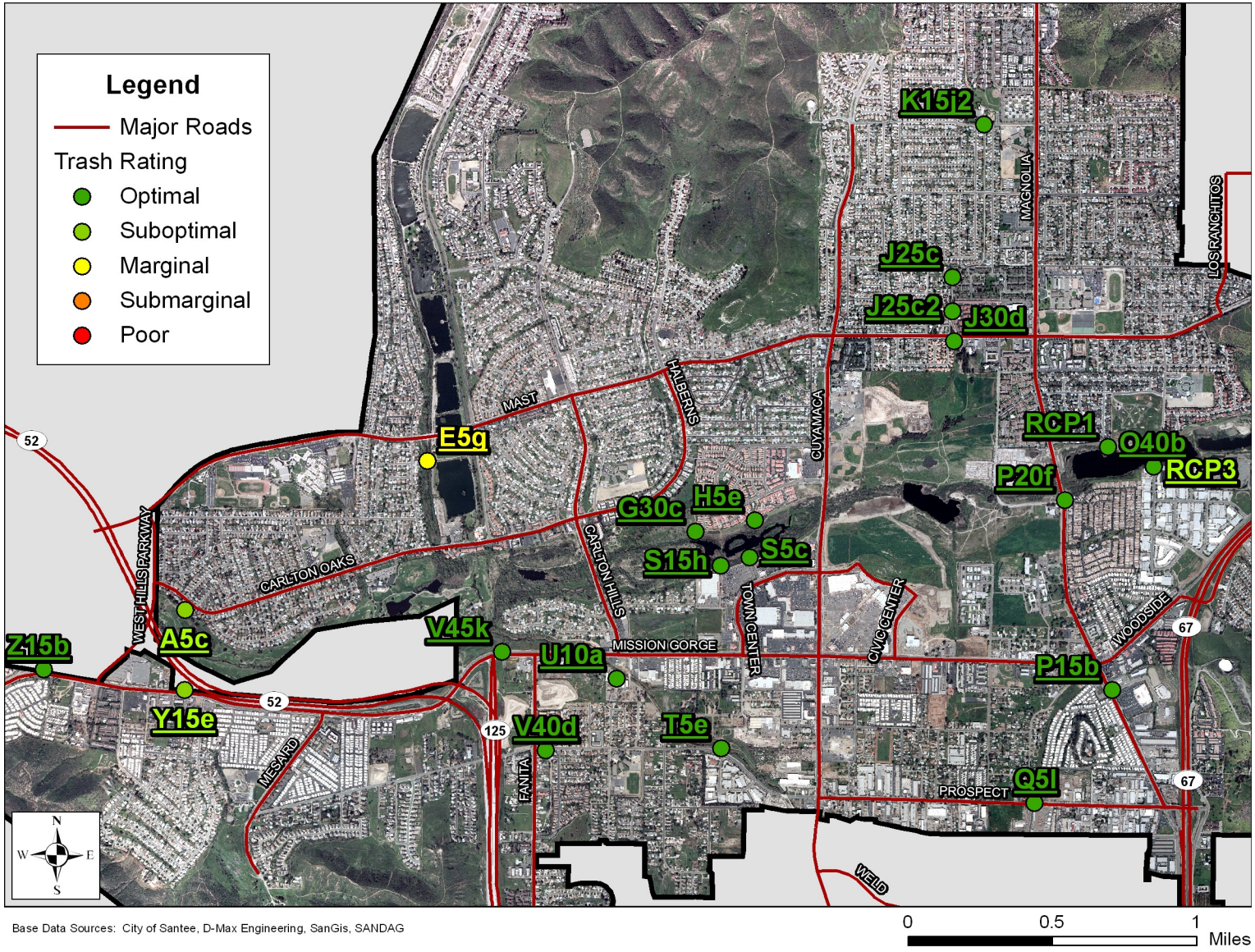
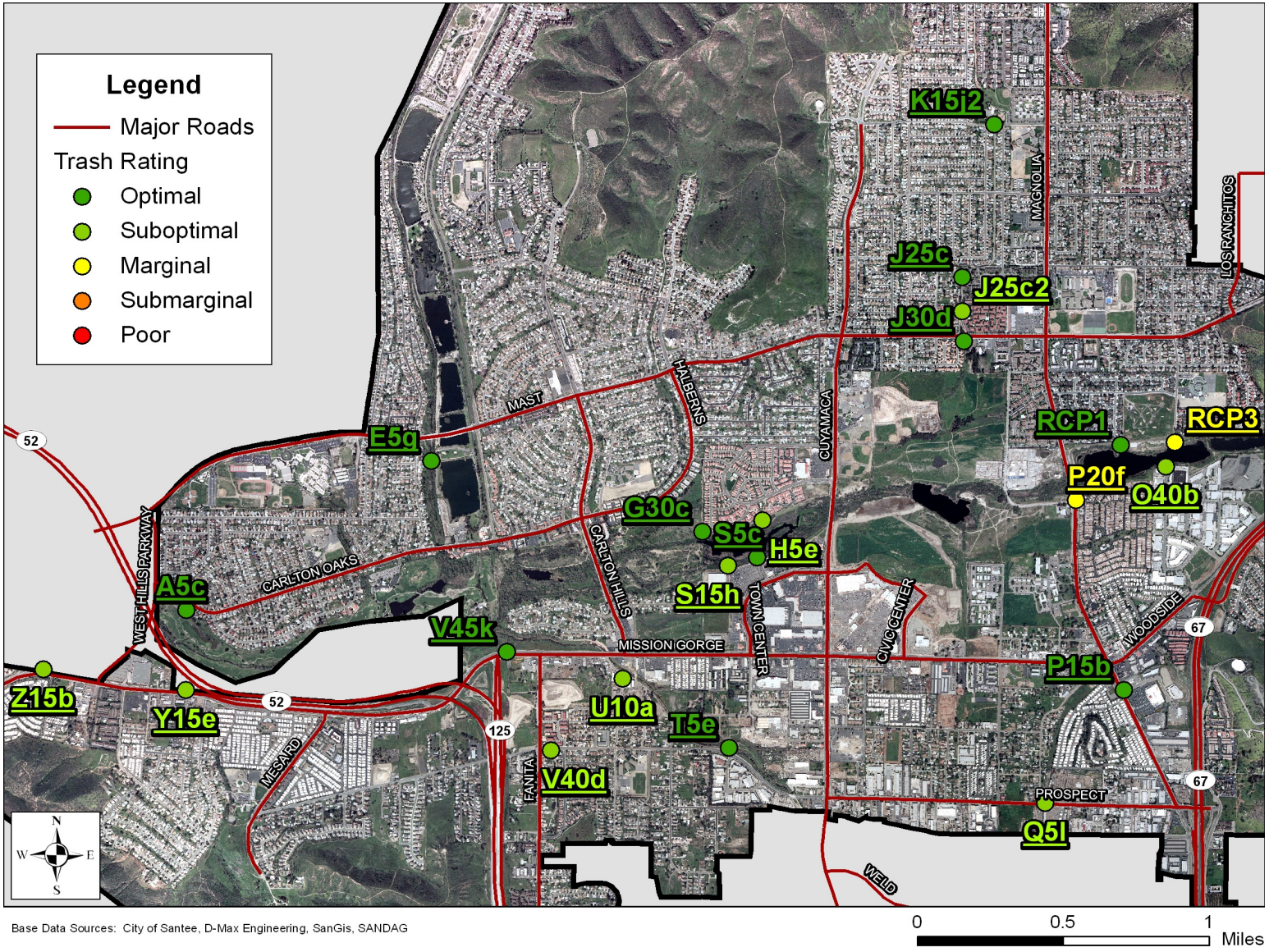


FIGURE 5-2
ROUND TWO TRASH ASSESSMENT GIS MAP



6 LABORATORY ANALYTICAL RESULTS

6.1 Summary

Laboratory analyses were conducted at five sites in each of the two rounds, representing over 25 percent of all sites with ponded or flowing water. The laboratory constituents measured are defined below.

Oil and grease analysis is used to detect hydrocarbon pollution from a variety of sources, including parking lots and streets, washing activities, illegal discharges, and automobile repair facilities.

Total hardness measures the amount of calcium and magnesium ions in a water sample, with the result expressed in mg/L of $CaCO_3$. Hardness itself is not considered a pollutant, but is measured to calculate CTR limits for dissolved metals. Hardness affects the solubility of dissolved metals as well as other minerals and ions.

Diazinon and **chlorpyrifos** are organophosphate pesticides that are highly toxic to insects, birds, and mammals, freshwater fish, and invertebrates. In 2005, the Environmental Protection Agency banned the sale of diazinon in the United States and tightened restrictions on chlorpyrifos use.

Coliform bacteria are relatively harmless to humans and are present in mammalian digestive tracts, most surface waters, and soils. Testing water samples for total coliform bacteria is a standard practice in public health. Total coliform is measured as an indicator of other more harmful pathogens, since these pathogens are generally present in much smaller quantities and are difficult to detect.

Fecal coliform, a subset of coliform bacteria, and ***Enterococcus*** are found primarily in the gastro intestinal tracts of humans and animals and are commonly used as indicators of water contamination by fecal matter. Without the use of significantly more expensive methods, such as ribotyping, it is not possible to determine whether the source of fecal material is human or animal. Human fecal material is known to contain pathogens dangerous to humans, but the relationship between animal waste and threat to human health is less certain.

Metal contamination of water can arise from a variety of sources, including automobile operation, automobile repair, vehicle washing, galvanizing of metal, and electronics manufacturing. Certain dissolved metals are toxic pollutants that are hazardous to the survival and development of aquatic organisms.

The California Toxics Rule for Dissolved Metals in Fresh Waters defines metal toxicity as a function of water hardness. As hardness increases, so does the Criterion Maximum Concentration (CMC), a concentration limit in which aquatic life can be sustained. CMC values differ for various metals. Dry weather monitoring laboratory samples are analyzed for the presence of dissolved cadmium, copper, lead, and zinc.

6.2 Results

Tables 6-1 and 6-2 present the statistical summaries of the laboratory results from Round One and Round Two samples, respectively. Table 6-3 shows the sites with metal concentrations during each round, the measured total hardness of the sample, and the associated CMC. Laboratory reports are included in Appendix C.

TABLE 6-1
LABORATORY ANALYSIS STATISTICAL SUMMARY – ROUND ONE

Parameter (units)	Maximum	Minimum	Number of Exceedances
Total Hardness (mg/L $CaCO_3$)	1,020	356	*
Oil and grease (mg/L)	nd	nd	0
Diazinon (µg/L)	nd	nd	0
Chlorpyrifos (µg/L)	nd	nd	0
Cadmium (dissolved, mg/L)	nd	nd	0
Copper (dissolved, mg/L)	0.006	nd	0
Lead (dissolved, mg/L)	nd	nd	0
Zinc (dissolved, mg/L)	nd	nd	0
Total Coliforms (MPN/100 mL)	11,000	1,700	0
Fecal Coliforms (MPN/100 mL)	3,000	70	0
Enterococci (MPN/100 mL)	3,000	300	0

Notes:
nd = not detected
*Total hardness is not considered a pollutant and does not have an established action level.
Calculations include complete routine visit data only. Confirmation visits, follow-up visits and dry sites not incorporated.

TABLE 6-2
LABORATORY ANALYSIS STATISTICAL SUMMARY – ROUND TWO

Parameter (units)	Maximum	Minimum	Number of Exceedances
Total Hardness (mg/L $CaCO_3$)	931	534	*
Oil and grease (mg/L)	nd	nd	0
Diazinon (µg/L)	nd	nd	0
Chlorpyrifos (µg/L)	nd	nd	0
Cadmium (dissolved, mg/L)	nd	nd	0
Copper (dissolved, mg/L)	0.021	0.002	0
Lead (dissolved, mg/L)	nd	nd	0
Zinc (dissolved, mg/L)	nd	nd	0
Total Coliforms (MPN/100 mL)	300,000	2,300	1
Fecal Coliforms (MPN/100 mL)	90,000	300	1
Enterococci (MPN/100 mL)	30,000	110	1

Notes:
nd = not detected
*Total hardness is not considered a pollutant and does not have an established action level.
Calculations include complete routine visit data only. Confirmation visits, follow-up visits and dry sites not incorporated.

TABLE 6-3
CTR – CMC FOR DISSOLVED METALS

Dissolved Copper			
Site	**Total Hardness (mg/L)**	**CMC (mg/L)**	**Concentration (mg/L)**
Round One			
J25c	780	0.050	0.006
Round Two			
J25c	931	0.050	0.021
J30d	834	0.050	0.004
P20f	534	0.050	0.003
RCP1	553	0.050	0.002
V40d	773	0.050	0.005

Note: Cadmium, lead, and zinc were not detected in any of the samples.

TABLE 6-4
LABORATORY ANALYTICAL RESULTS

Site	Date	Time	Oil & Grease (mg/L)	Total Hardness (mg/L)	Cadmium (mg/L)	Copper (mg/L)	Lead (mg/L)	Zinc (mg/L)	Diazinon (µg/L)	Chlorpyrifos (µg/L)	Total Coliforms (MPN/100 mL)	Fecal Coliforms (MPN/100 mL)	Enterococci (MPN/100 mL)
Round One													
J25c	5/21/09	12:15	nd	780	nd	0.006	nd	nd	nd	nd	8,000	170	1,300
J30d	5/22/09	9:50	nd	685	nd	nd	nd	nd	nd	nd	11,000	3,000	3,000
P20f	5/21/09	11:40	nd	356	nd	nd	nd	nd	nd	nd	11,000	400	500
RCP1	5/21/09	10:45	nd	520	nd	nd	nd	nd	nd	nd	8,000	70	2,300
V40d	5/22/09	11:10	nd	1,020	nd	nd	nd	nd	nd	nd	1,700	500	300
Round Two													
J25c	9/3/09	11:10	nd	931	nd	0.021	nd	nd	nd	nd	13,000	13,000	5,000
J30d	9/4/09	11:30	nd	834	nd	0.004	nd	nd	nd	nd	**300,000**	**90,000**	**30,000**
J30d** (Confirmation 1)	9/15/09	14:45	na	na	na	na	na	na	na	na	**173,000**	1,200*	1,414
J30d (Confirmation 2)	9/21/09	14:00	na	na	na	na	na	na	na	na	**242,000**	2518	na
J30d (Confirmation 3)	9/23/09	16:00	na	na	na	na	na	na	na	na	**242,000**	434	na
P20f	9/4/08	10:40	nd	534	nd	0.003	nd	nd	nd	nd	22,000	17,000	110
RCP1	9/3/09	12:00	nd	553	nd	0.002	nd	nd	nd	nd	13,000	8,000	800
V40d	9/3/09	12:40	nd	773	nd	0.005	nd	nd	nd	nd	2,300	300	130
Analytical Reporting Limits			**5**	**10**	**0.001**	**0.001**	**0.001**	**0.020**	**0.05**	**0.05**	**20**	**20**	**20**
Action Levels			**15**	*******	**CTR**	**CTR**	**CTR**	**CTR**	**0.50**	**0.50**	**50,000**	**20,000**	**10,000**

Notes:

nd = not detected

na = not analyzed

Red values were at or above the measured constituent's action level

denotes a confirmation visit

* Number of fecal coliforms for confirmation samples are derived from *E. coli* count. Number of fecal coliforms = (Number of *E. coli*) / 0.85

** Bacteria confirmation samples are analyzed using the Colilert and Enterolert methods described in Table 3-2, which have a reporting limit of 10 MPN/100 mL.

*** = Total hardness is not considered a pollutant (see Section 3.4), and thus has no established action level for the purposes of dry weather monitoring. Total hardness is measured because the CTR action levels for metals are dependent on the total hardness value of the water sample.

7 DATA ANALYSIS

This section provides an overall evaluation of test results of the 2009 Dry Weather Monitoring Program, as well as a discussion of historical trends for various constituent exceedances.

7.1 2009 Results

Of the 40 routine field screening visits performed in 2009, eight exceedances were observed. This is significantly fewer than the 18 exceedances detected in the 2008 program. A summary of 2009 exceedances is presented in Table 7-1.

TABLE 7-1
2009 EXCEEDANCES SUMMARY

Site	pH	Turbidity	Ammonia -N	Nitrate-N	Ortho-phosphate-P	Total Coliforms	Fecal Coliforms	Enterococci
Round One								
E5g			✓					
Round Two								
J30d						✓	✓	✓
P15b				✓				
Q5l		✓			✓			
V40d	✓							

Note: Table reflects exceedances occurring during routine visits only, not confirmation or follow-up visits.

7.2 Previous Results

Historical exceedance results are presented in Table 7-2, and graphs 7-1, 7-2, 7-3, and 7-4. Table 7-2 shows the percentage of sampled sites that have had exceedances each year and round of the Dry Weather Monitoring Program. Graphs 7-1 and 7-2 illustrate the percentage of exceedances by year and round for field screening, and graphs 7-3 and 7-4 present the percentage exceedances by year for laboratory analyses.

Since the time that testing began in accordance with Order 2001-01, no exceedances have been measured in temperature, cadmium, lead, zinc, or chlorpyrifos. Thus, these constituents have not been included in the following table and graphs.

The historical data for the results of field analyses indicate a decreasing trend in ammonia-nitrogen exceedances. No discernable trend is apparent for pH, turbidity, nitrate-nitrogen, or orthophosphate-phosphorus. Surfactants have not been in exceedance since 2007.

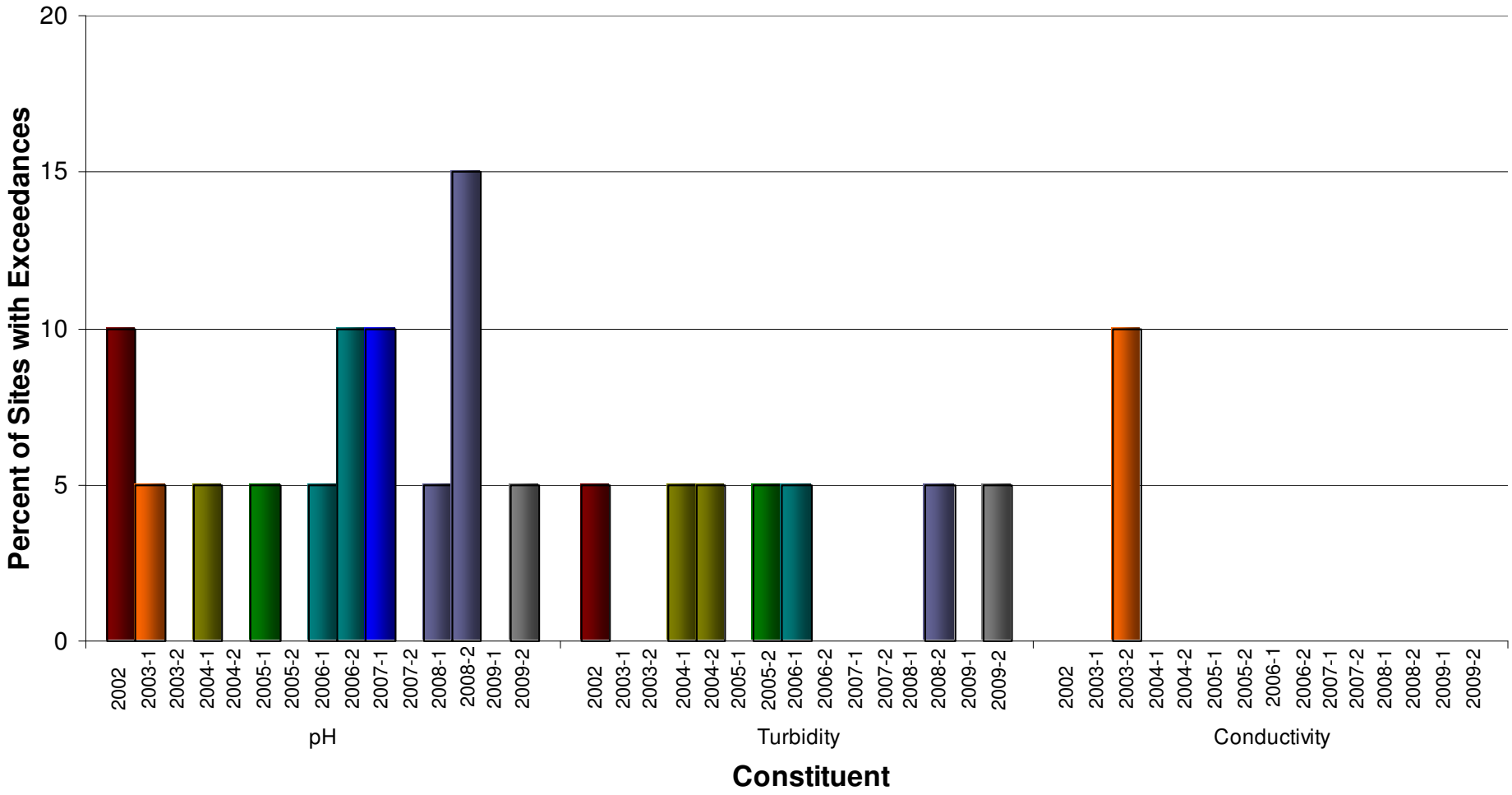
Historical data for laboratory analyses indicate that total coliform exceedance rates have decreased somewhat in the last few years. In general, there are more fecal coliform exceedances during the second round of sampling each year. There have been no diazinon exceedances in the last three years and no oil and grease or copper exceedances since 2003.

TABLE 7-2
PERCENT OF SITES WITH EXCEEDANCES BY YEAR AND ROUND

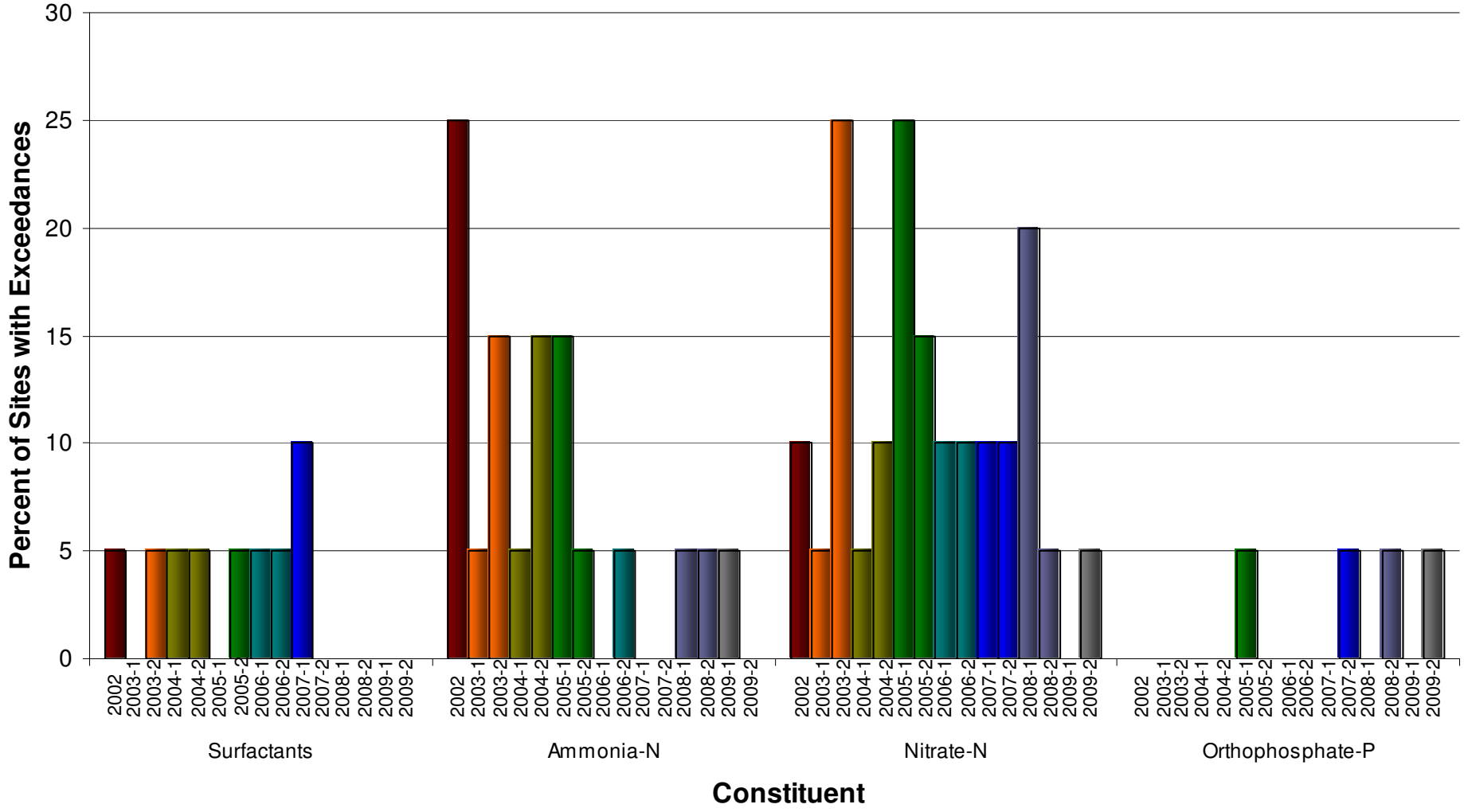
Year and Round	Field Screening								Laboratory Analysis						
	Number of Field Screening Sites	pH	Turbidity	Conductivity*	Surfactants	Ammonia-N	Nitrate-N	Orthophosphate-P	Number of Laboratory Analysis Sites	Oil & Grease	Copper	Diazinon	Total Coliforms	Fecal Coliforms	Enterococci
2002	20	10	5	0	5	25	10	0	6	0	0	0	17	17	17
2003-1	20	5	0	0	0	5	5	0	5	20	0	0	20	20	0
2003-2	20	0	0	10	5	15	25	0	5	0	20	0	80	80	0
2004-1	20	5	5	0	5	5	5	0	6	0	0	17	50	0	0
2004-2	20	0	5	0	5	15	10	0	5	0	0	0	80	20	40
2005-1	20	5	0	0	0	15	25	5	5	0	0	0	0	0	0
2005-2	20	0	5	0	5	5	15	0	5	0	0	0	100	20	20
2006-1	20	5	5	0	5	0	10	0	5	0	0	0	80	0	20
2006-2	20	10	0	0	5	5	10	0	5	0	0	20	60	20	40
2007-1	20	10	0	0	10	0	10	0	5	0	0	0	20	0	0
2007-2	20	0	0	0	0	0	10	5	5	0	0	0	40	40	20
2008-1	20	5	0	0	0	5	20	0	5	0	0	0	0	0	0
2008-2	20	15	5	0	0	5	5	5	5	0	0	0	40	20	60
2009-1	20	0	0	0	0	5	0	0	5	0	0	0	0	0	0
2009-2	20	5	5	0	0	0	5	5	5	0	0	0	20	20	20

Notes:
Results based on complete routine visits only. Confirmation visits, follow-up visits, and dry sites not included.
na = not analyzed
* By regional consensus, the action level for conductivity has been changed during past years from numeric values to best professional judgment in order to account for sites in which salt water and groundwater increase conductivity. High conductivity levels at these sites are not necessarily exceedances or considered to be a water quality concern.

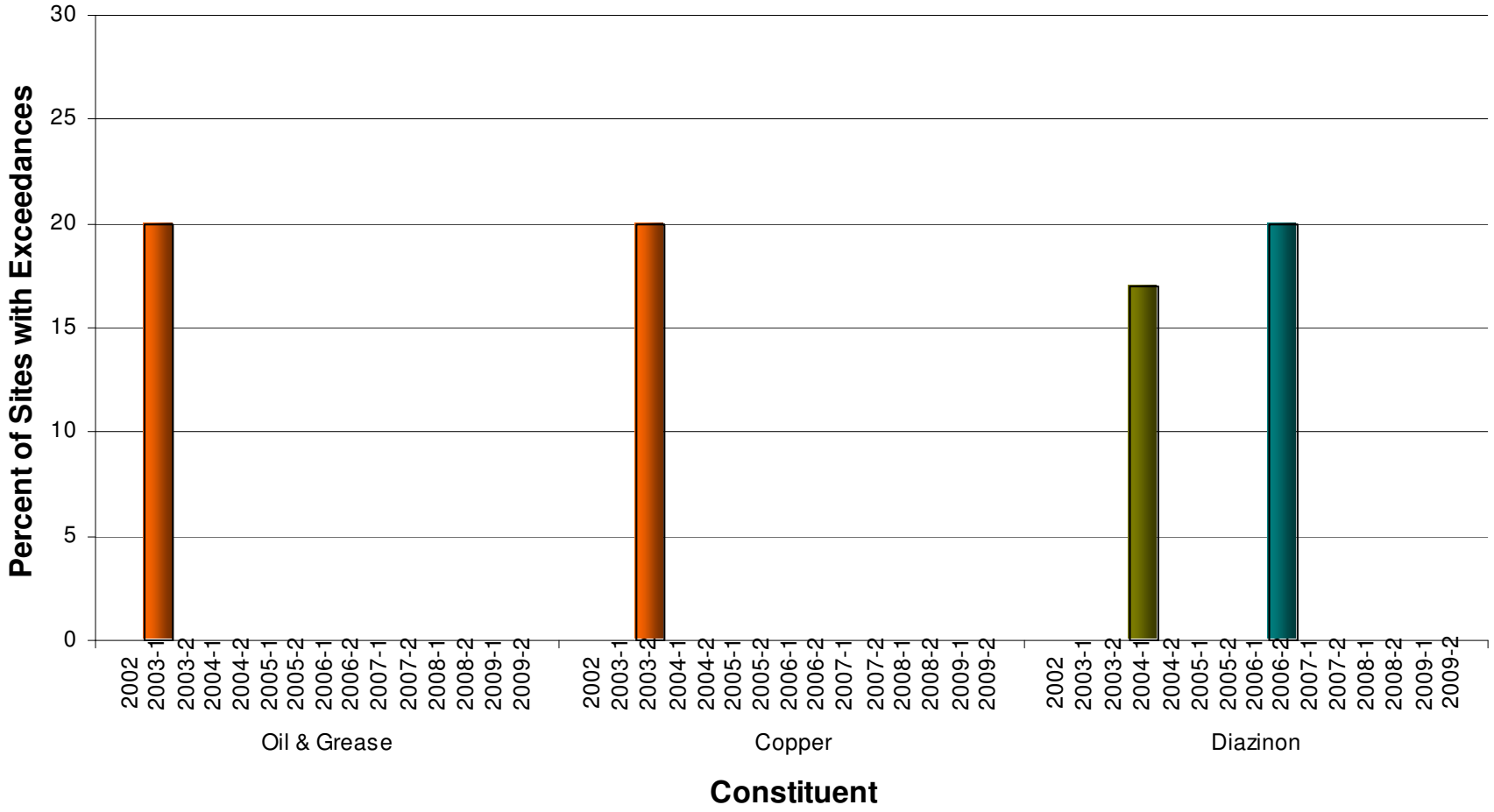
GRAPH 7-1
PERCENT OF SITES WITH FIELD SCREENING EXCEEDANCES BY YEAR AND ROUND – PART 1



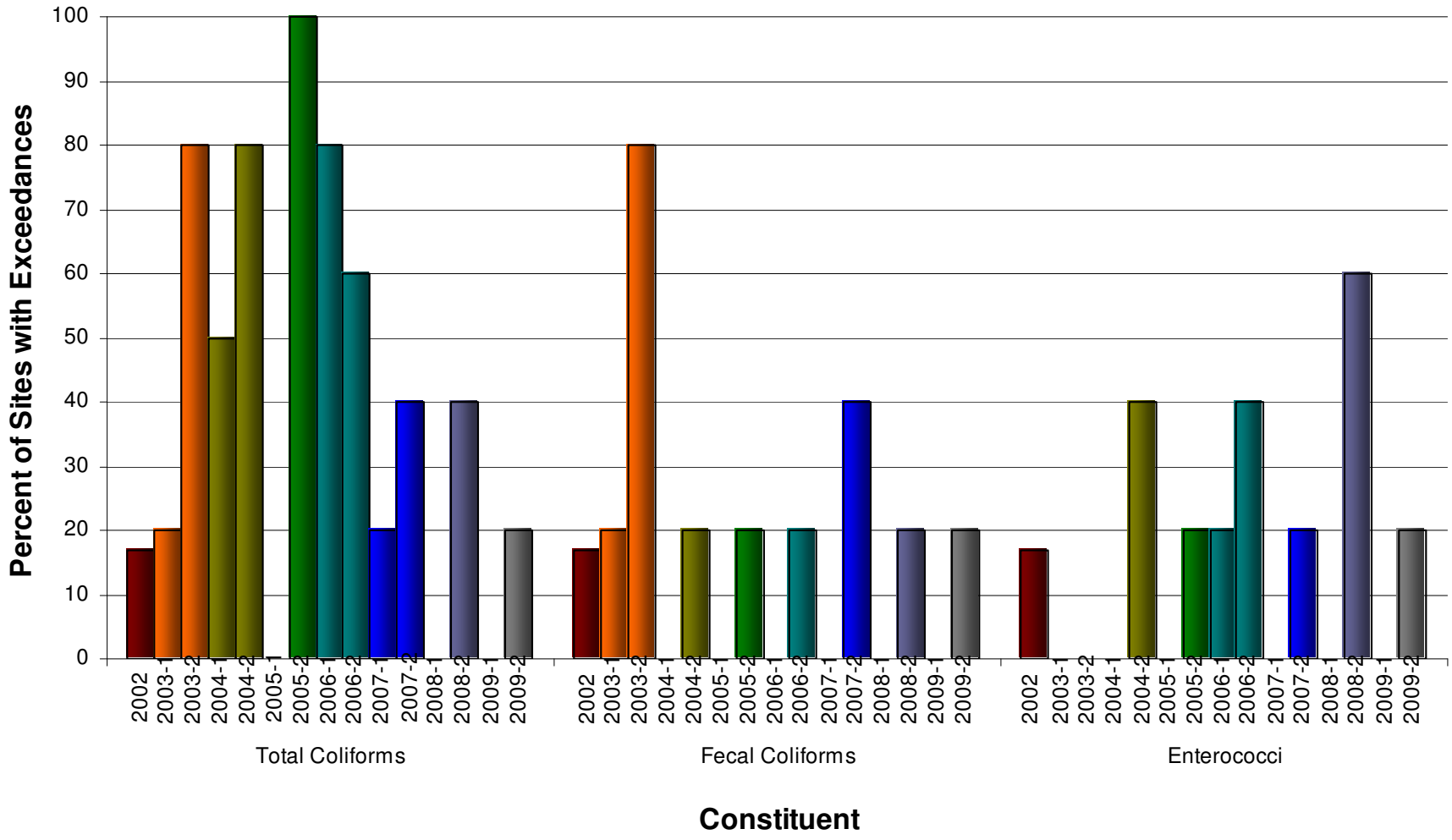
GRAPH 7-2
PERCENT OF SITES WITH FIELD SCREENING EXCEEDANCES BY YEAR AND ROUND – PART 2



GRAPH 7-3
PERCENT OF SITES WITH LABORATORY CONSTITUENT EXCEEDANCES BY YEAR AND ROUND – PART 1



GRAPH 7-4
PERCENT OF SITES WITH LABORATORY CONSTITUENT EXCEEDANCES BY YEAR AND ROUND – PART 2



8 FOLLOW-UP INVESTIGATIONS

One of the primary purposes of the Dry Weather Monitoring Program is to identify IC/IDs. Both field screening and laboratory analytical results are compared to regionally developed action levels (Table 3-4). When parameters are measured at or above action levels, it is possible that IC/IDs are present, and further investigation is performed. Procedures for such investigations are described below, followed by a discussion of the follow-up investigations performed in 2009.

8.1 Investigation Procedures

Follow-up investigations are conducted in two rounds. The first follow-up investigations are for the sites at which field tests indicate action level exceedances. These investigations are in the form of additional field testing and are conducted within one business day of the initial findings. Any observations of gross pollution (substantial oil sheen, foam, odor, etc.) are immediately investigated. The second round of follow-up investigations are carried out for the sites at which laboratory testing shows elevated constituent levels. These investigations are conducted within two business days of receiving the laboratory test results.

During the follow-up investigations, flow rates are measured, visual observations are performed, and field testing is conducted. Visual observations, such as water color, clarity, odor, floatable materials, deposits, vegetation, and biology are recorded on field data sheets at each site. Field data sheets are included in Appendix D.

Source identification investigations begin by testing the water at the site again. This is referred to as a "confirmation" visit, as its purpose is to confirm the initial findings. If confirmation testing results in constituent concentrations below specified action levels, the exceedance found during the initial sampling may have been due to a transient flow. If confirmation testing at a site finds constituent concentrations again above the specified action levels, an upstream investigation will be conducted. The field crew will progress upstream to isolate and identify potential pollutant sources.

Upstream investigations are also referred to as "IC/ID follow-up" visits, as the purpose is to identify illicit connections and illegal discharges. They are conducted by examining a number of upstream branches for any potential sources of the constituent of concern. The estimated flow rate in each branch and any relevant observations are recorded. Depending upon the constituent(s) under investigation, laboratory samples may be collected for analysis.

The laboratory test for investigating upstream bacteria sources differs from routine bacteria testing by using the IDEXX Colilert and IDEXX Enterolert tests. Information about these methods is provided in Table 3-2. Results for the Colilert and Enterolert tests are typically available within 24 hours, as opposed to the five business days needed for routine testing. The quicker turnaround time allows for additional upstream investigations as needed.

8.2 Investigated Sites

In the 2009 Dry Weather Monitoring Program, one site in Round One and four sites in Round Two had action level exceedances. A brief description of each site, analytical results, photographs of selected upstream locations, and the results of the investigations are discussed in this section.

Site E5g

Round One

Site E5g is located at a concrete outlet adjacent to the Santee Recreational Lakes Preserve, west of the southern lake and east of Sycamore Creek. During the initial visit to the site, a flow of 2 gpm was observed. The ammonia-nitrogen concentration was found to be 1.590 mg/L, above the action level of 1.000 mg/L. The area surrounding the site was vegetated and had significant amounts of leaf litter on the ground as well as in the water (Photo 8-1). Evidence of human habitation was noted in and around the water, including clothing, food wrappings, beverage containers, backpacks, and wood pallets. The area had an overall musty smell, however the water sample had no discernable odor.

A confirmation visit was performed the following day, and the flow rate was observed to be 1 gpm, half that of the previous day. The ammonia-nitrogen level of the sample was measured at 2.924 mg/L. Upstream areas were visually assessed for potential sources of ammonia; however no obvious sources were identified.



Photo 8-1: Decomposing leaves and trash at Site E5g

The site was revisited the following day to recheck the ammonia-nitrogen levels and flow rate prior to continuing the upstream investigation. The flow rate at the sample site was observed to be less than 1 gpm, and the ammonia-nitrogen level was greater than 3 mg/L. An upstream investigation was initiated to determine if the area upstream of the site was contributing to the elevated ammonia-nitrogen levels. A channel north of Mast Street on Fanita Parkway was visited, where both lateral storm drain lines were found to be damp; no flowing or standing water was observed. A manhole across the street from the recreational lake entrance on the east side of Fanita Parkway was found to be completely dry. A manhole in the grassy area immediately east of Site E5g, on the west side of the entrance road and approximately 100 feet south of the entrance toll booth (location E5g-1), was sampled and had a flow of less than 1 gpm, the same as at Site E5g on the same day. The ammonia-nitrogen level of the sample was measured at 0.319 mg/L, below the action level. This evidence indicates that upstream flows were not the source of the elevated ammonia-nitrogen levels. It seems likely that the decomposition of organic material at the site, as well as the apparent use of the area by humans, is responsible for the high ammonia-nitrogen levels at Site E5g. The fact that lower ammonia-nitrogen levels were recorded when higher flow rates from upstream were observed, and vice versa, also supports this conclusion.

As a result of the exceedances found and the designation of the site as a potential threat to human health due to the probable presence of human waste, the City removed all trash and debris from the area around the outlet of Site E5g. A table summarizing the upstream investigation for Site E5g is presented in Table 8-1, and a map of sampling locations is provided in Figure 8-1.

TABLE 8-1
SITE E5G AMMONIA-NITROGEN UPSTREAM INVESTIGATION

Site	Location	Flow (gpm)	Ammonia-N (mg/L)
E5g	Santee Recreation Lakes, west of the Southern Lake, east of Sycamore Creek	2	**1.590**
E5g (Confirmation)	*Same as above*	1	**2.924**
E5g (Confirmation 2)	*Same as above*	< 1	**> 3.000**
E5g-1	Santee Recreation Lakes, west side of entrance road, 100 feet south of entrance toll booth in grassy area	< 1	0.319

Note: **Red Bold Type** = value exceeds action level

FIGURE 8-1
SITE E5G AMMONIA-NITROGEN UPSTREAM INVESTIGATION MAP



Round Two

No exceedances were observed at Site E5g during Round Two of the Dry Weather Monitoring Program.

Site J30d

Round One

No exceedances were observed at Site J30d during Round One of the Dry Weather Monitoring Program.

Round Two

Site J30d is located where the Woodglen Vista concrete channel turns into a natural creek, south of Mast Boulevard. The areas upstream of Site J30d are primarily residential. Laboratory analyses indicated that total coliform, fecal coliform, and *Enterococcus* bacteria were all above their respective action levels. Total coliform bacteria was measured at 300,000 MPN/100 mL, over the action level of 50,000 MPN/100 mL; fecal coliform bacteria was measured at 90,000 MPN/100 mL, over the action level of 20,000 MPN/100 mL; and *Enterococcus* bacteria was measured at 30,000 MPN/100 mL, over the action level of 10,000 MPN/100 mL. During the confirmation visit, fecal coliform and *Enterococcus* bacteria were measured below action levels, while total coliform bacteria measured 173,000 MPN/100 mL, above the action level.

An upstream investigation was conducted in three stages. During the first stage, locations immediately upstream of the site were sampled. Locations J30d-1 and J30d-2 (also known as primary sites J25c2 and J25c, respectively) are outlets that receive flow from the neighborhoods to the northwest of Site J30d. Total coliforms were below action levels at both locations, indicating that high levels of bacteria were not entering the channel from these sources. Further upstream, the flow within the Woodglen Vista Channel was sampled where it crosses the west end of Carefree Drive. This location (J30d-3) had total coliforms measuring above the action level at 54,800 MPN/100 mL, indicating that upstream of this site was a source of bacteria. Further investigation was needed since no clear source of bacteria was identified.



Photo 8-2: Excessive irrigation runoff upstream of location J30d-4

During this second stage of sampling, Site J30d was resampled, and the total coliform bacteria level was elevated at 242,000 MPN/100 mL. Locations further upstream than those visited during the first stage were sampled. Location J30d-4, an outlet that receives flow from the area northwest of the Beck Drive and Woodrose Avenue intersection, had a total coliform level measuring above the action level at 2,420,000 MPN/100 mL. Flow from this outlet was traced to a home on Beck Drive, where the resident had mistakenly left an irrigation system running for approximately four hours. The discharge was stopped once the resident was made aware of the runoff. The water flowed along the gutter of Beck Drive, as seen in Photo 8-2, where decomposing grass clippings were observed. Catch basins in the area contained decomposing leaves and trash. Flow through these catch basins over the span of several hours is likely to transport bacteria downstream, where it enters the Woodglen Vista channel. The City maintenance division was informed of the issue and subsequently cleaned out the area catch basins and inlets.

Further north the channel flows through a park, and the flow within the Woodglen Vista channel was sampled just south of the park at location J30d-5 (also known as primary Site K15j). The total coliform level of the sample was measured at 51,700 MPN/100 mL. Decomposing organic debris was present in the channel immediately upstream of the sampling location, as seen in Photo 8-3, which is likely to be contributing to the elevated bacteria levels within the channel.



Photo 8-3: Sediment and decomposing vegetation in the channel upstream of location J30d-5. Note: The channel was cleaned and underwent restoration shortly after this photograph was taken.

The third stage of testing included another confirmation visit to Site J30d, which continued to have elevated total coliforms, measured at 242,000 MPN/100 mL. Several outlets contributing flow to the channel were sampled, including the previously sampled location J30d-4. Elevated total coliform levels were no longer found at this location, likely because the overirrigation observed upstream had ceased, eliminating the source of flow. Further upstream along the main MS4 line, and located just downstream of location J30d-5, three additional outlets to the channel were sampled. These locations are referred to as locations J30d-6, J30d-7 and J30d-8, and receive flow from the neighborhood to the west. None of the samples from these locations had total coliforms above the action level. Decomposing leaves were observed in the channel at this location, as seen in Photo 8-4. Upstream of this area, the channel flows through the park, and upstream of the park the channel is dry. Outlets to the channel from other portions of the drainage area were not contributing flow to the channel during the upstream investigation.

During the three stages of testing, elevated total coliform levels were found almost exclusively within the channel itself, with the exception of one transient exceedance from residential outlet J30d-4. Bacteria levels in this outlet were not elevated the following sampling day. Since bacteria levels were high at Site J30d on the day that they were below the action level at location J30d-4, the primary source of bacteria to Site J30d is not from location J30d-4. Additionally, fecal coliform and *Enteroccus* bacteria counts were measured above respective action levels during the initial visit only. Since no sources of fecal coliform or Enteroccus bacteria were observed during the investigation, it was concluded that the exceedances were the result of a transient flow.

Throughout the stages of sampling, total coliform levels within the channel were consistently high, while flow from outlets of lateral lines did not have consistently high bacteria levels. This indicates that conditions within the channel itself were most likely responsible for the elevated bacteria levels at Site J30d. Organic debris was noted within the channel in multiple locations, which is likely to encourage bacterial growth as it decomposes. Also, the warm, slow-moving water observed in the channel upstream of Site J30d is an environment conducive to bacterial growth.



Photo 8-4: Decomposing leaves in the channel where multiple outlets were discharging

The City removed organic debris and sediment from the channel, as well as restoring sections of the channel, following the results of this investigation. A table

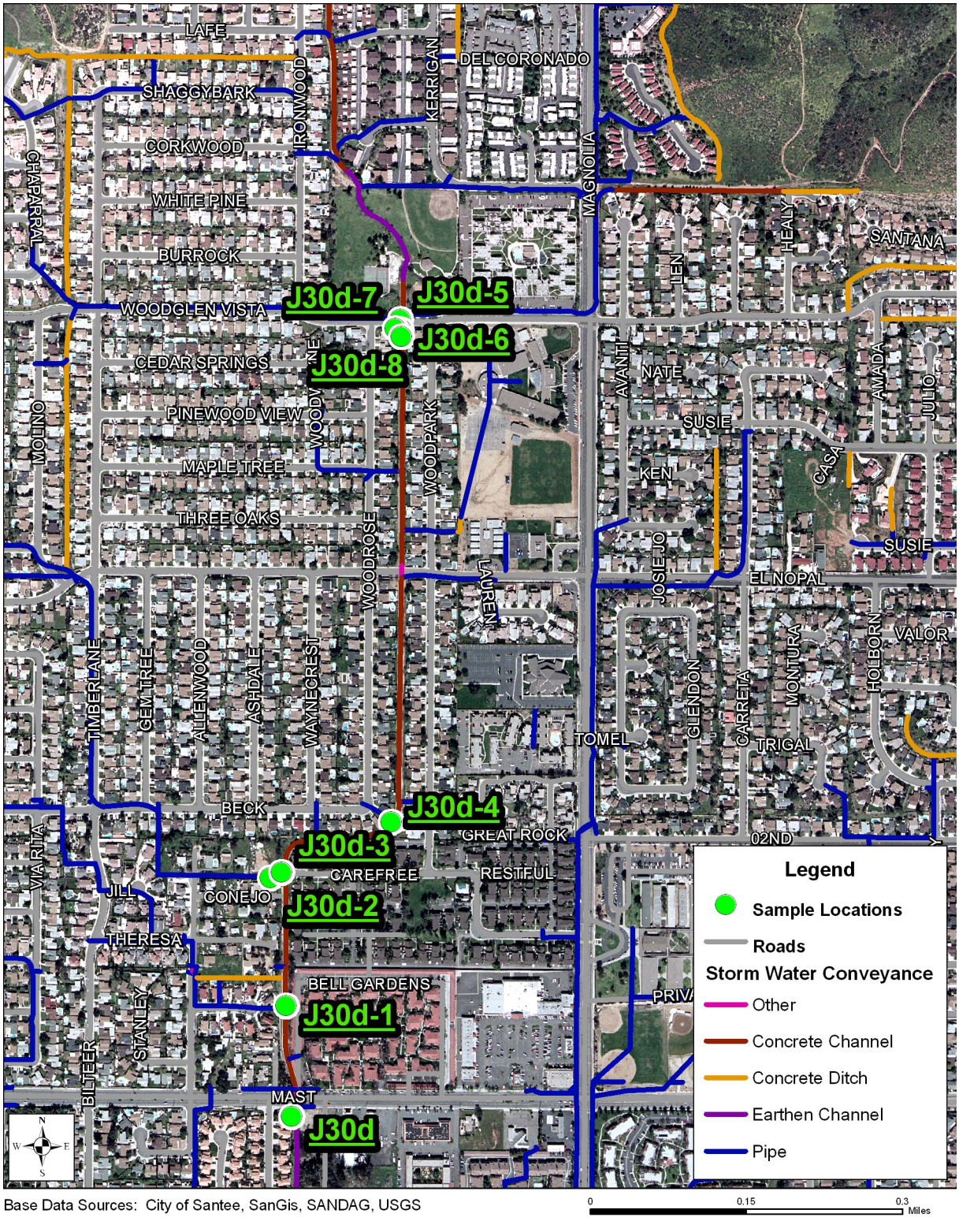
summarizing the upstream investigation for Site J30d is presented in Table 8-2, and a map of sampling locations is provided in Figure 8-2.

TABLE 8-2
SITE J30D BACTERIA UPSTREAM INVESTIGATION

Site	Location	Total Coliforms (MPN/100 mL)	Fecal Coliforms (MPN/100 mL)	Enterococci (MPN/100 mL)
	9/04/09			
J30d	In the Woodglen Vista Channel on the south side of Mast Boulevard	**300,000**	**90,000**	**30,000**
	9/15/09			
J30d (Confirmation)	In the Woodglen Vista Channel on the south side of Mast Boulevard	**173,000**	1,200	1,414
J30d-1	Primary Site J25c2, outlet at the east end of Country Scenes, east of Conejo Road	24,200	418	404
J30d-2	Primary Site J25c. West end of Carefree Drive, outlet on the west side of channel	15,500	35	355
J30d-3	In Woodglen Vista channel, at the west end of Carefree Drive	**54,800**	546	785
	9/21/09			
J30d (Confirmation 2)	In the Woodglen Vista Channel on the south side of Mast Boulevard	**242,000**	2,518	na
J30d-4	Outlet on the west side of Woodglen Vista channel, southeast of the Beck Drive and Woodrose Avenue intersection	**2,420,000**	521	na
J30d-5	Primary Site K15j2, in Woodglen Vista Channel, on the north side of Woodglen Vista Drive, south of the park	**51,700**	88	na
	9/23/09			
J30d (Confirmation 3)	In Woodglen Vista Channel on the south side of Mast Boulevard	**242,000**	434	na
J30d-4	Outlet on the west side of Woodglen Vista channel, southeast of the Beck Drive and Woodrose Avenue intersection	34,500	nd	na
J30d-6	24 inch outlet pipe on west side of Woodglen Vista channel, south of Woodglen Vista Drive	41,100	868	na
J30d-7	Small outlet on the west side of Woodglen Vista channel under the Woodglen Vista Drive bridge	12,000	98	na
J30d-8	Small outlet on the west side of Woodglen Vista channel, next to J30d-6, South of Woodglen Vista Drive	4,570	12	na

Note: **Red Bold Type** = value exceeds action level

FIGURE 8-2
SITE J30D BACTERIA UPSTREAM INVESTIGATION MAP



Base Data Sources: City of Santee, SanGis, SANDAG, USGS

Site P15b

Round One

No exceedances were observed at Site P15b during Round One of the Dry Weather Monitoring Program.

Round Two

Site P15b is located within a manhole at the intersection of Magnolia Avenue and Rockville Street. At the time of the initial visit, the nitrate-nitrogen concentration of the sample measured above the action level of 10.00 mg/L at 13.42 mg/L. Upstream areas were visually assessed for potential sources; however upstream conveyances were dry and no source of nitrates was apparent.

At the confirmation visit the following day, the nitrate-nitrogen concentration of the sample was measured below the action level at 7.56 mg/L. Flows from each of the two pipes contributing to the site, an eastern and a southern line, were also sampled separately. Both samples had nitrate-nitrogen concentrations below the action level: 7.26 mg/L from the southern line and 8.93 mg/L from the eastern line. Conveyances further upstream were dry.

Elevated nitrate-nitrogen values have consistently been measured at Site P15b since nitrate testing began in 2002. In 2008 the pipes upstream of the site were videoed by Padre Dam Municipal Water District. During this investigation water was observed seeping into the pipe at multiple underground locations. In addition, the MS4 lines further upstream were typically observed to be dry, and no consistent sources of overland flow have been observed. It was concluded that the nitrate-containing flow to Site P15b was the result of groundwater infiltration. In June of 2008, the City submitted a Letter Report on Nitrates in Groundwater with the findings of this investigation to the Regional Water Quality Control Board. The results of this year's follow-up investigation are consistent with previous findings. Table 8-3 provides the investigation results for Site P15b.

TABLE 8-3
SITE P15B NITRATE-NITROGEN UPSTREAM INVESTIGATION

Site	Location	Flow (gpm)	Nitrate-N (mg/L)
P15b	Northeast of Magnolia Avenue and Rockville Street intersection	3	**13.42**
P15b (Confirmation)	Same as above	3	7.564
P15b-1	South line to P15b	2	7.259
P15b-2	East line to P15b	1	8.925

Note: **Red Bold Type** = value exceeds action level

Site Q5I

Round One

No exceedances were observed at Site Q5I during Round One of the Dry Weather Monitoring Program.

Round Two

Site Q5l is located in a catch basin on the north side of Prospect Avenue, east of Railroad Avenue. At the time of the initial visit, a small amount of water was ponded with an orthophosphate-phosphorus concentration measured at 9.343 mg/L, over the action level of 2.000 mg/L. Turbidity was also elevated, measuring 112 NTU. The source of water was traced to a catch basin on the corner of Prospect Avenue and Tumbleweed Terrace (location Q5l-1), where water was dripping very slowly from a PVC pipe to the northeast. No additional sources of flow were observed entering the catch basin, or at any other point on the conveyance, upstream of Site Q5l.

At the confirmation visit the following day, Site Q5l was dry. Upstream of the site, a sample was collected from the PVC pipe at location Q5l-1, where the water was again flowing at a slow drip. The orthophosphate-phosphorus concentration of the sample measured 11.75 mg/L, and turbidity measured 148 NTU. The pipe was coming from the direction of a business complex to the northeast. As reported by property management and presented in building plans, the PVC pipe connects to storm drains in the northeastern portion of the business complex. Building plans reviewed by the City, however, did not show any underground drains in the area. The business area was examined, but no storm drains or overland flow was observed. Only a very small portion of the area was landscaped, indicating that improper fertilizer use was not a likely source of orthophosphate-phosphorus to the site.

When Site Q5l was revisited it was observed to be dry. Upstream, the PVC pipe at location Q5l-1 still had a slow drip, and the water was sampled. Orthophosphate-phosphorus was measured at 20.86 mg/L, and turbidity was measured at 201 NTU.

A nearby groundwater monitoring well (OW3) is located at 8510 Railroad Avenue. Monitoring records from November 2006 indicate that the groundwater level in the area was 7 to 8 feet below grade; it is therefore a possibility that the shallow groundwater is seeping into the pipe upstream of location Q5l-1.



Photo 8-5: Ponded water within soil depressions in a non-irrigated area (location Q5l-2)

Further north, between Tumbleweed Terrace and Siesta Road (location Q5l-2), water was observed to be ponded within depressions in the soil during multiple visits (Photo 8-5). This area is upgradient to Site Q5l, and is currently a CalTrans worksite for SR52 construction. Since this area was not irrigated, no surface flow to the location was visible, and the area appeared to be perpetually wet, it is possible that the water at Q5l-2 is groundwater. It is also possible that the dampness in the area is due to overwatering at the CalTrans construction site. This location is not directly connected to Site Q5l's upstream MS4 conveyance, as no pipeline exists between the two areas. The orthophosphate-phosphorus concentration of a sample measured here was only 0.080 mg/L. However, the likely presence of groundwater may suggest a high water table in the general area.

The owner of the building to the northeast of location Q5l-1 reported that the area had historically been used for agricultural purposes. It is possible that fertilizer use during this period may have affected the nutrient concentrations of groundwater in the area. Since

2002, nitrate-nitrogen exceedances have been measured during four Dry Weather Monitoring Programs. Orthophosphate-phosphorus has been measured above the action level during one Dry Weather Monitoring Program; although orthophosphate-phosphorus concentrations were below the action level in other years, the levels were still relatively high, measuring over 1.0 mg/L during four years of the program.

The City is conducting further research into the sources of water, orthophosphate, and elevated turbidity to location Q5l-1. Table 8-4 presents the current dry weather sampling results, and a map detailing sampling locations is provided in Figure 8-3.

TABLE 8-4
SITE Q5L ORTHOPHOSPHATE-PHOSPHORUS AND TURBIDITY UPSTREAM INVESTIGATION

Site	Location	Flow (gpm)	Turbidity (NTU)	Orthophosphate-P (mg/L)
Q5l	North side of Prospect Avenue, 50 feet east of Railroad Avenue	Ponded	**112**	**9.343**
Q5l (Confirmation)	Same as above	Dry	ns	ns
Q5l-1	Northeast corner of the Prospect Avenue and Tumbleweed Terrace intersection, flow from PVC pipe	<1	**148**	**11.75**
Q5l-1 (Second visit)	Northeast corner of the Prospect Avenue and Tumbleweed Terrace intersection, flow from PVC pipe	<1	**201**	**20.86**
Q5l-2	North of Prospect Ave, between Tumbleweed Terrace and Siesta Rd. Water coming out of ground near fence in Caltrans worksite.	Ponded	na	0.080

Note: **Red Bold Type** = value exceeds action level

FIGURE 8-3
SITE Q5L ORTHOPHOSPHATE-PHOSPHORUS AND TURBIDITY UPSTREAM INVESTIGATION



Base Data Sources: City of Santee, SanGis, SANDAG, USGS

Site V40d

Round One

No exceedances were observed at Site V40d during Round One of the Dry Weather Monitoring Program.

Round Two

Site V40d is located in a concrete channel east of Fanita Drive and south of Prospect Avenue. The initial visit took place during the afternoon, when the water temperature was measured at 34.4°C. The pH was measured at 9.1, above the action level of 9.0. The site receives ample sunlight throughout the day, warming the water and promoting algal growth. A confirmation visit was performed the following morning, and the pH of the sample was measured at 8.0, and temperature at 27.4°C.

High pH readings are often associated with algal photosynthesis and high temperatures, which removes carbon dioxide from the water. Because carbon dioxide forms carbonic acid when dissolved in water, removal of carbon dioxide from water makes the water more basic and results in higher pH readings. Typically, pH will increase during daylight hours as sunlight stimulates algal photosynthesis and carbon dioxide is removed. During the night when algae is not photosynthesizing, the carbon dioxide level in the water increases due to

biological respiration and physical diffusion of carbon dioxide from air into water, decreasing pH. Additionally, because the solubility of gas in water is inversely proportional to the water temperature, carbon dioxide is less soluble in warmer water. Sunlight heats the shallow water in concrete channels, resulting in lower solubility for carbon dioxide later in the day when the water is warmer. The effects of temperature and algal photosynthesis lead to lower pH values in the morning and higher values in the afternoon. This situation is consistent with the conditions at Site V40d.

9 SUMMARY AND RECOMMENDATIONS

9.1 Summary of Field Screening and Laboratory Analysis Data

Two rounds of dry weather monitoring were conducted during the 2009 Dry Weather Monitoring Program. In each round, twenty sites were sampled for field screening analysis, five of which were also evaluated for laboratory constituents. Two sites in each round were dry, and were replaced by alternative sites RCP3 and T5e. No sites in either round were rated submarginal or poor in the trash assessment, and no sites were determined to pose a threat to human or aquatic health. One site in Round One and four sites in Round Two had action level exceedances for tested constituents. Table 9-1 provides a summary of action level exceedances.

TABLE 9-1
SUMMARY OF ACTION LEVEL EXCEEDANCES

Field Screening (20 samples)						
Analyte	**Number of Exceedances**		**Percentage of Sites with Exceedance**		**Site Exceeding Action Level**	
	R1	*R2*	*R1*	*R2*	*R1*	*R2*
pH	0	1	0	5	---	V40d
Conductivity	0	0	0	0	---	---
Turbidity	0	1	0	5	---	Q5l
Surfactants	0	0	0	0	---	---
Ammonia-N	1	0	5	0	E5g	---
Nitrate-N	0	1	0	5	---	P15b
Orthophosphate-P	0	1	0	5	---	Q5l
Laboratory Analyses (5 samples)						
Analyte	**Number of Exceedances**		**Percentage of Sites with Exceedance**		**Site Exceeding Action Level**	
	R1	*R2*	*R1*	*R2*	*R1*	*R2*
Oil & Grease	0	0	0	0	---	---
Cadmium	0	0	0	0	---	---
Copper	0	0	0	0	---	---
Lead	0	0	0	0	---	---
Zinc	0	0	0	0	---	---
Diazinon	0	0	0	0	---	---
Chlorpyrifos	0	0	0	0	---	---
Total Coliforms	0	1	0	20	---	J30d
Fecal Coliforms	0	1	0	20	---	J30d
Enterococci	0	1	0	20	---	J30d

Note: Data is from the routine site visits only.

9.2 Summary of Follow-Up Investigation Data

In 2009, no sites had exceedances during both rounds of dry weather monitoring. Two exceedances were transient and did not require upstream investigations. Table 9-2 and Table 9-3 present conclusions based on the results of confirmation visits and upstream investigations conducted during Round One and Round Two, respectively, of the 2009 Dry Weather Monitoring Program.

TABLE 9-2
ROUND ONE SUMMARY OF FOLLOW-UP INVESTIGATIONS

Site	Follow-Up Investigation Target Constituent		Results / Probable Sources
	Field	Laboratory	
E5g	Ammonia-N	---	Organic material decomposition and human use of the site

TABLE 9-3
ROUND TWO SUMMARY OF FOLLOW-UP INVESTIGATIONS

Site	Follow-Up Investigation Target Constituent		Results / Probable Sources
	Field	Laboratory	
J30d	---	Total Coliforms, Fecal Coliforms, Enterococci	Fecal coliforms and Enterococci: transient flow Total coliforms: decomposing organic debris within the channel upstream
P15b	Nitrate-N	---	Groundwater seepage into conveyance
Q5l	Orthophosphate-P, Turbidity	---	Historical agricultural activity and groundwater seepage are the most probable sources, additional research is underway
V40d	pH	---	Transient; algal photosynthesis and increased temperature removing carbon dioxide from the water, which increases pH

9.3 Recommendations

Based on the results of the City of Santee 2009 Dry Weather Monitoring Program, the following actions are recommended for consideration. Note that some of the recommendations have already been completed.

9.3.1 Inspection and Maintenance

- After the completion of Round One, the City removed trash and debris from marginal Site E5g, which was identified as a potential threat to human health and an exceedance of ammonia-nitrogen had been noted. Round Two observations indicated the City's action was effective; no exceedances were noted at Site E5g, and the site received an optimal trash assessment rating.
- Upstream of Site J30d, decomposing vegetation in the channel north of Woodglen Vista Drive, and leaves and debris in the gutters and catch basins on Beck Drive were the most likely sources of bacteria to Site J30d. The vegetation and debris were removed from gutters, catch basins and the channel as part of routine maintenance prior to the beginning of the rainy season.
- Trash and debris was removed by public works crews from sites P20f and RCP3, which received marginal trash assessment ratings during Round Two.

9.3.2 Additional Investigation

- The City is currently researching the sources of elevated orthophosphate-phosphorus and turbidity to Site Q5l and upstream location Q5l-1. Specifically, a consultant who conducts groundwater monitoring and sampling at a well on Siesta Road has been contacted to obtain data on turbidity (or related parameters) and phosphate.

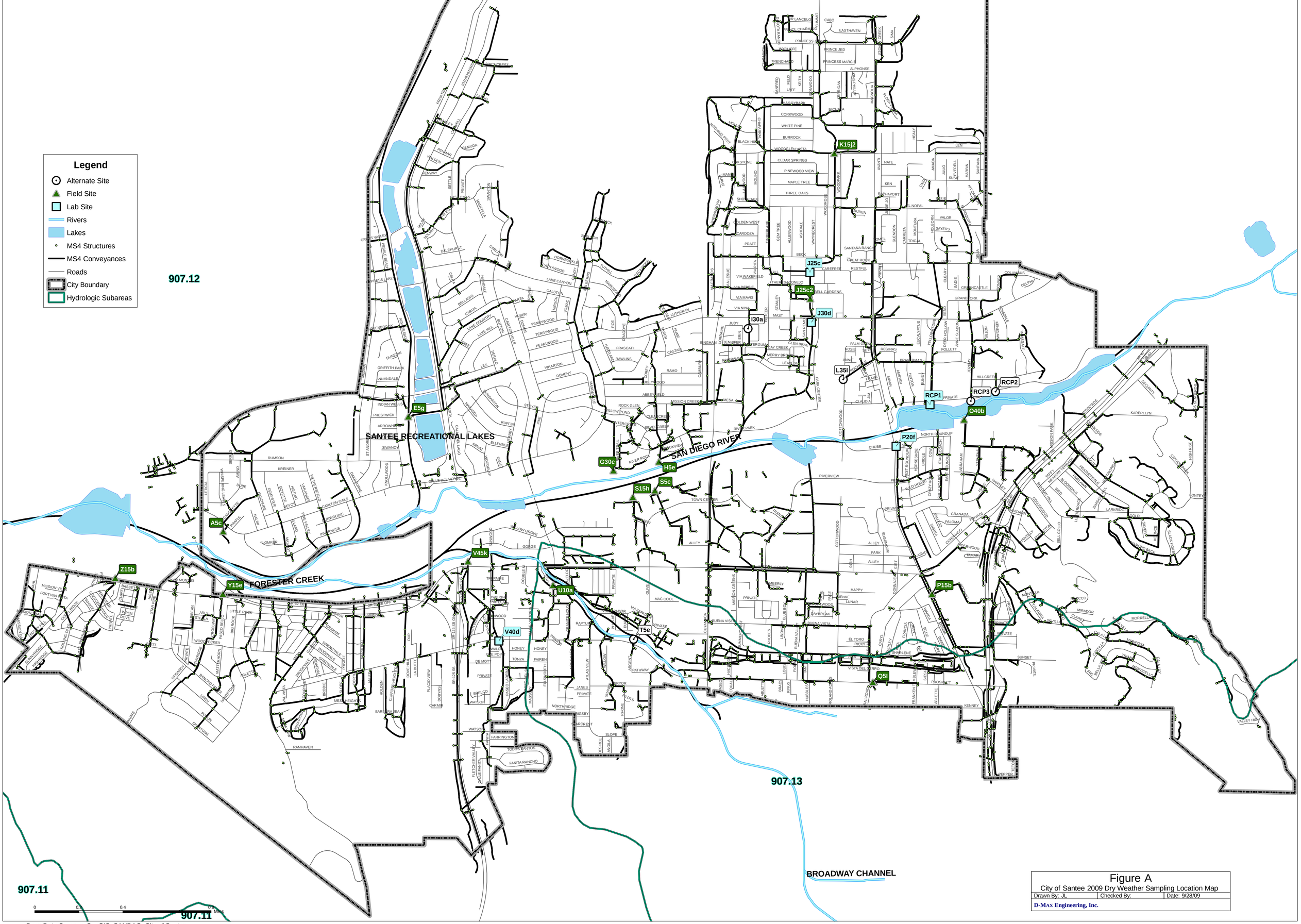
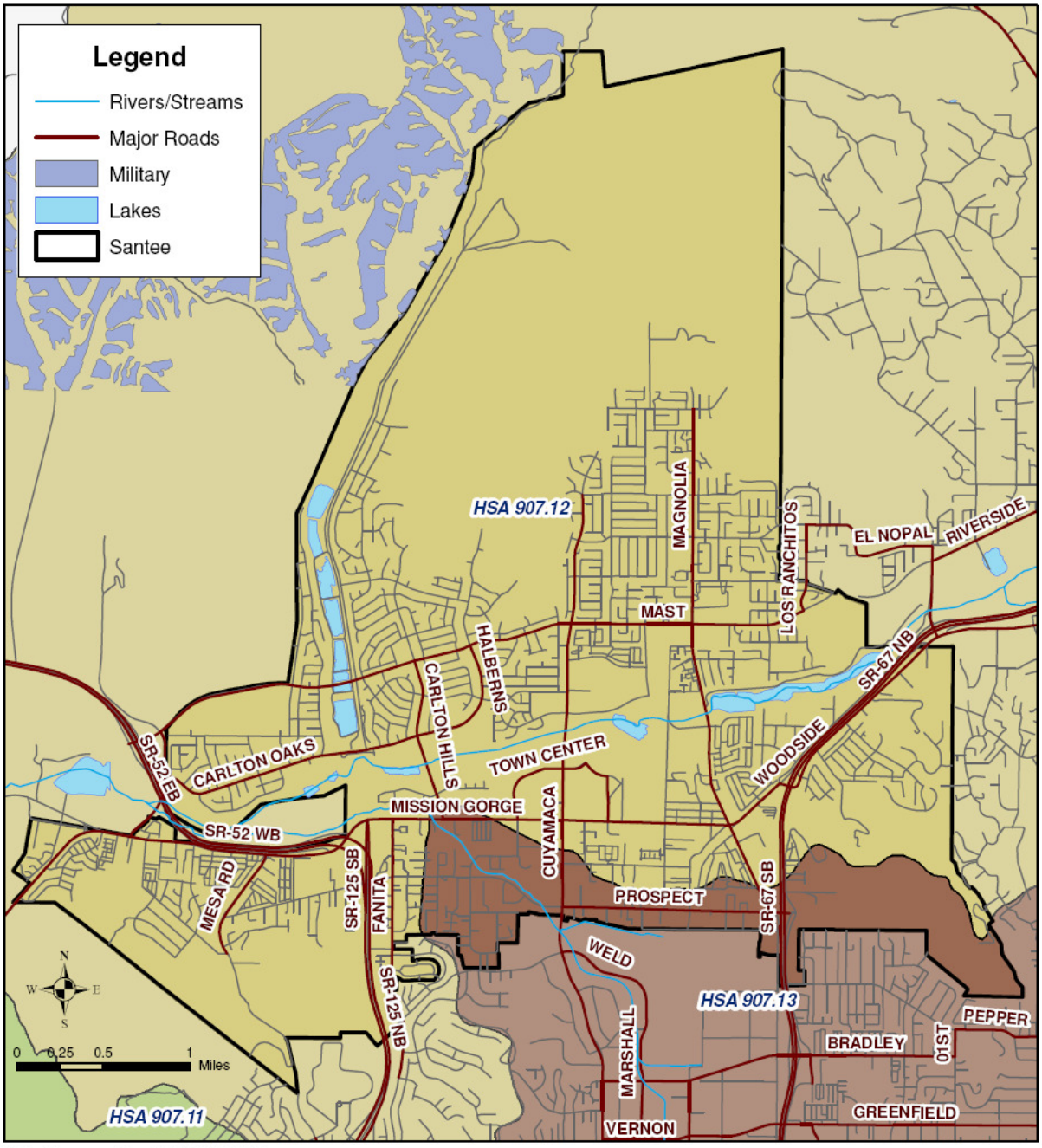

Legend
Alternate Site
Field Site
Lab Site
Rivers
Lakes
MS4 Structures
MS4 Conveyances
Roads
City Boundary
Hydrologic Subareas
907.12
907.13
907.11
SANTEE RECREATIONAL LAKES
SAN DIEGO RIVER
FORESTER CREEK
BROADWAY CHANNEL
E5g
A5c
Z15b
Y15e
V45k
V40d
U10a
T5e
G30c
H5e
S15h
S5c
K15j2
J25c
J25c2
J30d
I30a
L35l
Q5l
P20f
P15b
O40b
RCP1
RCP2
RCP3
0
0.2
0.4
0.8 Miles
Base Data Sources: SanGIS, SANDAG, City of Santee
Figure A
City of Santee 2009 Dry Weather Sampling Location Map
Drawn By: JL
Checked By:
Date: 9/28/09
D-MAX Engineering, Inc.

FIGURE B
WATERSHED MAP OF THE SANTEE AREA SHOWING THE HYDROLOGIC SUBAREAS



Data Sources: SanGIS, SANDAG

Appendix A

Historical Dry Weather Monitoring Data

City of Santee Dry Weather Historical Data

Site ID	A5c	E5g	G30c	H5e	I10d	J25c	J25c2	J30d	K15j2	O20b	O40b	P15b	P20f	Q5l	Q25k	Q26d	RCP1	RCP2	R10b	R20a	S5c	S15h	T5d	T5e	T30b	U10a	V40d	V45k	Y15e	Z15b
1996 First Visit																														
Phenols (mg/L)			ns	0.1	ns			nd			ns		nd		ns					ns	0.1		ns		ns					
Detergents (mg/L)			ns	0.50	ns			nd			ns		0.50		ns					ns	0.25		ns		ns					
Chlorine (mg/L)			ns	nd	ns			nd			ns		0.05		ns					ns	nd		ns		ns					
Copper (mg/L)			ns	nd	ns			nd			ns		nd		ns					ns	nd		ns		ns					
Ammonia (mg/L)			ns	nd	ns			nd			ns		nd		ns					ns	nd		ns		ns					
1996 Second Visit																														
Phenols (mg/L)				0.2				nd					nd								0.1									
Detergents (mg/L)				0.25				0.25					0.25								0.50									
Chlorine (mg/L)				0.20				nd					nd								nd									
Copper (mg/L)				nd				nd					nd								nd									
Ammonia (mg/L)				nd				nd					nd								nd									
1997 Round One First Visit																														
Phenols (mg/L)		nd	ns	ns	ns			nd		ns	0.1		nd		ns					ns	nd		ns	0.2			nd	nd		
Detergents (mg/L)		0.25	ns	ns	ns			0.50		ns	0.85		0.20		ns					ns	1.00		ns	0.60			0.30	0.25		
Chlorine (mg/L)		nd	ns	ns	ns			0.25		ns	0.50		0.25		ns					ns	0.15		ns	nd			0.20	0.30		
Copper (mg/L)		nd	ns	ns	ns			nd		ns	nd		nd		ns					ns	nd		ns	nd			nd	0.05		
Ammonia (mg/L)		0.40	ns	ns	ns			0.40		ns	3.00		0.35		ns					ns	0.30		ns	2.50			0.15	0.35		
1997 Round One Second Visit																														
Phenols (mg/L)		nd						nd			nd		nd								nd			0.2			nd	0.1		
Detergents (mg/L)		0.35						0.35			1.75		0.25								0.25			>3.0			0.35	0.25		
Chlorine (mg/L)		0.05						0.15			0.40		nd								0.20			nd			0.20	0.35		
Copper (mg/L)		nd						nd			nd		nd								nd			nd			nd	nd		
Ammonia (mg/L)		1.50						0.40			2.50		0.30								0.60			5.50			0.60	0.50		
1997 Round Two First Visit																														
Phenols (mg/L)		nd	nd	nd	ns			nd		ns	ns		nd		ns					ns	nd		ns	ns			nd	nd		
Detergents (mg/L)		0.20	0.20	0.20	ns			0.20		ns	ns		0.20		ns					ns	0.90		ns	ns			0.30	0.20		
Chlorine (mg/L)		nd	0.40	0.70	ns			0.25		ns	ns		0.25		ns					ns	0.50		ns	ns			0.25	0.80		
Copper (mg/L)		nd	nd	nd	ns			nd		ns	ns		nd		ns					ns	0.10		ns	ns			nd	nd		
Ammonia (mg/L)		0.70	0.40	0.30	ns			0.60		ns	ns		0.10		ns					ns	1.50		ns	ns			0.90	0.90		
1997 Round Two Second Visit																														
Phenols (mg/L)		nd	nd	nd				nd					nd								nd						nd	nd		
Detergents (mg/L)		0.20	0.25	0.20				0.20					0.20								0.20						0.30	0.20		
Chlorine (mg/L)		nd	0.50	0.70				0.50					0.25								0.25						0.50	0.80		
Copper (mg/L)		nd	nd	nd				nd					nd								nd						nd	nd		
Ammonia (mg/L)		0.80	0.35	0.50				0.60					0.30								0.20						0.60	0.60		
1998 Round One First Visit																														
Phenols (mg/L)		nd	nd	nd	nd			nd		0.2		nd		nd	nd						nd	nd		ns	0.2		nd	nd		
Detergents (mg/L)		0.25	0.25	0.25	0.25			0.25		0.25		0.25		0.50	0.25						0.25	0.25		ns	0.13		0.25	0.25		
Chlorine (mg/L)		0.30	0.10	0.20	0.20			0.30		nd		0.10		0.30	0.40						0.10	0.15		ns	nd		nd	0.05		
Copper (mg/L)		nd	nd	nd	nd			nd		nd		nd		nd	nd						nd	nd		ns	nd		nd	nd		
Ammonia (mg/L)		0.10	0.10	0.60	0.60			0.60		0.20		0.10		2.00	nd						0.10	nd		ns	0.60		0.20	0.20		
1998 Round One Second Visit																														
Phenols (mg/L)		nd		nd	ns			nd		0.2		nd			nd						nd	nd			nd		nd	nd		
Detergents (mg/L)		nd		0.25	ns			0.25		0.25		0.50			0.25						0.50	0.25			0.50		0.25	0.25		
Chlorine (mg/L)		0.10		nd	ns			2.50		0.30		0.20			nd						0.10	0.15			0.15		0.10	0.05		
Copper (mg/L)		nd		nd	ns			nd		nd		nd			nd						nd	nd			nd		nd	nd		
Ammonia (mg/L)		0.10		0.60	ns			nd		0.60		0.20			nd						0.80	0.60			0.40		0.10	0.20		
1998 Round Two First Visit																														
Phenols (mg/L)		nd	nd	nd	ns			nd		0.1		nd		ns	ns				nd	nd	nd		ns	nd			nd	nd		
Detergents (mg/L)		0.13	0.13	0.38	ns			0.38		1.00		0.13		ns	ns				0.13	0.25	>3.0		ns	0.25			1.00	0.25		
Chlorine (mg/L)		nd	nd	0.10	ns			nd		0.10		nd		ns	ns				0.10	0.10	nd		ns	nd			0.10	nd		
Copper (mg/L)		nd	nd	nd	ns			nd		nd		nd		ns	ns				nd	nd	nd		ns	nd			nd	nd		
Ammonia (mg/L)		0.30	0.60	0.40	ns			0.60		0.60		0.30		ns	ns				1.50	12.30	3.00		ns	0.80			0.40	0.60		
1998 Round Two Second Visit																														
Phenols (mg/L)		nd	nd	nd	ns			nd		nd		nd							nd	nd	nd			ns			nd	nd		
Detergents (mg/L)		0.38	0.13	0.13	ns			0.13		0.38		0.13							1.00	0.13	>3.0			ns			1.50	0.13		
Chlorine (mg/L)		0.10	nd	nd	ns			nd		nd		nd							0.10	nd	nd			ns			nd	nd		
Copper (mg/L)		nd	nd	nd	ns			nd		nd		nd							nd	nd	nd			ns			nd	nd		
Ammonia (mg/L)		0.60	0.60	1.00	ns			0.35		0.10		0.20							>10.00	1.50	3.00			ns			2.53	0.40		
1999 Round One First Visit																														
Phenols (mg/L)		nd	nd	nd	ns			nd		0.1		nd		ns	0.1						ns	nd		ns	1.0		nd	nd		
Detergents (mg/L)		0.25	0.25	0.25	ns			0.25		0.75		0.25		ns	0.75						ns	0.25		ns	>3.0		1.50	0.75		
Chlorine (mg/L)		<0.10	0.10	0.40	ns			0.30		0.30		0.10		ns	nd						ns	0.10		ns	0.20		0.10	0.20		
Copper (mg/L)		0.10	nd	nd	ns			nd		nd		nd		ns	0.10						ns	nd		ns	0.10		0.10	nd		
Ammonia (mg/L)		0.80	0.50	0.30	ns			5.00		0.40		0.20		ns	0.60						ns	0.20		ns	6.00		0.60	0.40		

City of Santee Dry Weather Historical Data

Site ID	A5c	E5g	G30c	H5e	I10d	J25c	J25c2	J30d	K15j2	O20b	O40b	P15b	P20f	Q5l	Q25k	Q26d	RCP1	RCP2	R10b	R20a	S5c	S15h	T5d	T5e	T30b	U10a	V40d	V45k	Y15e	Z15b
1999 Round One Second Visit																														
Phenols (mg/L)		0.1	nd	nd				nd			ns		nd			<0.1					nd			1.0			nd	nd		
Detergents (mg/L)		0.25	3.00	0.75				1.50			ns		0.50			1.50					0.25			>3.0			1.00	0.25		
Chlorine (mg/L)		<0.10	nd	0.40				<0.10			ns		0.10			<0.10					0.10			nd			0.10	0.30		
Copper (mg/L)		nd	nd	nd				nd			ns		nd			0.10					nd			0.10			0.10	nd		
Ammonia (mg/L)		1.00	1.00	0.80				1.00			ns		3.00			1.00					0.20			1.00			1.00	0.40		
1999 Round Two First Visit																														
Phenols (mg/L)		0.1	0.1	nd	ns			0.1			ns		0.1		0.1	nd				ns	0.1		ns	ns			nd	nd		
Detergents (mg/L)		0.25	0.50	0.25	ns			0.50			ns		0.25		0.75	0.50				ns	0.50		ns	ns			0.25	0.25		
Chlorine (mg/L)		nd	0.20	nd	ns			0.20			ns		0.40		nd	nd				ns	0.10		ns	ns			nd	0.10		
Copper (mg/L)		0.10	0.20	0.10	ns			0.10			ns		nd		nd	0.10				ns	0.20		ns	ns			nd	nd		
Ammonia (mg/L)		0.60	0.60	0.40	ns			0.90			ns		0.20		1.00	0.70				ns	0.40		ns	ns			0.20	0.10		
1999 Round Two Second Visit																														
Phenols (mg/L)		nd	0.1	nd				nd					nd		ns	ns					nd						nd	nd		
Detergents (mg/L)		0.25	0.75	0.25				0.25					0.25		ns	ns					0.25						0.25	0.25		
Chlorine (mg/L)		nd	nd	0.10				nd					nd		ns	ns					0.30						nd	0.10		
Copper (mg/L)		0.10	0.20	0.10				nd					nd		ns	ns					nd						nd	0.10		
Ammonia (mg/L)		0.40	0.40	0.30				0.90					0.10		ns	ns					nd						0.10	0.20		
2000 Round One First Visit																														
Phenols (mg/L)		nd	0.1	0.1	ns			nd			ns		nd		ns	nd	nd	0.1		ns	nd			0.1			0.1	nd		
Detergents (mg/L)		0.25	0.25	0.25	ns			0.50			ns		0.25		ns	0.25	0.25	0.50		ns	0.25			3.00			0.50	0.25		
Chlorine (mg/L)		nd	0.20	0.20	ns			nd			ns		0.20		ns	0.10	nd	0.10		ns	0.10			0.20			nd	0.10		
Copper (mg/L)		nd	nd	0.10	ns			nd			ns		nd		ns	0.10	nd	0.10		ns	nd			nd			nd	nd		
Ammonia (mg/L)		0.80	0.40	0.20	ns			0.30			ns		0.10		ns	0.60	0.10	2.50		ns	0.30			1.00			0.20	0.50		
2000 Round One Second Visit																														
Phenols (mg/L)		nd	nd	nd				nd					nd			ns	nd	nd			0.1			0.1			nd	nd		
Detergents (mg/L)		0.25	0.25	0.75				1.50					0.25			ns	0.25	0.25			0.25			0.75			0.50	0.25		
Chlorine (mg/L)		nd	0.20	0.20				nd					nd			ns	0.20	nd			0.10			nd			nd	nd		
Copper (mg/L)		nd	0.10	0.10				nd					nd			ns	0.10	nd			nd			nd			nd	nd		
Ammonia (mg/L)		0.80	0.50	0.40				0.80					0.10			ns	0.10	2.50			0.60			0.20			0.20	0.30		
2000 Round Two First Visit																														
Phenols (mg/L)		0.1	nd	nd	ns			nd			nd		0.1		nd	nd	nd	0.1		ns	nd		ns				nd	nd		
Detergents (mg/L)		0.50	0.25	0.25	ns			0.25			0.25		0.50		1.50	1.00	0.25	0.50		ns	0.25		ns				1.00	0.25		
Chlorine (mg/L)		nd	nd	nd	ns			nd			nd		nd		nd	nd	0.10	nd		ns	nd		ns				nd	nd		
Copper (mg/L)		nd	nd	nd	ns			nd			nd		nd		nd	nd	nd	nd		ns	nd		ns				nd	nd		
Ammonia (mg/L)		0.80	0.20	0.20	ns			0.50			0.30		0.80		1.00	0.80	0.10	2.00		ns	0.40		ns				0.80	0.30		
2000 Round Two Second Visit																														
Phenols (mg/L)		nd	nd	nd				nd			ns		nd		nd	nd	nd	nd			nd						nd	nd		
Detergents (mg/L)		0.50	0.25	0.25				0.50			ns		0.50		1.00	0.25	0.25	0.25			0.25						0.25	0.50		
Chlorine (mg/L)		nd	nd	nd				nd			ns		nd		nd	nd	0.10	nd			nd						nd	nd		
Copper (mg/L)		nd	nd	nd				nd			ns		nd		nd	nd	nd	nd			nd						nd	nd		
Ammonia (mg/L)		0.70	0.20	0.30				0.80			ns		0.80		0.70	0.30	0.10	2.00			0.20						0.30	0.70		
2001 Round One First Visit																														
Phenols (mg/L)		nd	nd	nd	ns			nd			nd		nd		ns	nd	nd	nd		nd	nd		nd				nd	nd		
Detergents (mg/L)		0.25	0.25	0.25	ns			0.25			0.25		0.25		ns	0.25	0.25	0.50		0.25	0.25		0.25				0.25	0.25		
Chlorine (mg/L)		nd	nd	nd	ns			nd			nd		nd		ns	nd	nd	nd		nd	nd		nd				nd	nd		
Copper (mg/L)		nd	nd	nd	ns			nd			nd		nd		ns	nd	nd	nd		nd	nd		nd				nd	nd		
Ammonia (mg/L)		0.10	0.50	0.50	ns			0.80			0.20		0.20		ns	0.80	0.60	0.10		0.20	0.40		0.80				0.50	0.10		
2001 Round One Second Visit																														
Phenols (mg/L)		nd	nd	nd				nd			nd		nd			ns	nd	nd		nd	nd		nd				nd	nd		
Detergents (mg/L)		0.25	0.25	0.25				0.25			0.25		0.25			ns	0.25	0.25		0.25	0.25		0.25				0.25	0.25		
Chlorine (mg/L)		nd	nd	nd				nd			nd		nd			ns	nd	nd		nd	nd		nd				nd	nd		
Copper (mg/L)		nd	nd	nd				nd			nd		nd			ns	nd	nd		nd	nd		nd				nd	nd		
Ammonia (mg/L)		0.50	0.30	0.20				0.60			0.70		0.10			ns	0.40	0.80		0.30	0.40		0.50				0.30	0.20		
2001 Round Two First Visit																														
Phenols (mg/L)		nd	nd	nd	ns			nd			ns		nd		ns	ns	nd	nd		ns	nd		ns				nd	nd		
Detergents (mg/L)		0.25	<0.25	0.25	ns			0.50			ns		<0.25		ns	ns	<0.25	0.75		ns	<0.25		ns				<0.25	<0.25		
Chlorine (mg/L)		0.10	0.50	0.50	ns			nd			ns		0.10		ns	ns	0.10	nd		ns	0.10		ns				nd	nd		
Copper (mg/L)		nd	nd	nd	ns			nd			ns		nd		ns	ns	nd	nd		ns	nd		ns				nd	nd		
Ammonia (mg/L)		0.40	0.40	0.50	ns			0.60			ns		0.20		ns	ns	0.10	2.00		ns	0.40		ns				0.10	0.20		
2001 Round Two Second Visit																														
Phenols (mg/L)		nd	nd	nd				nd					nd				nd	nd			nd						nd	nd		
Detergents (mg/L)		0.25	<0.25	<0.25				0.50					<0.25				<0.25	0.50			0.25						<0.25	<0.25		
Chlorine (mg/L)		0.10	0.10	0.80				0.10					0.10				0.10	0.10			0.10						nd	nd		
Copper (mg/L)		nd	nd	nd				nd					nd				nd	nd			nd						nd	nd		
Ammonia (mg/L)		0.40	0.20	0.20				0.60					0.20				0.10	2.00			0.50						0.20	0.30		

City of Santee Dry Weather Historical Data

Site ID	A5c	E5g	G30c	H5e	I10d	J25c	J25c2	J30d	K15j2	O20b	O40b	P15b	P20f	Q5l	Q25k	Q26d	RCP1	RCP2	R10b	R20a	S5c	S15h	T5d	T5e	T30b	U10a	V40d	V45k	Y15e	Z15b
2002																														
Temp.℃	24.0	25.0	31.0	26.0		23.0	23.5	30.0	25.0		23.5	26.5	23.0	26.0			23.0				26.0	25.0			ns	26.0	22.0	22.0	23.5	22.0
pH	7.8	7.9	8.5	8.5		8.8	8.3	9.4	7.5		7.9	8.2	8.8	8.8			8.6				8.3	8.4			ns	8.4	9.2	8.1	7.9	8.0
Conductivity (µmhos/cm)	1,070	2,500	1,550	1,231		3,250	875	2,470	1,596		957	1,483	1,750	2,840			1,474				1,191	1,933			ns	1,174	2,270	2,590	1,142	1,426
Turbidity (NTU)	14.18	12.77	2.89	1.99		3.34	5.17	8.04	5.59		33.51	1.67	2.79	104			2.53				3.47	15.37			ns	7.42	6.68	6.94	7.76	23.55
Ammonia-N (mg/L)	2.5	2.0	0.6	0.2		0.4	0.3	0.4	0.1		1.0	0.1	0.3	2.0			0.4				0.6	1.5			ns	0.4	0.2	0.6	0.6	2.0
Nitrate-N (mg/L)	0.3	2.0	nd	1.0		4.0	2.0	0.1	8.0		1.0	24.0	1.0	1.5			20.0				nd	0.2			ns	0.3	nd	0.2	0.5	1.5
Orthophosphate (mg/L)	2.0	2.0	3.0	1.5		2.5	0.6	0.5	0.2		1.5	0.6	0.2	5.5			0.6				4.0	4.5			ns	2.5	0.6	0.3	0.8	4.5
Orthophosphate-P (mg/L)	0.65	0.65	0.98	0.49		0.82	0.20	0.03	0.05		0.49	0.20	0.07	1.79			0.20				1.30	1.47			ns	0.82	0.20	0.10	0.26	1.47
Surfactants (mg/l MBAS)Field test	0.75	0.50	0.25	0.25		0.25	< 0.25	0.50	0.25		0.50	0.50	0.25	3.00			0.25				0.50	0.25			ns	0.25	0.25	0.25	0.50	1.00
Surfactants (mg/l MBAS)Lab test			< 0.50			< 0.50		< 0.50					< 0.50				< 0.50										< 0.50			
Oil and Grease (mg/L)			1.0			2.0		8.0					2.0				3.0										12.0			
Total Hardness (mg/L)			349			579		391					429				422										495			
Cadmium-diss (mg/L)			< 0.10			< 0.10		< 0.10					< 0.10				< 0.10										< 0.10			
Copper-diss (mg/L)			< 0.10			< 0.10		< 0.10					< 0.10				< 0.10										< 0.10			
Lead-diss (mg/L)			< 0.10			< 0.10		< 0.10					< 0.10				< 0.10										< 0.10			
Zinc-diss (mg/L)			< 0.10			< 0.10		< 0.10					< 0.10				< 0.10										< 0.10			
Diazinon (µg/L)			< 1.0			< 0.50		< 0.50					< 0.50				< 0.50										< 0.50			
Chlorpyrifos (µg/L)			< 1.0			< 0.50		< 0.50					< 0.50				< 0.50										< 0.50			
Total Coliform (MPN/100mL)			17,000			3,000		13,000					1,700				50,000										5,000			
Fecal Coliform (MPN/100mL)			13,000			1,700		8,000					1,100				50,000										5,000			
Enterococcus (MPN/100mL)			2,300			17,000		2,300					3,000				230										3,000			
2003 Round One																														
Temp.℃	20.0	20.0	18.0	25.0		20.0	23.0	28.0	31.0		16.0	23.0	26.0	23.0			19.5				22.0	21.0		24.0	ns	ns	21.0	19.0	18.0	23.0
pH	9.0	7.4	8.9	9.0		8.5	8.4	9.7	8.8		8.4	7.8	9.0	8.4			8.7				8.3	8.1		7.9	ns	ns	8.9	8.5	7.7	8.2
Conductivity (µmhos/cm)	2,030	3,310	2,230	1,270		4,160	4,650	3,010	2,350		1,750	2,150	1,810	2,240			1,860				1,820	1,820		1,030	ns	ns	2,960	3,840	1,470	1,080
Turbidity (NTU)	6.11	14.94	3.6	2.91		3.05	0.04	6.46	2.27		2.03	1.33	4.69	36.48			10.81				61	2.67		0.98	ns	ns	0.96	0.98	2.89	25.2
Ammonia-N (mg/L)	0.4	0.6	1.0	0.3		0.2	0.2	0.4	0.3		2.5	0.1	0.2	0.2			0.1				1.0	0.3		0.3	ns	ns	0.2	0.4	0.8	0.8
Nitrate-N (mg/L)	0.6	0.6	1.0	3.2		5.0	8.0	0.8	1.0		4.0	8.0	3.5	24.0			8.0				nd	0.4		0.2	ns	ns	0.1	0.8	1.5	0.8
Orthophosphate (mg/L)	0.3	0.8	2.5	1.5		0.2	0.2	0.1	0.1		4.0	0.4	0.1	0.4			0.4				1.5	1.5		0.6	ns	ns	0.1	0.1	1.5	0.8
Orthophosphate-P (mg/L)	0.10	0.26	0.82	0.49		0.07	0.07	0.03	0.03		1.30	0.13	0.03	0.13			0.13				0.49	0.49		0.20	ns	ns	0.03	0.03	0.49	0.26
Surfactants (mg/l MBAS)Field test	0.25	0.25	0.25	0.50		0.25	0.25	0.25	0.25		0.25	0.25	0.25	0.25			0.75				0.75	0.25		0.25	ns	ns	0.25	0.25	0.25	0.25
Surfactants (mg/l MBAS)Lab test						nd		nd					nd				0.7										nd			
Oil and Grease (mg/L)						nd		2.00					nd				nd										18.00			
Total Hardness (mg/L)						1,030		449					450				414										609			
Cadmium-diss (mg/L)						nd		nd					nd				nd										nd			
Copper-diss (mg/L)						0.01		0.012					nd				0.008										nd			
Lead-diss (mg/L)						nd		nd					nd				nd										nd			
Zinc-diss (mg/L)						0.026		nd					nd				0.033										0.022			
Diazinon (µg/L)						nd		0.09					nd				nd										0.26			
Chlorpyrifos (µg/L)						nd		nd					nd				nd										nd			
Total Coliform (MPN/100mL)						50,000		1,700					1,400				11,000										2,300			
Fecal Coliform (MPN/100mL)						22,000		1,300					700				7,000										1,300			
Enterococcus (MPN/100mL)						8,000		500					300				1,100										80			
2003 Round Two																														
Temp.℃	28.5	22.5	20.5	24.5		21.5	24.0	25.0	24.5		25.5	26.0	27.5	27.0			24.0				25.0	22.0			ns	26.0	19.5	24.0	21.5	20.0
pH	8.8	7.4	8.3	8.3		8.3	8.8	9.0	7.4		8.1	8.2	8.8	7.8			8.5				8.1	7.5			ns	7.3	8.3	7.9	7.6	7.8
Conductivity (µmhos/cm)	1,560	3,130	1,340	1,360		3,690	6,610	3,060	2,340		970	1,830	1,390	1,110			1,840				13,650	1,490			ns	1,020	1,990	2,150	1,160	1,350
Turbidity (NTU)	502.0	20.0	8.9	16.9		2.3	0.7	4.5	3.2		20.5	4.0	3.0	262.0			1.2				17.3	5.5			ns	6.8	2.6	13.9	10.6	17.8
Ammonia-N (mg/L)	0.4	0.8	0.4	0.4		0.4	0.4	1.0	0.3		0.3	0.2	0.3	0.8			0.2				0.8	0.6			ns	1.0	0.2	0.4	0.6	3.0
Nitrate-N (mg/L)	2.0	0.4	0.6	4.0		10.0	16.0	0.6	4.0		2.4	16.0	5.0	3.2			24.0				28.0	0.8			ns	0.4	0.1	0.2	0.8	1.0
Orthophosphate (mg/L)	2.0	3.0	2.0	1.5		0.6	0.2	0.3	0.1		2.0	0.8	nd	1.0			0.2				2.0	1.5			ns	2.5	0.1	0.3	2.5	3.0
Orthophosphate-P (mg/L)	0.65	0.98	0.65	0.49		0.20	0.07	0.10	0.03		0.65	0.26	nd	0.33			0.07				0.65	0.49			ns	0.82	0.03	0.10	0.82	0.98
Surfactants (mg/l MBAS)Field test	0.13	0.25	0.25	0.13		0.25	0.25	0.25	0.13		0.13	0.25	0.13	3.00			0.25				0.50	0.25			ns	0.50	0.13	0.25	0.25	0.50
Surfactants (mg/l MBAS)Lab test			nd			nd						nd															nd			nd
Oil and Grease (mg/L)			nd			1.00						2.00															nd			2.00
Total Hardness (mg/L)			396			739						539															488			330
Cadmium-diss (mg/L)			0.006			nd						nd															nd			nd
Copper-diss (mg/L)			0.097			0.005						0.007															nd			0.012
Lead-diss (mg/L)			nd			nd						0.005															nd			nd
Zinc-diss (mg/L)			0.056			nd						nd															nd			0.077
Diazinon (µg/L)			0.10			nd						nd															nd			nd
Chlorpyrifos (µg/L)			nd			nd						nd															nd			nd
Total Coliform (MPN/100mL)			90,000			50,000						13,000															50,000			90,000
Fecal Coliform (MPN/100mL)			30,000			24,000						5,000															24,000			30,000
Enterococcus (MPN/100mL)			8,000			2,200						5,000															700			8,000

City of Santee Dry Weather Historical Data

Site ID	A5c	E5g	G30c	H5e	I10d	J25c	J25c2	J30d	K15j2	O20b	O40b	P15b	P20f	Q5l	Q25k	Q26d	RCP1	RCP2	R10b	R20a	S5c	S15h	T5d	T5e	T30b	U10a	V40d	V45k	Y15e	Z15b
2004 Round One																														
Temp.℃	32	26	24	24		24	26	30	27		27	28	25	24			24				26	26			ns	31	32	29	26	22
pH	8.4	7.0	7.4	8.6		8.5	7.7	8.9	6.9		7.5	7.4	8.6	8.5			8.3				7.9	8.0			ns	7.5	9.2	8.6	7.8	8.2
Conductivity (µmhos/cm)	1,930	2,620	1,920	1,350		2,950	1,820	1,950	1,780		910	1,610	1,260	1,430			1,280				1,589	1,390			ns	1,320	1,480	1,450	2,560	1,280
Turbidity (NTU)	8.52	27.66	3.15	2.23		8.85	0.12	5.05	4.95		1.98	7.56	1.14	101			3.97				9.32	3.55			ns	18.48	4.14	3.43	4.82	7.82
Ammonia-N (mg/L)	1.5	0.8	0.7	0.3		0.8	0.1	0.6	0.1		0.8	0.5	0.1	0.8			0.2				0.6	0.6			ns	0.8	0.6	0.2	0.8	0.8
Nitrate-N (mg/L)	1.25	1.25	2.5	2.5		6.75	2.5	2.5	5		2.5	20	3.75	1.25			5				2.5	1.25			ns	1.25	1.25	1.25	3.75	2.5
Orthophosphate (mg/L)	0.60	2.00	4.50	1.50		0.70	0.10	0.10	0.30		1.50	0.40	0.10	0.10			0.20				2.00	0.60			ns	1.50	0.20	0.30	1.50	3.50
Orthophosphate-P (mg/L)	0.20	0.65	1.47	0.49		0.23	0.03	0.03	0.10		0.49	0.13	0.03	0.03			0.07				0.70	0.20			ns	0.49	0.07	0.10	0.49	1.14
Surfactants (mg/l MBAS)Field test	0.75	0.25	0.25	0.25		0.50	0.25	0.25	0.25		0.25	0.25	0.25	3.00			0.25				0.25	0.25			ns	0.50	0.25	0.25	0.50	0.50
Surfactants (mg/l MBAS)Lab test			nd			nd		nd					nd				nd										nd			
Oil and Grease (mg/L)			nd			1		nd					nd				nd										nd			
Total Hardness (mg/L)			461			669		346					355				397										368			
Cadmium-diss (mg/L)			nd			nd		nd					nd				nd										nd			
Copper-diss (mg/L)			nd			0.021		0.008					0.010				0.013										0.005			
Lead-diss (mg/L)			nd			nd		nd					nd				nd										nd			
Zinc-diss (mg/L)			0.024			nd		nd					nd				0.02										nd			
Diazinon (µg/L)			4.05			nd		nd					nd				nd										nd			
Chlorpyrifos (µg/L)			nd			nd		nd					nd				nd										nd			
Total Coliform (MPN/100mL)			22,000			110,000		30,000					170,000				50,000										4,000			
Fecal Coliform (MPN/100mL)			8,000			2,600		2,200					17,000				800										40			
Enterococcus (MPN/100mL)			5,000			7,000		800					200				3,000										220			
2004 Round Two																														
Temp.℃	20	22	19	23		21	25	25	25		23	27	23	25			22				22	21			ns	20	22	20	22	23
pH	8.0	7.4	7.6	7.9		8.2	7.9	8.9	7.4		7.8	7.8	8.7	8.3			8.3				7.8	8.0			ns	7.4	8.8	7.7	7.6	7.6
Conductivity (µmhos/cm)	2,150	2,860	2,570	2,130		2,940	5,680	2,490	1,990		850	1,670	1,610	2,490			1,670				970	1,860			ns	1,770	1,420	1,490	1,270	1,180
Turbidity (NTU)	2.35	28.87	3.86	18.87		2.35	1.48	11.59	1.22		4.55	11.34	2.26	143			0.67				5.55	33.76			ns	3.36	4.08	8.32	10.15	12.73
Ammonia-N (mg/L)	3.0	0.6	0.1	6.0		0.3	0.1	0.4	0.2		0.1	0.1	0.1	0.8			0.2				0.1	0.7			ns	0.6	0.2	0.2	0.3	1.0
Nitrate-N (mg/L)	7.50	2.50	2.50	15.00		5.00	8.75	2.50	5.00		1.25	15.00	3.75	1.25			8.75				1.25	3.75			ns	3.75	1.25	1.25	3.75	3.75
Orthophosphate (mg/L)	3.0	3.0	1.0	5.0		0.4	0.2	0.2	0.8		1.0	0.6	0.1	4.0			0.4				1.0	3.0			ns	1.0	0.3	0.3	0.6	5.0
Orthophosphate-P (mg/L)	0.98	0.98	0.33	1.63		0.13	0.07	0.07	0.26		0.33	0.20	0.03	1.30			0.13				0.33	0.98			ns	0.33	0.10	0.10	0.20	1.63
Surfactants (mg/l MBAS)Field test	0.38	0.75	0.25	0.25		0.50	0.25	0.38	0.25		0.38	0.38	0.38	3.00			0.25				0.50	0.50			ns	0.25	0.13	0.13	0.50	0.75
Surfactants (mg/l MBAS)Lab test						nd		nd					nd				nd										nd			
Oil and Grease (mg/L)						nd		nd					nd				1										nd			
Total Hardness (mg/L)						572		473					421				508										356			
Cadmium-diss (mg/L)						nd		nd					nd				nd										nd			
Copper-diss (mg/L)						0.008		0.005					nd				nd										nd			
Lead-diss (mg/L)						nd		nd					nd				nd										nd			
Zinc-diss (mg/L)						0.023		nd					nd				nd										nd			
Diazinon (µg/L)						nd		nd					nd				0.33										0.12			
Chlorpyrifos (µg/L)						nd		nd					nd				nd										nd			
Total Coliform (MPN/100mL)						300,000		300,000					240,000				160,000										17,000			
Fecal Coliform (MPN/100mL)						1,300		800					500				30,000										1,400			
Enterococcus (MPN/100mL)						7,000		7,000					80				24,000										13,000			
2005 Round One																														
Temp.℃	21.1	21.3	24.2	19.4		20.5	23.6	27.4	22.7		19.4	24.2	20.4	24.5			20.3				20.0	19.7			ns	21.5	22.9	24.7	20.5	17.0
pH	8.4	7.3	8.9	8.5		8.4	8.0	9.1	7.7		7.9	7.8	8.8	7.9			8.4				7.4	7.7			ns	8.3	8.8	8.4	7.7	8.1
Conductivity (µmhos/cm)	2,020	2,290	2,070	2,240		4,500	5,320	2,540	2,030		930	1,740	1,630	1,990			1,900				1,190	1,550			ns	2,240	2,530	2,270	1,460	1,260
Turbidity (NTU)	3.11	8.15	2.15	1.23		4.62	0.33	4.24	2.02		6.88	1.11	0.70	2.67			0.46				6.05	5.73			ns	18.34	2.50	2.06	3.92	37.4
Ammonia-N (mg/L)	0.2	0.8	0.2	0.2		0.1	0.2	0.4	0.3		2.0	nd	0.2	0.1			0.1				1.0	0.8			ns	0.2	0.1	0.2	0.4	1.5
Nitrate-N (mg/L)	5.00	1.25	2.50	2.50		8.75	6.25	5.00	3.75		6.25	20.00	10.00	25.00			15.00				2.50	5.00			ns	20.00	1.25	2.50	2.50	5.00
Orthophosphate (mg/L)	1.0	2.0	0.4	1.5		0.3	0.2	0.1	0.1		7.0	0.6	nd	0.6			0.3				0.2	0.8			ns	0.8	0.1	0.2	0.2	3.5
Orthophosphate-P (mg/L)	0.33	0.65	0.13	0.50		0.98	0.07	0.03	0.03		2.28	0.20	nd	0.20			0.98				0.07	0.26			ns	0.26	0.03	0.07	0.06	1.14
Surfactants (mg/l MBAS)Field test	0.13	0.38	0.25	0.25		0.50	0.50	0.38	0.25		0.13	0.25	0.38	0.63			0.38				0.75	0.75			ns	0.50	0.25	0.25	0.25	0.50
Surfactants (mg/l MBAS)Lab test						nd		nd					nd				nd										nd			
Oil and Grease (mg/L)						nd		nd					nd				nd										nd			
Total Hardness (mg/L)						907		545					486				584										566			
Cadmium-diss (mg/L)						nd		nd					nd				nd										nd			
Copper-diss (mg/L)						nd		0.014					nd				nd										nd			
Lead-diss (mg/L)						nd		nd					nd				nd										nd			
Zinc-diss (mg/L)						nd		nd					nd				nd										nd			
Diazinon (µg/L)						nd		nd					nd				nd										nd			
Chlorpyrifos (µg/L)						nd		nd					nd				nd										nd			
Total Coliform (MPN/100mL)						24,000		30,000					23,000				13,000										23,000			
Fecal Coliform (MPN/100mL)						70		270					2,300				170										1,700			
Enterococcus (MPN/100mL)						1,300		2,300					1,700				2,300										2,200			

City of Santee Dry Weather Historical Data

Site ID	A5c	E5g	G30c	H5e	I10d	J25c	J25c2	J30d	K15j2	O20b	O40b	P15b	P20f	Q5l	Q25k	Q26d	RCP1	RCP2	R10b	R20a	S5c	S15h	T5d	T5e	T30b	U10a	V40d	V45k	Y15e	Z15b
2005 Round Two																														
Temp.℃	22.9	23.0	24.5	23.6		23.1	25.3	25.4	23.7		23.0	26.9	24.1	30.1			21.8				24.0	22.6			ns	23.0	19.1	24.8	21.7	18.7
pH	8.5	7.3	8.4	8.7		8.4	8.1	8.9	8.3		8.0	7.6	8.9	8.2			8.5				8.3	8.2			ns	7.6	8.8	8.2	7.9	8.4
Conductivity (µmhos/cm)	1,840	2,040	2,490	1,550		3,450	5,380	2,150	1,800		1,090	1,680	1,530	1,000			1,760				1,310	1,400			ns	1,330	1,740	1,970	1,250	1,010
Turbidity (NTU)	14.94	28.68	1.47	3.31		4.96	0.65	3.14	4.71		4.77	3.79	1.45	444.00			0.44				2.89	5.30			ns	3.04	7.03	1.78	4.55	3.20
Ammonia-N (mg/L)	0.8	2.5	0.3	0.6		0.3	0.2	0.4	0.6		0.4	0.1	0.2	0.3			0.1				0.1	0.3			ns	0.3	0.1	0.2	0.8	0.4
Nitrate-N (mg/L)	2.50	1.25	2.50	1.25		7.50	8.75	3.75	1.25		2.50	25.00	10.00	2.50			20.00				2.50	1.25			ns	1.25	1.25	2.50	2.50	2.50
Orthophosphate (mg/L)	3.0	0.8	1.0	2.0		0.6	0.2	0.1	0.3		1.0	0.6	nd	0.3			0.1				0.8	1.0			ns	1.0	0.1	nd	1.0	2.0
Orthophosphate-P (mg/L)	0.98	0.26	0.33	0.65		0.20	0.07	0.03	0.01		0.33	0.20	nd	0.10			0.03				0.26	0.33			ns	0.33	0.03	nd	0.33	0.63
Surfactants (mg/l MBAS)Field test	0.50	2.00	0.25	0.25		0.50	0.75	0.25	0.63		0.75	0.25	0.38	0.13			0.25				0.25	0.50			ns	0.25	0.13	0.13	0.38	0.75
Surfactants (mg/l MBAS)Lab test						nd		nd					nd				nd										nd			
Oil and Grease (mg/L)						nd		nd					nd				nd										nd			
Total Hardness (mg/L)						585		510					401				702										494			
Cadmium-diss (mg/L)						nd		nd					nd				nd										nd			
Copper-diss (mg/L)						nd		nd					nd				nd										nd			
Lead-diss (mg/L)						nd		nd					nd				nd										nd			
Zinc-diss (mg/L)						nd		nd					nd				nd										nd			
Diazinon (µg/L)						nd		nd					nd				nd										nd			
Chlorpyrifos (µg/L)						nd		nd					nd				nd										nd			
Total Coliform (MPN/100mL)						300,000		900,000					130,000				110,000										1,600,000			
Fecal Coliform (MPN/100mL)						22,000		7,000					8,000				11,000										5,000			
Enterococcus (MPN/100mL)						2,300		30,000					500				2,300										2,300			
2006 Round One																														
Temp.℃	18.8	21.1	23.1	21.7		20.4	23.2	28.2	23.0		21.5	24.9	24.1	23.8			20.0				22.1	23.6			ns	23.0	26.6	22.3	19.3	17.7
pH	8.2	7.2	8.1	8.3		8.3	8.0	9.2	7.1		7.5	7.6	8.8	8.1			8.4				7.8	7.8			ns	7.4	8.9	7.6	7.5	8.2
Conductivity (µmhos/cm)	1,950	2,080	3,350	1,590		3,990	5,440	2,270	1,860		1,020	1,620	1,300	1,960			1,660				1,070	1,160			ns	1,320	2,760	2,970	1,240	940
Turbidity (NTU)	2.50	19.29	2.55	1.81		3.89	1.86	1.34	0.91		2.14	2.33	2.05	53.00			1.94				0.79	6.44			ns	57.00	4.27	2.00	20.12	4.26
Ammonia-N (mg/L)	0.8	0.8	0.2	0.3		0.3	0.2	0.4	0.1		0.8	0.1	0.2	0.2			0.1				0.1	0.6			ns	0.7	0.2	0.1	0.2	0.1
Nitrate-N (mg/L)	3.75	1.25	1.25	1.25		5.00	7.50	3.75	5.00		1.25	15.00	2.50	5.00			15.00				1.25	2.50			ns	1.25	1.25	2.50	7.50	3.75
Orthophosphate (mg/L)	3.5	2.0	0.4	0.6		0.3	0.3	0.1	0.2		0.6	0.7	0.1	2.5			0.2				0.4	1.5			ns	2.0	0.3	0.3	0.7	0.6
Orthophosphate-P (mg/L)	1.14	0.65	0.13	0.20		0.10	0.10	0.03	0.07		0.20	0.23	0.03	0.82			0.07				0.13	0.49			ns	0.65	0.10	0.10	0.23	0.20
Surfactants (mg/l MBAS)Field test	0.75	0.50	0.50	0.75		0.50	0.50	0.25	0.25		0.25	0.50	0.25	>3.0			0.25				0.25	0.50			ns	0.25	0.50	0.50	0.50	0.25
Surfactants (mg/l MBAS)Lab test						nd		nd					nd				nd										nd			
Oil and Grease (mg/L)						nd		nd					nd				nd										nd			
Total Hardness (mg/L)						826		563					366				574										709			
Cadmium-diss (mg/L)						nd		nd					nd				nd										nd			
Copper-diss (mg/L)						0.012		0.008					0.009				nd										0.010			
Lead-diss (mg/L)						nd		nd					nd				nd										nd			
Zinc-diss (mg/L)						nd		nd					0.024				0.021										nd			
Diazinon (µg/L)						nd		nd					nd				nd										nd			
Chlorpyrifos (µg/L)						nd		nd					nd				nd										nd			
Total Coliform (MPN/100mL)						1,600,000		900,000					220,000				5,000										240,000			
Fecal Coliform (MPN/100mL)						14,000		1,400					3,000				230										800			
Enterococcus (MPN/100mL)						130,000		500					5,000				130										800			
2006 Round Two																														
Temp.℃	24.3	23.2	22.3	22.3		21.6	24.0	26.5	23.9		20.6	26.2	20.2	27.1			21.6				24.7	22.8			ns	19.9	19.0	20.8	21.5	19.0
pH	8.8	7.9	7.7	8.8		8.4	8.1	9.4	7.7		8.7	8.0	9.2	8.2			8.6				7.9	7.9			ns	8.4	8.5	8.0	8.2	8.5
Conductivity (µmhos/cm)	1,840	1,150	1,690	1,550		2,660	5,370	2,140	1,860		1,440	1,570	1,280	2,100			1,610				1,000	1,530			ns	900	2,610	2,650	1,400	930
Turbidity (NTU)	12.20	4.58	15.54	2.08		2.42	1.20	5.98	3.90		6.38	2.15	3.89	29.59			2.91				6.38	6.96			ns	8.27	4.15	1.77	26.66	4.11
Ammonia-N (mg/L)	0.4	0.4	0.1	0.2		0.3	0.2	0.2	0.1		0.2	0.1	0.1	1.3			0.1				0.1	0.6			ns	0.6	0.2	0.2	0.3	0.2
Nitrate-N (mg/L)	3.75	1.25	3.75	1.25		3.75	6.25	2.50	2.50		6.25	10.00	3.75	3.75			10.00				3.75	1.25			ns	2.50	1.25	2.50	5.00	2.50
Orthophosphate (mg/L)	3.0	0.2	0.6	2.0		0.6	0.4	nd	0.1		1.5	0.4	0.2	3.5			0.2				0.4	2.0			ns	1.5	0.4	0.3	0.6	1.5
Orthophosphate-P (mg/L)	0.98	0.07	0.20	0.65		0.20	0.13	nd	0.03		0.49	0.13	0.07	1.14			0.07				0.13	0.65			ns	0.49	0.13	0.10	0.20	0.49
Surfactants (mg/l MBAS)Field test	0.25	0.25	0.75	0.25		0.25	0.25	0.25	0.13		0.25	0.13	0.50	3.00			0.25				0.25	0.50			ns	0.25	0.75	0.25	0.67	0.25
Surfactants (mg/l MBAS)Lab test						nd		nd					nd				nd										nd			
Oil and Grease (mg/L)						nd		nd					nd				nd										nd			
Total Hardness (mg/L)						580		475					385				531										707			
Cadmium-diss (mg/L)						nd		nd					nd				nd										nd			
Copper-diss (mg/L)						0.011		0.006					0.008				nd										nd			
Lead-diss (mg/L)						nd		nd					nd				nd										nd			
Zinc-diss (mg/L)						0.022		nd					0.027				nd										0.024			
Diazinon (µg/L)						3.91		0.28					nd				nd										nd			
Chlorpyrifos (µg/L)						nd		nd					nd				nd										nd			
Total Coliform (MPN/100mL)						170,000		80,000					130,000				30,000										22,000			
Fecal Coliform (MPN/100mL)						24,000		13,000					5,000				8,000										5,000			
Enterococcus (MPN/100mL)						30,000		24,000					500				300										2,300			

City of Santee Dry Weather Historical Data

Site ID	A5c	E5g	G30c	H5e	I10d	J25c	J25c2	J30d	K15j2	O20b	O40b	P15b	P20f	Q5l	Q25k	Q26d	RCP1	RCP2	R10b	R20a	S5c	S15h	T5d	T5e	T30b	U10a	V40d	V45k	Y15e	Z15b
2007 Round One																														
Temp.℃	18.0	18.9	18.3	17.6		20.0	19.3	24.4	18.8		21.3	22.0	21.8	21.0			19.3				22.2	22.1				28.7	18.1	22.0	19.4	16.8
pH	8.2	7.5	9.2	8.3		8.3	8.2	8.9	8.5		8.1	7.9	9.2	8.2			8.5				7.8	8.2				8.8	8.7	7.8	7.5	8.2
Conductivity (mS/cm)	1.57	2.52	1.60	1.92		3.81	5.37	2.27	1.95		1.33	1.57	1.11	2.17			1.57				1.04	1.44				1.26	2.27	2.46	1.29	1.02
Turbidity (NTU)	4.78	5.22	4.93	4.15		3.31	1.26	3.32	1.77		5.56	11.79	3.45	48.79			0.25				2.01	9.08				10.86	3.32	2.53	7.32	3.04
Ammonia-N (mg/L)	nd	0.4	nd	0.1		0.2	0.1	0.4	0.1		0.8	nd	0.1	0.3			0.1				nd	0.3				0.4	0.1	0.2	0.1	nd
Nitrate-N (mg/L)	6.90	0.95	0.97	2.37		4.75	9.65	3.00	3.53		4.00	11.50	1.29	26.20			8.10				1.08	9.40				0.70	0.50	0.23	2.78	2.03
Orthophosphate (mg/L)	1.4	0.9	1.2	1.8		0.4	0.2	1.0	0.1		1.6	0.6	0.1	2.3			0.5				1.0	3.8				1.9	0.1	0.3	0.7	0.7
Orthophosphate-P (mg/L)	0.46	0.29	0.39	0.59		0.13	0.07	0.03	0.03		0.52	0.20	0.03	0.75			0.16				0.33	1.24				0.62	0.03	0.10	0.23	0.23
Surfactants (mg/l MBAS)Field test	0.50	0.50	0.75	0.50		1.00	0.75	0.38	0.25		0.50	0.25	0.38	3.00			0.25				0.50	0.75				0.50	0.38	0.25	0.50	0.38
Surfactants (mg/l MBAS)Lab test						nd		nd					nd				nd										nd			
Oil and Grease (mg/L)						nd		nd					nd				nd										nd			
Total Hardness (mg/L)						808		573					358				577										662			
Cadmium-diss (mg/L)						nd		nd					nd				nd										nd			
Copper-diss (mg/L)						0.009		0.007					nd				0.010										nd			
Lead-diss (mg/L)						nd		nd					nd				nd										nd			
Zinc-diss (mg/L)						nd		nd					nd				nd										nd			
Diazinon (µg/L)						nd		nd					nd				nd										nd			
Chlorpyrifos (µg/L)						nd		nd					nd				nd										nd			
Total Coliform (MPN/100mL)						13,000		23,000					23,000				13,000										50,000			
Fecal Coliform (MPN/100mL)						5,000		800					330				1,700										1,100			
Enterococcus (MPN/100mL)						1,300		800					800				2,800										1,300			
2007 Round Two																														
Temp.℃	23.5	20.2	21.5	20.1		23.4	24.9	24.5	21.0		20.9	27.4	17.7	24.5			22.0				24.8	19.8				26.8	20.8	22.7	18.3	17.5
pH	8.3	7.4	8.1	8.5		8.2	7.9	8.4	7.5		7.8	7.8	8.1	8.2			8.1				7.6	7.5				8.9	8.7	7.8	7.4	8.0
Conductivity (mS/cm)	1.81	2.20	1.49	1.27		3.33	4.60	2.17	1.75		1.26	1.48	1.34	1.73			1.44				1.13	1.51				1.55	2.04	2.09	1.44	0.87
Turbidity (NTU)	3.73	2.03	0.10	4.38		0.10	0.10	0.10	0.12		0.90	0.82	0.82	16.09			0.10				2.46	2.14				1.85	0.10	0.10	4.71	0.10
Ammonia-N (mg/L)	0.2	0.2	nd	0.1		0.2	0.2	0.4	0.2		nd	0.1	nd	0.6			nd				nd	0.1				0.1	0.1	0.1	0.3	nd
Nitrate-N (mg/L)	3.19	0.97	0.88	0.66		5.31	7.46	3.28	4.54		2.71	15.37	3.71	4.29			13.10				0.41	5.88				0.90	0.63	0.66	1.08	1.06
Orthophosphate (mg/L)	3.0	2.2	0.7	2.6		0.6	0.5	0.2	0.2		2.3	0.6	0.6	4.2			0.6				6.7	2.8				1.5	0.2	0.4	2.9	0.9
Orthophosphate-P (mg/L)	0.98	0.72	0.23	0.85		0.20	0.16	0.07	0.07		0.75	0.20	0.20	1.37			0.20				2.18	0.91				0.49	0.07	0.13	0.95	0.29
Surfactants (mg/l MBAS)Field test	0.50	0.63	0.13	0.50		0.50	0.50	0.25	0.38		0.75	0.13	0.50	0.50			0.25				0.75	0.75				0.38	0.50	0.25	0.75	0.13
Surfactants (mg/l MBAS)Lab test						nd		nd					nd				nd										nd			
Oil and Grease (mg/L)						nd		nd					nd				nd										nd			
Total Hardness (mg/L)						765		629					479				436										606			
Cadmium-diss (mg/L)						nd		nd					nd				nd										nd			
Copper-diss (mg/L)						0.012		0.005					nd				nd										nd			
Lead-diss (mg/L)						nd		nd					nd				nd										nd			
Zinc-diss (mg/L)						nd		nd					nd				nd										nd			
Diazinon (µg/L)						nd		nd					nd				nd										nd			
Chlorpyrifos (µg/L)						nd		nd					nd				nd										nd			
Total Coliform (MPN/100mL)						50,000		13,000					50,000				23,000										30,000			
Fecal Coliform (MPN/100mL)						24,000		13,000					5,000				23,000										500			
Enterococcus (MPN/100mL)						8,000		5,000					2,300				24,000										230			
2008 Round One																														
Temp.℃	24.8	21.8	19.9	20.4		19.5	21.3	26.2	21.4		18.9	23.7	22.7	23.3			18.6				21.2	21.2				19.2	21.5	23.4	20.5	15.8
pH	8.3	7.4	8.2	8.1		8.2	7.8	9.1	7.0		8.2	7.5	7.8	8.0			8.2				7.6	8.2				7.8	8.4	7.8	7.5	7.7
Conductivity (mS/cm)	1.94	2.66	1.38	2.36		4.29	5.20	2.38	2.21		1.95	1.67	1.26	1.89			1.63				1.37	1.65				1.45	2.89	3.03	1.57	1.20
Turbidity (NTU)	1.14	0.01	0.01	0.27		0.01	0.01	0.52	0.01		0.01	1.41	0.74	0.87			0.01				1.04	1.35				0.01	0.20	0.01	0.01	0.04
Ammonia-N (mg/L)	0.1	1.4	nd	0.3		0.2	0.1	0.4	0.1		0.2	0.1	0.1	0.2			nd				0.1	0.1				nd	0.2	0.2	0.1	nd
Surfactants (mg/l MBAS)	0.38	0.50	0.13	0.75		0.50	0.50	0.38	0.25		0.63	0.38	0.13	0.50			0.25				0.38	0.50				0.75	0.50	0.50	0.50	0.38
Nitrate-N (mg/L)	1.0	3.5	1.4	1.8		9.1	8.7	2.2	8.0		17.9	14.7	0.8	22.6			15.4				2.0	9.0				0.6	0.7	0.7	3.5	3.1
Orthophosphate-P (mg/L)	0.30	0.16	0.07	0.40		0.13	0.20	0.07	0.50		0.20	0.20	0.20	0.30			0.10				0.13	0.50				0.30	nd	0.07	0.13	0.20
Oil and Grease (mg/L)						nd		nd					nd				nd										nd			
Total Hardness (mg/L)						822		617					408				557										748			
Cadmium-diss (mg/L)						nd		nd					nd				nd										nd			
Copper-diss (mg/L)						0.008		0.005					nd				nd										nd			
Lead-diss (mg/L)						nd		nd					nd				nd										nd			
Zinc-diss (mg/L)						nd		nd					nd				nd										nd			
Diazinon (µg/L)						nd		nd					nd				nd										nd			
Chlorpyrifos (µg/L)						nd		nd					nd				nd										nd			
Total Coliform (MPN/100mL)						600		11,000					13,000				7,000										1,300			
Fecal Coliform (MPN/100mL)						400		3,000					300				500										130			
Enterococcus (MPN/100mL)						800		8,000					500				480										3,000			

City of Santee Dry Weather Historical Data

Site ID	A5c	E5g	G30c	H5e	I10d	J25c	J25c2	J30d	K15j2	O20b	O40b	P15b	P20f	Q5l	Q25k	Q26d	RCP1	RCP2	R10b	R20a	S5c	S15h	T5d	T5e	T30b	U10a	V40d	V45k	Y15e	Z15b
2008 Round Two																														
Temp.℃	23.4	24.8	33.3	26.4		27.8	27.3	27.4	25.5		27.1	27.8	29.0	29.5			25.3				23.8	27.4				27.2	33.2	27.0	25.3	28.1
pH	8.3	7.6	9.4	8.4		8.4	7.9	8.3	7.8		7.8	7.8	8.9	7.7			8.5				8.3	8.0				9.3	9.2	7.8	7.6	7.5
Conductivity (mS/cm)	1.76	2.88	2.11	2.15		2.79	4.84	2.16	2.09		1.23	1.58	1.23	2.09			1.73				1.26	1.44				1.56	3.05	3.38	1.42	1.37
Turbidity (NTU)	190.00	10.63	11.58	0.01		0.82	0.01	1.69	0.01		3.24	0.01	0.90	239.00			0.01				1.29	6.80				11.74	0.50	3.34	1.24	3.85
Ammonia-N (mg/L)	0.179	0.424	0.446	0.244		0.222	0.303	0.311	0.245		0.554	0.191	0.236	1.760			0.212				0.026	0.216				0.523	0.279	0.278	0.116	0.348
Surfactants (mg/l MBAS)	0.13	0.25	0.25	0.13		0.25	0.38	0.25	0.13		0.13	0.13	0.25	0.75			0.25				0.13	0.38				0.25	0.25	0.25	0.25	0.25
Nitrate-N (mg/L)	2.32	1.40	1.13	3.02		4.00	7.18	2.46	4.08		0.74	12.06	0.64	0.95			9.50				1.89	1.06				1.20	0.72	0.73	1.55	1.61
Orthophosphate-P (mg/L)	1.172	0.315	0.329	0.510		0.384	0.295	0.056	nd		0.005	0.165	0.053	2.925			0.080				0.562	0.401				0.474	0.011	0.177	0.180	0.377
Oil and Grease (mg/L)						nd		nd					nd				nd										nd			
Total Hardness (mg/L)						614		590					372				587										749			
Cadmiu-diss (mg/L)						nd		nd					nd				nd										nd			
Copper-diss (mg/L)						0.01600		0.00673					0.00319				0.00413										0.00737			
Lead-diss (mg/L)						nd		nd					nd				nd										nd			
Zinc-diss (mg/L)						0.0188		0.0172					0.0173				0.0226										0.0135			
Diazinon (µg/L)						nd		nd					nd				nd										nd			
Chlorpyrifos (µg/L)						nd		nd					nd				nd										nd			
Total Coliform (MPN/100mL)						140,000		240,000					5,000				14,000										800			
Fecal Coliform (MPN/100mL)						5,000		28,000					800				9,000										300			
Enterococcus (MPN/100mL)						13,000		160,000					20				14,000										500			

Appendix B

Photographs of Sampling Locations

Site A5c	
Site E5g	
Site G30c	

Site H5e	
Site J25c	
Site J25c2	

Site J30d	
Site K15j2	
Site O40b	

Site P15b	
Site P20f	
Site Q5l	

Site RCP1	
Site RCR3	
Site S5c	

Site S15h	
Site T5e	
Site U10a	

Site V40d	
Site V45k	
Site Y15e	

Site Z15b	

Appendix C

Laboratory Analytical Reports

Round One

EnviroMatrix Analytical, Inc.

29 May 2009

D-Max Engineering
Attn: Arsalan Dadkhah
7220 Trade Street, Suite 119
San Diego, California 92121

EMA Log #: 0905606

Project Name: Santee Dry Weather
Project Desc./#:200919W-1 Round One

Enclosed are the results of analyses for samples received by the laboratory on 05/21/09 13:29. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that this data is in compliance both technically and for completeness.

Dan Verdon
Laboratory Director

CA ELAP Certification #: 2564

4340 Viewridge Avenue, Suite A - San Diego, California 92123 - (858) 560-7717 - Fax (858) 560-7763
Analytical Chemistry Laboratory

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 0905606

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
RCP1	0905606-01	Water	05/21/09 10:45	05/21/09 13:29
P2of	0905606-02	Water	05/21/09 11:40	05/21/09 13:29
J25C	0905606-03	Water	05/21/09 12:15	05/21/09 13:29

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 0905606

Metals (Dissolved) by EPA 6000/7000 Series Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
RCP1 (0905606-01) Water Sampled: 05/21/09 10:45 Received: 05/21/09 13:29									
Cadmium	ND	0.005	mg/l	1	9052308	05/23/09	05/23/09	EPA 6020	
Copper	ND	0.005	"	"	"	"	"	"	
Lead	ND	0.005	"	"	"	"	"	"	
Zinc	ND	0.020	"	"	"	"	"	"	
P2of (0905606-02) Water Sampled: 05/21/09 11:40 Received: 05/21/09 13:29									
Copper	ND	0.005	mg/l	1	9052308	05/23/09	05/23/09	EPA 6020	
Cadmium	ND	0.005	"	"	"	"	"	"	
Lead	ND	0.005	"	"	"	"	"	"	
Zinc	ND	0.020	"	"	"	"	"	"	
J25C (0905606-03) Water Sampled: 05/21/09 12:15 Received: 05/21/09 13:29									
Zinc	ND	0.020	mg/l	1	9052308	05/23/09	05/23/09	EPA 6020	
Lead	ND	0.005	"	"	"	"	"	"	
Copper	**0.006**	0.005	"	"	"	"	"	"	
Cadmium	ND	0.005	"	"	"	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 0905606

Organophosphorus Pesticides by EPA Method 8141A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
RCP1 (0905606-01) Water Sampled: 05/21/09 10:45 Received: 05/21/09 13:29									**GC-05**
Chlorpyrifos	ND	0.05	ug/l	1	9052205	05/21/09	05/29/09	EPA 8141A	
Diazinon	ND	0.05	"	"	"	"	"	"	
Malathion	ND	0.05	"	"	"	"	"	"	
Surrogate: Triphenyl phosphate		*92 %*	*60-130*		"	"	"	"	
Surrogate: Tribuytlphosphate		*80 %*	*60-130*		"	"	"	"	
P2of (0905606-02) Water Sampled: 05/21/09 11:40 Received: 05/21/09 13:29									**GC-05**
Chlorpyrifos	ND	0.05	ug/l	1	9052205	05/21/09	05/29/09	EPA 8141A	
Diazinon	ND	0.05	"	"	"	"	"	"	
Malathion	ND	0.05	"	"	"	"	"	"	
Surrogate: Triphenyl phosphate		*88 %*	*60-130*		"	"	"	"	
Surrogate: Tribuytlphosphate		*92 %*	*60-130*		"	"	"	"	
J25C (0905606-03) Water Sampled: 05/21/09 12:15 Received: 05/21/09 13:29									**GC-05**
Chlorpyrifos	ND	0.05	ug/l	1	9052205	05/21/09	05/29/09	EPA 8141A	
Diazinon	ND	0.05	"	"	"	"	"	"	
Malathion	ND	0.05	"	"	"	"	"	"	
Surrogate: Triphenyl phosphate		*76 %*	*60-130*		"	"	"	"	
Surrogate: Tribuytlphosphate		*60 %*	*60-130*		"	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 0905606

Conventional Chemistry Parameters by Standard/EPA Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
RCP1 (0905606-01) Water Sampled: 05/21/09 10:45 Received: 05/21/09 13:29									
Hardness (Total)	**520**	100	mg CaCO3/L	10	9052651	05/26/09	05/27/09	EPA 200.7	
Oil & Grease	ND	5	mg/l	1	9052746	05/27/09	05/27/09	EPA 1664A	
P2of (0905606-02) Water Sampled: 05/21/09 11:40 Received: 05/21/09 13:29									
Hardness (Total)	**356**	100	mg CaCO3/L	10	9052651	05/26/09	05/28/09	EPA 200.7	
Oil & Grease	ND	5	mg/l	1	9052746	05/27/09	05/27/09	EPA 1664A	
J25C (0905606-03) Water Sampled: 05/21/09 12:15 Received: 05/21/09 13:29									
Hardness (Total)	**780**	100	mg CaCO3/L	10	9052651	05/26/09	05/28/09	EPA 200.7	
Oil & Grease	ND	5	mg/l	1	9052746	05/27/09	05/27/09	EPA 1664A	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 0905606

Microbiological Parameters by Standard Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
RCP1 (0905606-01) Water Sampled: 05/21/09 10:45 Received: 05/21/09 13:29									
Total Coliforms	**8000**	200	MPN/100 ml	100	9052622	05/21/09	05/25/09	SM 9221 B, E	
Fecal Coliforms	**70**	20	"	10	"	"	05/24/09	"	
Enterococcus	**2300**	200	"	100	9052623	"	05/25/09	SM 9230 A, B	
P2of (0905606-02) Water Sampled: 05/21/09 11:40 Received: 05/21/09 13:29									
Total Coliforms	**11000**	200	MPN/100 ml	100	9052622	05/21/09	05/25/09	SM 9221 B, E	
Fecal Coliforms	**400**	20	"	10	"	"	05/24/09	"	
Enterococcus	**500**	20	"	"	9052623	"	05/25/09	SM 9230 A, B	
J25C (0905606-03) Water Sampled: 05/21/09 12:15 Received: 05/21/09 13:29									
Total Coliforms	**8000**	200	MPN/100 ml	100	9052622	05/21/09	05/25/09	SM 9221 B, E	
Fecal Coliforms	**170**	20	"	10	"	"	05/24/09	"	
Enterococcus	**1300**	20	"	"	9052623	"	05/25/09	SM 9230 A, B	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 0905606

Metals (Dissolved) by EPA 6000/7000 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9052308										
Blank (9052308-BLK1)				Prepared & Analyzed: 05/23/09						
Cadmium	ND	0.005	mg/l							
Copper	ND	0.005	"							
Lead	ND	0.005	"							
Zinc	ND	0.020	"							
LCS (9052308-BS1)				Prepared & Analyzed: 05/23/09						
Zinc	0.050	0.020	mg/l	0.0500		101	75-125			
Lead	0.052	0.005	"	0.0500		104	75-125			
Copper	0.051	0.005	"	0.0500		103	75-125			
Cadmium	0.051	0.005	"	0.0500		101	75-125			
LCS Dup (9052308-BSD1)				Prepared & Analyzed: 05/23/09						
Zinc	0.051	0.020	mg/l	0.0500		101	75-125	0.8	20	
Cadmium	0.051	0.005	"	0.0500		102	75-125	0.7	20	
Lead	0.049	0.005	"	0.0500		99	75-125	5	20	
Copper	0.052	0.005	"	0.0500		103	75-125	0.5	20	
Duplicate (9052308-DUP1)		**Source: 0905606-01**		Prepared & Analyzed: 05/23/09						
Copper	0.002	0.005	mg/l		0.002			6	20	
Cadmium	ND	0.005	"		ND				20	
Lead	ND	0.005	"		ND				20	
Zinc	ND	0.020	"		ND				20	
Matrix Spike (9052308-MS1)		**Source: 0905606-01**		Prepared & Analyzed: 05/23/09						
Zinc	0.052	0.020	mg/l	0.0500	ND	104	75-125			
Cadmium	0.048	0.005	"	0.0500	ND	96	75-125			
Copper	0.048	0.005	"	0.0500	0.002	93	75-125			
Lead	0.053	0.005	"	0.0500	ND	105	75-125			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 0905606

Metals (Dissolved) by EPA 6000/7000 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9052308										
Matrix Spike Dup (9052308-MSD1)		**Source: 0905606-01**		Prepared & Analyzed: 05/23/09						
Lead	0.052	0.005	mg/l	0.0500	ND	104	75-125	2	20	
Zinc	0.052	0.020	"	0.0500	ND	104	75-125	0.06	20	
Cadmium	0.048	0.005	"	0.0500	ND	96	75-125	0.7	20	
Copper	0.048	0.005	"	0.0500	0.002	93	75-125	0.7	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 0905606

Organophosphorus Pesticides by EPA Method 8141A - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9052205										
Blank (9052205-BLK1)				Prepared: 05/21/09 Analyzed: 05/29/09						
Chlorpyrifos	ND	0.05	ug/l							
Diazinon	ND	0.05	"							
Malathion	ND	0.05	"							
Surrogate: Triphenyl phosphate	*0.210*		*"*	*0.250*		*84*	*60-130*			
Surrogate: Tribuytlphosphate	*0.190*		*"*	*0.250*		*76*	*60-130*			
LCS (9052205-BS1)				Prepared: 05/21/09 Analyzed: 05/29/09						
Bolstar	0.38	0.10	ug/l	0.500		76	60-130			
Diazinon	0.46	0.05	"	0.500		92	60-130			
Ethoprop	0.39	0.05	"	0.500		78	60-130			
Mevinphos	0.38	0.25	"	0.500		76	60-130			
Methyl parathion	0.37	0.10	"	0.500		74	60-130			
Phorate	0.35	0.05	"	0.500		70	60-130			
Ronnel	0.44	0.25	"	0.500		88	60-130			
Trichlorinate	0.44	0.05	"	0.500		88	60-130			
Surrogate: Triphenyl phosphate	*0.250*		*"*	*0.250*		*100*	*60-130*			
Surrogate: Tribuytlphosphate	*0.200*		*"*	*0.250*		*80*	*60-130*			
LCS Dup (9052205-BSD1)				Prepared: 05/21/09 Analyzed: 05/29/09						
Bolstar	0.37	0.10	ug/l	0.500		74	60-130	3	30	
Diazinon	0.45	0.05	"	0.500		90	60-130	2	30	
Ethoprop	0.38	0.05	"	0.500		76	60-130	3	30	
Mevinphos	0.39	0.25	"	0.500		78	60-130	3	30	
Methyl parathion	0.35	0.10	"	0.500		70	60-130	6	30	
Phorate	0.37	0.05	"	0.500		74	60-130	6	30	
Ronnel	0.42	0.25	"	0.500		84	60-130	5	30	
Trichlorinate	0.42	0.05	"	0.500		84	60-130	5	30	
Surrogate: Triphenyl phosphate	*0.250*		*"*	*0.250*		*100*	*60-130*			
Surrogate: Tribuytlphosphate	*0.180*		*"*	*0.250*		*72*	*60-130*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 0905606

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9052651										
Blank (9052651-BLK1)				Prepared: 05/26/09 Analyzed: 05/27/09						
Hardness (Total)	ND	10	mg CaCO3/L							
Duplicate (9052651-DUP1)		**Source: 0905606-01**		Prepared: 05/26/09 Analyzed: 05/27/09						
Hardness (Total)	525	100	mg CaCO3/L		520			1	20	
Batch 9052746										
Blank (9052746-BLK1)				Prepared & Analyzed: 05/27/09						
Oil & Grease	ND	5	mg/l							
LCS (9052746-BS1)				Prepared & Analyzed: 05/27/09						
Oil & Grease	33	5	mg/l	40.0		84	78-114			
LCS Dup (9052746-BSD1)				Prepared & Analyzed: 05/27/09						
Oil & Grease	32	5	mg/l	40.0		80	78-114	4	20	
Matrix Spike (9052746-MS1)		**Source: 0905606-01**		Prepared & Analyzed: 05/27/09						
Oil & Grease	34	5	mg/l	40.0	ND	84	78-114			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 0905606

Notes and Definitions

GC-05	Results confirmed by GCMS.
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

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CHAIN-OF-CUSTODY RECORD

– EnviroMatrix EMA Analytical, Inc. —
4340 Viewridge Ave., Ste. A - San Diego, CA 92123 - Phone (858) 560-7717 - Fax (858) 560-7763

EMA LOG #: 09 05606

Client: D-Max Engineering, Inc.
Attn: Arsalan Dadkhah
Samplers(s): Manouchehr / Annika
Address: 7220 Trade street, suite 119
San Diego, CA 92121
Phone: (858) 586-6600 Fax: (858) 586-6644
Email:
Billing Address: Same
Suntee Dry weather Round One
Project ID:
Project #: 200919W-1 PO #:

Requested Analysis

ID #	Client Sample ID	Sample Date	Sample Time	Sample Matrix	Container # / Type	Oil & Grease □ 413.1 □ 413.2 □ 1664	8015B (TPH) □ Gas □ Diesel □ Ext	624/8260 (VOC) Full BTXE MTBE Oxy Nap	625 / 8270 (SVOC) □ PAH only	608 / 8081 (Organochlorine Pesticides)	608 / 8082 (Polychlorinated Biphenyls)	(8141) (Organophosphorus Pesticides) Dir/Chlor	TBT (Organotin Compounds)	□ pH □ EC □ TSS □TDS	□ Nitrate □ Nitrite □ TKN □NH3	CAC Title 22/CAM17 Metals □ TTLC □ STLC	TCLP (RCRA) □ Metals □ Organics	(Cd) Cr (Cu) (Pb) Ni Ag (Zn) □ Dissolved	Coliform, X Total (MTF) X Fecal (MTF)	Colilert, T+E.Coli □ P/A □ Enumeration	Enterococcus, X MTF □ Enterolert	Heterotrophic Plate Count (HPC)	Total Hardness
1	RCP1	5/21/09	10:45	water	3/4 G/p	X						X						X	X		X	X
2	P2of	"	11:40	"	2/4 G/p	X						X						X	X		X	X
3	J25C	"	12:15	"	2/4 G/p	X						X						X	X		X	X
4																						
5																						
6																						
7																						
8																						
9																						
10																						

Matrix Codes: A = Air, DW = Drinking Water, GW = Groundwater, SW = Storm Water
WW = Wastewater, S = Soil, SED = Sediment, SD = Solid, T = Tissue, O = Oil, L = Liquid

Shipped By: X Courier □ UPS □ FedEx □ USPS □ Client Drop Off □ Other

[1]**Turn-Around-Time:** □ Same Day □ 24 hr □ 48 hr □ 3 day □ 4 day X 5 day □ STD (7 day)

[1]**Reporting Requirements:** □ Fax □ PDF □ Excel □ Geotracker/EDF □ Hard Copy □ EDT

[1]**Sample Disposal:** □ By Laboratory □ [2]Return to Client: P/U or Delivery □ Archive

Sample Integrity

Correct Containers: Yes No N/A	Containers Properly Preseved: Yes No N/A
Custody Seals Intact: Yes No N/A	Temp @ Receipt:
COC/Labels Agree: Yes No N/A	Sampled By: Client EMA Autosampler

RELINQUISHED BY	DATE/TIME	RECEIVED BY
Signature: Manouchehr Dadkhah	5-21-09 1315	Signature:
Print: Manouchehr Dadkhah		Print: Danny Huerta
Company: D-Max Engr.		Company: EMA
Signature:	5-21-09 1329	Signature:
Print: Danny Huerta		Print: Sean Flynn
Company: EMA		Company: EMA
Signature		Signature
Print		Print
Company:		Company:

Project/Sample Comments:

6° on Ice

[1]Additional costs may apply, consult a project manager for details.

White- EMA Canary - Accounting Pink - Client (w/report) Gold - Client (Relinquish)

[2]EMA reserves the right to return any samples that do not match our waste profile.

NOTE: By relinquishing samples to EMA, Inc., client agrees to pay for the services requested on this COC form and any additional analyses performed on this project. Payment for services is due within 30 days from date of invoice. Samples will be disposed of after 30 days unless otherwise noted. All work is subject to EMA's terms and conditions.

EnviroMatrix Analytical, Inc.

01 June 2009

D-Max Engineering
Attn: Arsalan Dadkhah
7220 Trade Street, Suite 119
San Diego, California 92121

EMA Log #: 0905626

Project Name: Santee Dry Weather
Project Desc./#:200919W-1 Round One

Enclosed are the results of analyses for samples received by the laboratory on 05/22/09 13:20. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that this data is in compliance both technically and for completeness.

Dan Verdon
Laboratory Director

CA ELAP Certification #: 2564

4340 Viewridge Avenue, Suite A - San Diego, California 92123 - (858) 560-7717 - Fax (858) 560-7763
Analytical Chemistry Laboratory

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 0905626

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
J30d	0905626-01	Water	05/22/09 09:50	05/22/09 13:20
V40d	0905626-02	Water	05/22/09 11:10	05/22/09 13:20

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 0905626

Metals (Dissolved) by EPA 6000/7000 Series Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
J30d (0905626-01) Water Sampled: 05/22/09 09:50 Received: 05/22/09 13:20									
Zinc	ND	0.020	mg/l	1	9052308	05/23/09	05/23/09	EPA 6020	
Cadmium	ND	0.005	"	"	"	"	"	"	
Copper	ND	0.005	"	"	"	"	"	"	
Lead	ND	0.005	"	"	"	"	"	"	
V40d (0905626-02) Water Sampled: 05/22/09 11:10 Received: 05/22/09 13:20									
Zinc	ND	0.020	mg/l	1	9052308	05/23/09	05/23/09	EPA 6020	
Lead	ND	0.005	"	"	"	"	"	"	
Copper	ND	0.005	"	"	"	"	"	"	
Cadmium	ND	0.005	"	"	"	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 0905626

Organophosphorus Pesticides by EPA Method 8141A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
J30d (0905626-01) Water Sampled: 05/22/09 09:50 Received: 05/22/09 13:20									**GC-05**
Chlorpyrifos	ND	0.05	ug/l	1	9052648	05/26/09	05/29/09	EPA 8141A	
Diazinon	ND	0.05	"	"	"	"	"	"	
Malathion	ND	0.05	"	"	"	"	"	"	
Surrogate: Triphenyl phosphate		*88 %*	*60-130*		"	"	"	"	
Surrogate: Tribuytlphosphate		*76 %*	*60-130*		"	"	"	"	
V40d (0905626-02) Water Sampled: 05/22/09 11:10 Received: 05/22/09 13:20									**GC-05**
Chlorpyrifos	ND	0.05	ug/l	1	9052648	05/26/09	05/29/09	EPA 8141A	
Diazinon	ND	0.05	"	"	"	"	"	"	
Malathion	ND	0.05	"	"	"	"	"	"	
Surrogate: Triphenyl phosphate		*88 %*	*60-130*		"	"	"	"	
Surrogate: Tribuytlphosphate		*84 %*	*60-130*		"	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 0905626

Conventional Chemistry Parameters by Standard/EPA Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
J30d (0905626-01) Water	**Sampled: 05/22/09 09:50**	**Received: 05/22/09 13:20**							
Hardness (Total)	**685**	100	mg CaCO3/L	10	9052651	05/26/09	05/28/09	EPA 200.7	
Oil & Grease	ND	5	mg/l	1	9052746	05/27/09	05/27/09	EPA 1664A	
V40d (0905626-02) Water	**Sampled: 05/22/09 11:10**	**Received: 05/22/09 13:20**							
Hardness (Total)	**1020**	100	mg CaCO3/L	10	9052651	05/26/09	05/28/09	EPA 200.7	
Oil & Grease	ND	5	mg/l	1	9052746	05/27/09	05/27/09	EPA 1664A	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 0905626

Microbiological Parameters by Standard Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
J30d (0905626-01) Water	**Sampled: 05/22/09 09:50**	**Received: 05/22/09 13:20**							
Total Coliforms	**11000**	200	MPN/100 ml	100	9052853	05/22/09	05/26/09	SM 9221 B, E	
Fecal Coliforms	**3000**	200	"	"	"	"	05/25/09	"	
Enterococcus	**3000**	200	"	"	9052854	"	05/26/09	SM 9230 A, B	
V40d (0905626-02) Water	**Sampled: 05/22/09 11:10**	**Received: 05/22/09 13:20**							
Total Coliforms	**1700**	20	MPN/100 ml	10	9052853	05/22/09	05/26/09	SM 9221 B, E	
Fecal Coliforms	**500**	20	"	"	"	"	05/25/09	"	
Enterococcus	**300**	20	"	"	9052854	"	05/26/09	SM 9230 A, B	

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Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 0905626

Metals (Dissolved) by EPA 6000/7000 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9052308										
Blank (9052308-BLK1)				Prepared & Analyzed: 05/23/09						
Copper	ND	0.005	mg/l							
Lead	ND	0.005	"							
Zinc	ND	0.020	"							
Cadmium	ND	0.005	"							
LCS (9052308-BS1)				Prepared & Analyzed: 05/23/09						
Cadmium	0.051	0.005	mg/l	0.0500		101	75-125			
Copper	0.051	0.005	"	0.0500		103	75-125			
Lead	0.052	0.005	"	0.0500		104	75-125			
Zinc	0.050	0.020	"	0.0500		101	75-125			
LCS Dup (9052308-BSD1)				Prepared & Analyzed: 05/23/09						
Cadmium	0.051	0.005	mg/l	0.0500		102	75-125	0.7	20	
Zinc	0.051	0.020	"	0.0500		101	75-125	0.8	20	
Copper	0.052	0.005	"	0.0500		103	75-125	0.5	20	
Lead	0.049	0.005	"	0.0500		99	75-125	5	20	
Duplicate (9052308-DUP1)		**Source: 0905606-01**		Prepared & Analyzed: 05/23/09						
Zinc	ND	0.020	mg/l		ND				20	
Cadmium	ND	0.005	"		ND				20	
Copper	0.002	0.005	"		0.002			6	20	
Lead	ND	0.005	"		ND				20	
Matrix Spike (9052308-MS1)		**Source: 0905606-01**		Prepared & Analyzed: 05/23/09						
Zinc	0.052	0.020	mg/l	0.0500	ND	104	75-125			
Lead	0.053	0.005	"	0.0500	ND	105	75-125			
Cadmium	0.048	0.005	"	0.0500	ND	96	75-125			
Copper	0.048	0.005	"	0.0500	0.002	93	75-125			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 0905626

Metals (Dissolved) by EPA 6000/7000 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9052308										
Matrix Spike Dup (9052308-MSD1)		**Source: 0905606-01**		Prepared & Analyzed: 05/23/09						
Cadmium	0.048	0.005	mg/l	0.0500	ND	96	75-125	0.7	20	
Copper	0.048	0.005	"	0.0500	0.002	93	75-125	0.7	20	
Lead	0.052	0.005	"	0.0500	ND	104	75-125	2	20	
Zinc	0.052	0.020	"	0.0500	ND	104	75-125	0.06	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 0905626

Organophosphorus Pesticides by EPA Method 8141A - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9052648										
Blank (9052648-BLK1)				Prepared: 05/26/09 Analyzed: 05/28/09						
Chlorpyrifos	ND	0.05	ug/l							
Diazinon	ND	0.05	"							
Malathion	ND	0.05	"							
Surrogate: Triphenyl phosphate	*0.250*		*"*	*0.250*		*100*	*60-130*			
Surrogate: Tribuytlphosphate	*0.190*		*"*	*0.250*		*76*	*60-130*			
LCS (9052648-BS1)				Prepared: 05/26/09 Analyzed: 05/28/09						
Bolstar	0.39	0.10	ug/l	0.500		78	60-130			
Diazinon	0.44	0.05	"	0.500		88	60-130			
Ethoprop	0.42	0.05	"	0.500		84	60-130			
Mevinphos	0.42	0.25	"	0.500		84	60-130			
Methyl parathion	0.43	0.10	"	0.500		86	60-130			
Phorate	0.40	0.05	"	0.500		80	60-130			
Ronnel	0.45	0.25	"	0.500		90	60-130			
Trichlorinate	0.43	0.05	"	0.500		86	60-130			
Surrogate: Triphenyl phosphate	*0.270*		*"*	*0.250*		*108*	*60-130*			
Surrogate: Tribuytlphosphate	*0.240*		*"*	*0.250*		*96*	*60-130*			
LCS Dup (9052648-BSD1)				Prepared: 05/26/09 Analyzed: 05/28/09						
Bolstar	0.33	0.10	ug/l	0.500		66	60-130	17	30	
Diazinon	0.43	0.05	"	0.500		86	60-130	2	30	
Ethoprop	0.34	0.05	"	0.500		68	60-130	21	30	
Mevinphos	0.41	0.25	"	0.500		82	60-130	2	30	
Methyl parathion	0.40	0.10	"	0.500		80	60-130	7	30	
Phorate	0.37	0.05	"	0.500		74	60-130	8	30	
Ronnel	0.42	0.25	"	0.500		84	60-130	7	30	
Trichlorinate	0.40	0.05	"	0.500		80	60-130	7	30	
Surrogate: Triphenyl phosphate	*0.270*		*"*	*0.250*		*108*	*60-130*			
Surrogate: Tribuytlphosphate	*0.190*		*"*	*0.250*		*76*	*60-130*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 0905626

Organophosphorus Pesticides by EPA Method 8141A - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9052648										
Duplicate (9052648-DUP1)		**Source: 0904552-03**		Prepared: 05/26/09 Analyzed: 05/28/09						
Bolstar	ND	0.10	ug/l		ND				30	
Diazinon	18.0	0.25	"		19.1			6	30	
Ethoprop	16.8	0.25	"		17.2			2	30	
Mevinphos	ND	0.25	"		ND				30	
Methyl parathion	10.5	0.50	"		11.4			8	30	
Phorate	5.47	0.05	"		4.70			15	30	
Ronnel	3.64	0.25	"		3.30			10	30	
Trichlorinate	ND	0.05	"		ND				30	
Surrogate: Triphenyl phosphate	*0.250*		"	*0.250*		*100*	*60-130*			
Surrogate: Tribuytlphosphate	*0.360*		"	*0.250*		*144*	*60-130*			*S-02, S-04*

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 0905626

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9052651										
Blank (9052651-BLK1)				Prepared: 05/26/09 Analyzed: 05/27/09						
Hardness (Total)	ND	10	mg CaCO3/L							
Duplicate (9052651-DUP1)		**Source: 0905606-01**		Prepared: 05/26/09 Analyzed: 05/27/09						
Hardness (Total)	525	100	mg CaCO3/L		520			1	20	
Batch 9052746										
Blank (9052746-BLK1)				Prepared & Analyzed: 05/27/09						
Oil & Grease	ND	5	mg/l							
LCS (9052746-BS1)				Prepared & Analyzed: 05/27/09						
Oil & Grease	33	5	mg/l	40.0		84	78-114			
LCS Dup (9052746-BSD1)				Prepared & Analyzed: 05/27/09						
Oil & Grease	32	5	mg/l	40.0		80	78-114	4	20	
Matrix Spike (9052746-MS1)		**Source: 0905606-01**		Prepared & Analyzed: 05/27/09						
Oil & Grease	34	5	mg/l	40.0	ND	84	78-114			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 0905626**
Project Name: Santee Dry Weather

Notes and Definitions

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
S-02	The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.
GC-05	Results confirmed by GCMS.
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CHAIN-OF-CUSTODY RECORD

– EnviroMatrix EMA Analytical, Inc. —
4340 Viewridge Ave., Ste. A - San Diego, CA 92123 - Phone (858) 560-7717 - Fax (858) 560-7763

EMA LOG #: 090626

Client: D-Max Engineering, Inc.
Attn: Arsalan Dadkhah
Samplers(s): Manouchehr / Annika
Address: 7220 Trade street, Suite 919
San Diego, CA 92121
Phone (858) 586-6600 Fax: (858) 586-6688
Email:
Billing Address: Same
Santee Dry Weather Round One
Project ID:
Project #: 200919W-1 PO #:

Requested Analysis

ID #	Client Sample ID	Sample Date	Sample Time	Sample Matrix	Container # / Type	Oil & Grease □ 413.1 □ 413.2 □ 1664	8015B (TPH) □ Gas □ Diesel □ Ext	624/8260 (VOC) Full BTXE MTBE Oxy Nap	625 / 8270 (SVOC) □ PAH only	608 / 8081 (Organochlorine Pesticides)	608 / 8082 (Polychlorinated Biphenyls)	(8141) (Organophosphorus Pesticides) Dia/Chlor	TBT (Organotin Compounds)	□ pH □ EC □ TSS □TDS	□ Nitrate □ Nitrite □ TKN □NH3	CAC Title 22/CAM17 Metals □ TTLC □ STLC	TCLP (RCRA) □ Metals □ Organics	(Cd) Cr (Cu) (Pb) Ni Ag (Zn) X Dissolved	Coliform, X Total (MTF) X Fecal (MTF)	Colilert, T+E.Coli □ P/A □ Enumeration	Enterococcus, X MTF □ Enterolert	Heterotrophic Plate Count (HPC)	Total Hardness
1	J30d	5/22/09	9:50	Water	2/4 G/P	X						X						X	X		X	X
2	V40d	"	11:10	"	" "	X						X						X	X		X	X
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						

Matrix Codes: A = Air, DW = Drinking Water, GW = Groundwater, SW = Storm Water
WW = Wastewater, S = Soil, SED = Sediment, SD = Solid, T = Tissue, O = Oil, L = Liquid

Shipped By: X Courier □ UPS □ FedEx □ USPS □ Client Drop Off □ Other

[1]**Turn-Around-Time:** □ Same Day □ 24 hr □ 48 hr □ 3 day □ 4 day □ 5 day □ STD (7 day)

[1]**Reporting Requirements:** □ Fax □ PDF □ Excel □ Geotracker/EDF □ Hard Copy □ EDT

[1]**Sample Disposal:** □ By Laboratory □ [2]Return to Client: P/U or Delivery □ Archive

Sample Integrity

Correct Containers: Yes No N/A	Containers Properly Preseved: Yes No N/A
Custody Seals Intact: Yes No N/A	Temp @ Receipt:
COC/Labels Agree: Yes No N/A	Sampled By: Client EMA Autosampler

RELINQUISHED BY	DATE/TIME	RECEIVED BY
Signature: Manouchehr Dadkhah	5/22/09 1305	Signature:
Print: Manouchehr Dadkhah		Print: Jenny Huerta
Company: D-Max Engl		Company: EMA
Signature:	5/22/09 1320	Signature:
Print: Jenny Huerta		Print:
Company: EMA		Company:
Signature:		Signature:
Print:		Print:
Company:		Company:

Project/Sample Comments: 8° on ice

[1]Additional costs may apply, consult a project manager for details.

White- EMA Canary - Accounting Pink - Client (w/report) Gold - Client (Relinquish)

[2]EMA reserves the right to return any samples that do not match our waste profile.

NOTE: By relinquishing samples to EMA, Inc., client agrees to pay for the services requested on this COC form and any additional analyses performed on this project. Payment for services is due within 30 days from date of invoice. Samples will be disposed of after 30 days unless otherwise noted. All work is subject to EMA's terms and conditions.

Round Two

EnviroMatrix Analytical, Inc.

14 September 2009

D-Max Engineering
Attn: Arsalan Dadkhah
7220 Trade Street, Suite 119
San Diego, California 92121

EMA Log #: 0909098

Project Name: Santee 2009 Dry Weather Round 2 200919W-5

Enclosed are the results of analyses for samples received by the laboratory on 09/03/09 14:57. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that this data is in compliance both technically and for completeness.

Dan Verdon
Laboratory Director

CA ELAP Certification #: 2564

4340 Viewridge Avenue, Suite A - San Diego, California 92123 - (858) 560-7717 - Fax (858) 560-7763
Analytical Chemistry Laboratory

Client Name: D-Max Engineering **EMA Log #: 0909098**
Project Name: Santee 2009 Dry Weather Round 2 200919W-5

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Site-J25c	0909098-01	Stormwater	09/03/09 11:10	09/03/09 14:57
Site-RCP1	0909098-02	Stormwater	09/03/09 12:00	09/03/09 14:57
Site-V40d	0909098-03	Stormwater	09/03/09 12:40	09/03/09 14:57

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 0909098**
Project Name: Santee 2009 Dry Weather Round 2 200919W-5

Metals (Dissolved) by EPA 200 Series Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Site-J25c (0909098-01) Stormwater	**Sampled: 09/03/09 11:10**		**Received: 09/03/09 14:57**						
Cadmium	ND	0.001	mg/l	1	9091046	09/10/09	09/10/09	EPA 200.8	
Copper	**0.021**	0.001	"	"	"	"	"	"	
Lead	ND	0.001	"	"	"	"	"	"	
Zinc	ND	0.020	"	"	"	"	"	"	
Site-RCP1 (0909098-02) Stormwater	**Sampled: 09/03/09 12:00**		**Received: 09/03/09 14:57**						
Cadmium	ND	0.001	mg/l	1	9091046	09/10/09	09/10/09	EPA 200.8	
Copper	**0.002**	0.001	"	"	"	"	"	"	
Lead	ND	0.001	"	"	"	"	"	"	
Zinc	ND	0.020	"	"	"	"	"	"	
Site-V40d (0909098-03) Stormwater	**Sampled: 09/03/09 12:40**		**Received: 09/03/09 14:57**						
Cadmium	ND	0.001	mg/l	1	9091046	09/10/09	09/10/09	EPA 200.8	
Copper	**0.005**	0.001	"	"	"	"	"	"	
Lead	ND	0.001	"	"	"	"	"	"	
Zinc	ND	0.020	"	"	"	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 0909098**
Project Name: Santee 2009 Dry Weather Round 2 200919W-5

Organophosphorus Pesticides by EPA Method 8141A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Site-J25c (0909098-01) Stormwater	**Sampled: 09/03/09 11:10**		**Received: 09/03/09 14:57**						**GC-05**
Chlorpyrifos	ND	0.05	ug/l	1	9090802	09/08/09	09/09/09	EPA 8141A	
Diazinon	ND	0.05	"	"	"	"	"	"	
Malathion	ND	0.05	"	"	"	"	"	"	
Surrogate: Triphenyl phosphate		*104 %*	*60-130*		"	"	"	"	
Surrogate: Tribuytlphosphate		*80 %*	*60-130*		"	"	"	"	
Site-RCP1 (0909098-02) Stormwater	**Sampled: 09/03/09 12:00**		**Received: 09/03/09 14:57**						**GC-05**
Chlorpyrifos	ND	0.05	ug/l	1	9090802	09/08/09	09/09/09	EPA 8141A	
Diazinon	ND	0.05	"	"	"	"	"	"	
Malathion	ND	0.05	"	"	"	"	"	"	
Surrogate: Triphenyl phosphate		*96 %*	*60-130*		"	"	"	"	
Surrogate: Tribuytlphosphate		*96 %*	*60-130*		"	"	"	"	
Site-V40d (0909098-03) Stormwater	**Sampled: 09/03/09 12:40**		**Received: 09/03/09 14:57**						**GC-05**
Chlorpyrifos	ND	0.05	ug/l	1	9090802	09/08/09	09/09/09	EPA 8141A	
Diazinon	ND	0.05	"	"	"	"	"	"	
Malathion	ND	0.05	"	"	"	"	"	"	
Surrogate: Triphenyl phosphate		*112 %*	*60-130*		"	"	"	"	
Surrogate: Tribuytlphosphate		*92 %*	*60-130*		"	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 0909098**
Project Name: Santee 2009 Dry Weather Round 2 200919W-5

Conventional Chemistry Parameters by Standard/EPA Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Site-J25c (0909098-01) Stormwater	**Sampled: 09/03/09 11:10**		**Received: 09/03/09 14:57**						
Hardness (Total)	**931**	100	mg CaCO3/L	10	9090834	09/08/09	09/10/09	EPA 200.7	
Oil & Grease	ND	5	mg/l	1	9090831	09/08/09	09/08/09	EPA 1664A	
Site-RCP1 (0909098-02) Stormwater	**Sampled: 09/03/09 12:00**		**Received: 09/03/09 14:57**						
Hardness (Total)	**553**	100	mg CaCO3/L	10	9090834	09/08/09	09/10/09	EPA 200.7	
Oil & Grease	ND	5	mg/l	1	9090831	09/08/09	09/08/09	EPA 1664A	
Site-V40d (0909098-03) Stormwater	**Sampled: 09/03/09 12:40**		**Received: 09/03/09 14:57**						
Hardness (Total)	**773**	100	mg CaCO3/L	10	9090834	09/08/09	09/10/09	EPA 200.7	
Oil & Grease	ND	5	mg/l	1	9090831	09/08/09	09/08/09	EPA 1664A	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 0909098**
Project Name: Santee 2009 Dry Weather Round 2 200919W-5

Microbiological Parameters by Standard Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Site-J25c (0909098-01) Stormwater	**Sampled: 09/03/09 11:10**		**Received: 09/03/09 14:57**						
Total Coliforms	**13000**	200	MPN/100 ml	100	9090417	09/03/09	09/07/09	SM 9221 B, E	
Fecal Coliforms	**13000**	200	"	"	"	"	09/06/09	"	
Enterococcus	**5000**	200	"	"	9090418	"	09/07/09	SM 9230 A, B	
Site-RCP1 (0909098-02) Stormwater	**Sampled: 09/03/09 12:00**		**Received: 09/03/09 14:57**						
Total Coliforms	**13000**	200	MPN/100 ml	100	9090417	09/03/09	09/07/09	SM 9221 B, E	
Fecal Coliforms	**8000**	200	"	"	"	"	09/06/09	"	
Enterococcus	**800**	20	"	10	9090418	"	09/07/09	SM 9230 A, B	
Site-V40d (0909098-03) Stormwater	**Sampled: 09/03/09 12:40**		**Received: 09/03/09 14:57**						
Total Coliforms	**2300**	200	MPN/100 ml	100	9090417	09/03/09	09/07/09	SM 9221 B, E	
Fecal Coliforms	**300**	20	"	10	"	"	09/06/09	"	
Enterococcus	**130**	20	"	"	9090418	"	09/07/09	SM 9230 A, B	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 0909098**
Project Name: Santee 2009 Dry Weather Round 2 200919W-5

Metals (Dissolved) by EPA 200 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9091046										
Blank (9091046-BLK1)				Prepared & Analyzed: 09/10/09						
Copper	ND	0.001	mg/l							
Cadmium	ND	0.001	"							
Zinc	ND	0.020	"							
Lead	ND	0.001	"							
LCS (9091046-BS1)				Prepared & Analyzed: 09/10/09						
Cadmium	0.051	0.001	mg/l	0.0500		103	85-115			
Copper	0.049	0.001	"	0.0500		97	85-115			
Lead	0.050	0.001	"	0.0500		100	75-125			
Zinc	0.051	0.020	"	0.0500		102	85-115			
LCS Dup (9091046-BSD1)				Prepared & Analyzed: 09/10/09						
Copper	0.049	0.001	mg/l	0.0500		97	85-115	0.2	20	
Lead	0.050	0.001	"	0.0500		101	75-125	0.2	20	
Zinc	0.051	0.020	"	0.0500		101	85-115	0.1	20	
Cadmium	0.051	0.001	"	0.0500		103	85-115	0.04	20	
Duplicate (9091046-DUP1)		**Source: 0909098-01**		Prepared & Analyzed: 09/10/09						
Zinc	0.003	0.020	mg/l		0.003			0.6	20	
Lead	ND	0.001	"		ND				20	
Cadmium	ND	0.001	"		ND				20	
Copper	0.021	0.001	"		0.021			0.7	20	
Matrix Spike (9091046-MS1)		**Source: 0909098-01**		Prepared & Analyzed: 09/10/09						
Zinc	0.044	0.020	mg/l	0.0500	0.003	81	70-130			
Lead	0.052	0.001	"	0.0500	ND	105	75-125			
Cadmium	0.042	0.001	"	0.0500	ND	85	70-130			
Copper	0.059	0.001	"	0.0500	0.021	76	70-130			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 0909098**
Project Name: Santee 2009 Dry Weather Round 2 200919W-5

Metals (Dissolved) by EPA 200 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9091046										
Matrix Spike Dup (9091046-MSD1)		**Source: 0909098-01**		Prepared & Analyzed: 09/10/09						
Copper	0.061	0.001	mg/l	0.0500	0.021	81	70-130	4	20	
Lead	0.048	0.001	"	0.0500	ND	96	75-125	8	20	
Zinc	0.045	0.020	"	0.0500	0.003	84	70-130	3	20	
Cadmium	0.044	0.001	"	0.0500	ND	88	70-130	4	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 0909098**
Project Name: Santee 2009 Dry Weather Round 2 200919W-5

Organophosphorus Pesticides by EPA Method 8141A - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9090802										
Blank (9090802-BLK1)				Prepared: 09/08/09 Analyzed: 09/09/09						
Chlorpyrifos	ND	0.05	ug/l							
Diazinon	ND	0.05	"							
Malathion	ND	0.05	"							
Surrogate: Triphenyl phosphate	*0.230*		*"*	*0.250*		*92*	*60-130*			
Surrogate: Tribuytlphosphate	*0.240*		*"*	*0.250*		*96*	*60-130*			
LCS (9090802-BS1)				Prepared: 09/08/09 Analyzed: 09/09/09						
Bolstar	0.38	0.10	ug/l	0.500		76	60-130			
Diazinon	0.39	0.05	"	0.500		78	60-130			
Ethoprop	0.41	0.05	"	0.500		82	60-130			
Mevinphos	0.42	0.25	"	0.500		84	60-130			
Methyl parathion	0.38	0.10	"	0.500		76	60-130			
Phorate	0.38	0.05	"	0.500		76	60-130			
Ronnel	0.41	0.25	"	0.500		82	60-130			
Trichlorinate	0.42	0.05	"	0.500		84	60-130			
Surrogate: Triphenyl phosphate	*0.280*		*"*	*0.250*		*112*	*60-130*			
Surrogate: Tribuytlphosphate	*0.280*		*"*	*0.250*		*112*	*60-130*			
LCS Dup (9090802-BSD1)				Prepared: 09/08/09 Analyzed: 09/09/09						
Bolstar	0.34	0.10	ug/l	0.500		68	60-130	11	30	
Diazinon	0.38	0.05	"	0.500		76	60-130	3	30	
Ethoprop	0.38	0.05	"	0.500		76	60-130	8	30	
Mevinphos	0.38	0.25	"	0.500		76	60-130	10	30	
Methyl parathion	0.36	0.10	"	0.500		72	60-130	5	30	
Phorate	0.35	0.05	"	0.500		70	60-130	8	30	
Ronnel	0.38	0.25	"	0.500		76	60-130	8	30	
Trichlorinate	0.38	0.05	"	0.500		76	60-130	10	30	
Surrogate: Triphenyl phosphate	*0.250*		*"*	*0.250*		*100*	*60-130*			
Surrogate: Tribuytlphosphate	*0.250*		*"*	*0.250*		*100*	*60-130*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 0909098**
Project Name: Santee 2009 Dry Weather Round 2 200919W-5

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9090831										
Blank (9090831-BLK1)				Prepared & Analyzed: 09/08/09						
Oil & Grease	ND	5	mg/l							
LCS (9090831-BS1)				Prepared & Analyzed: 09/08/09						
Oil & Grease	33	5	mg/l	40.0		83	78-114			
LCS Dup (9090831-BSD1)				Prepared & Analyzed: 09/08/09						
Oil & Grease	34	5	mg/l	40.0		84	78-114	0.9	20	
Matrix Spike (9090831-MS1)		**Source: 0909200-01**		Prepared & Analyzed: 09/09/09						
Oil & Grease	32	5	mg/l	40.0	ND	79	78-114			
Batch 9090834										
Blank (9090834-BLK1)				Prepared: 09/08/09 Analyzed: 09/10/09						
Hardness (Total)	ND	10	mg CaCO3/L							
Duplicate (9090834-DUP1)		**Source: 0908793-01**		Prepared: 09/08/09 Analyzed: 09/10/09						
Hardness (Total)	515	100	mg CaCO3/L		547			6	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Notes and Definitions

GC-05	Results confirmed by GCMS.
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CHAIN-OF-CUSTODY RECORD

– EnviroMatrix Analytical, Inc. —
4340 Viewridge Ave., Ste. A - San Diego, CA 92123 - Phone (858) 560-7717 - Fax (858) 560-7763

EMA LOG #: 0909098

Client: D-Max Engineering
Attn: Arsalan Dad Khah
Samplers(s): JL/MD
Address: 7220 Trade Street Suite 119
San Diego CA 92121
Phone: 858-586-6600 Fax:
Email:
Billing Address: same

Project ID: Santee 2009 Dry Weather Round 2
Project #: 2009 19W-5 PO #:

Requested Analysis

ID #	Client Sample ID	Sample Date	Sample Time	Sample Matrix	Container # / Type	Oil & Grease □ 413.1 □ 413.2 □ 1664	8015B (TPH) □ Gas □ Diesel □ Ext	624/8260 (VOC) Full BTXE MTBE Oxy Nap	625 / 8270 (SVOC) □ PAH only	608 / 8081 (Organochlorine Pesticides)	608 / 8082 (Polychlorinated Biphenyls)	8141 (Organophosphorus Pesticides)	TBT (Organotin Compounds)	□ pH □ EC □ TSS □TDS	□ Nitrate □ Nitrite □ TKN □NH3	CAC Title 22/CAM17 Metals □ TTLC □ STLC	TCLP (RCRA) □ Metals □ Organics	Cd Cr Cu (Pb) Ni Ag (Zn) Dissolved	Coliform, Total (MTF) Fecal (MTF)	Colilert, T+E.Coli □ P/A □ Enumeration	Enterococcus, MTF □ Enterolert	Heterotrophic Plate Count (HPC)	Total Hardness				
1	Site - J25L	9/3/09	11:10	SW	3P/2G	X						X						X	X		X	X					
2	Site - RCP1	↓	12:00	↓	↓	X						X						X	X		X	X					
3	Site - V40D	↓	12:40	↓	↓	X						X						X	X		X	X					
4																											
5																											
6																											
7																											
8																											
9																											
10																											

Matrix Codes: A = Air, DW = Drinking Water, GW = Groundwater, SW = Storm Water
WW = Wastewater, S = Soil, SED = Sediment, SD = Solid, T = Tissue, O = Oil, L = Liquid

Shipped By: □ Courier □ UPS □ FedEx □ USPS □ Client Drop Off □ Other

[1]**Turn-Around-Time:** □ Same Day □ 24 hr □ 48 hr □ 3 day □ 4 day ☒ 5 day □ STD (7 day)

[1]**Reporting Requirements:** □ Fax □ PDF □ Excel □ Geotracker/EDF □ Hard Copy □ EDT

[1]**Sample Disposal:** □ By Laboratory □ [2]Return to Client: P/U or Delivery □ Archive

Sample Integrity

Correct Containers: Yes No N/A	Containers Properly Preseved: Yes No N/A
Custody Seals Intact: Yes No N/A	Temp @ Receipt:_____
COC/Labels Agree: Yes No N/A	Sampled By: Client EMA Autosampler

RELINQUISHED BY		DATE/TIME	RECEIVED BY	
Signature		9/3/09	Signature	
Print	Joe Leonard	13'6	Print	Sean Flynn
Company:	D-Max		Company:	EMA
Signature		9/3/09	Signature	
Print	Sean Flynn	1332	Print	Lance Lucas
Company:	EMA		Company:	EMA
Signature			Signature	
Print			Print	
Company:			Company:	

Project/Sample Comments:

T=4.0 on ice

[1]Additional costs may apply, consult a project manager for details.
[2]EMA reserves the right to return any samples that do not match our waste profile.

White- EMA Canary - Accounting Pink - Client (w/report) Gold - Client (Relinquish)

NOTE: By relinquishing samples to EMA, Inc., client agrees to pay for the services requested on this COC form and any additional analyses performed on this project. Payment for services is due within 30 days from date of invoice. Samples will be disposed of after 30 days unless otherwise noted. All work is subject to EMA's terms and conditions.

EnviroMatrix Analytical, Inc.

14 September 2009

D-Max Engineering
Attn: Arsalan Dadkhah
7220 Trade Street, Suite 119
San Diego, California 92121

EMA Log #: 0909127

Project Name: Santee Dry Weather
Project Desc./#:200919W-5 Round 2

Enclosed are the results of analyses for samples received by the laboratory on 09/04/09 12:31. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that this data is in compliance both technically and for completeness.

Dan Verdon
Laboratory Director

CA ELAP Certification #: 2564

4340 Viewridge Avenue, Suite A - San Diego, California 92123 - (858) 560-7717 - Fax (858) 560-7763
Analytical Chemistry Laboratory

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 0909127

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Site-P20f	0909127-01	Stormwater	09/04/09 10:40	09/04/09 12:31
Site-J30d	0909127-02	Stormwater	09/04/09 11:30	09/04/09 12:31

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 0909127

Metals (Dissolved) by EPA 200 Series Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Site-P20f (0909127-01) Stormwater	**Sampled: 09/04/09 10:40**		**Received: 09/04/09 12:31**						
Cadmium	ND	0.001	mg/l	1	9091046	09/10/09	09/10/09	EPA 200.8	
Copper	**0.003**	0.001	"	"	"	"	"	"	
Lead	ND	0.001	"	"	"	"	"	"	
Zinc	ND	0.020	"	"	"	"	"	"	
Site-J30d (0909127-02) Stormwater	**Sampled: 09/04/09 11:30**		**Received: 09/04/09 12:31**						
Cadmium	ND	0.001	mg/l	1	9091046	09/10/09	09/10/09	EPA 200.8	
Copper	**0.004**	0.001	"	"	"	"	"	"	
Lead	ND	0.001	"	"	"	"	"	"	
Zinc	ND	0.020	"	"	"	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 0909127

Organophosphorus Pesticides by EPA Method 8141A

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Site-P20f (0909127-01) Stormwater	**Sampled: 09/04/09 10:40**		**Received: 09/04/09 12:31**						**GC-05**
Chlorpyrifos	ND	0.05	ug/l	1	9090802	09/08/09	09/09/09	EPA 8141A	
Diazinon	ND	0.05	"	"	"	"	"	"	
Malathion	ND	0.05	"	"	"	"	"	"	
Surrogate: Triphenyl phosphate		*100 %*	*60-130*		"	"	"	"	
Surrogate: Tribuytlphosphate		*100 %*	*60-130*		"	"	"	"	
Site-J30d (0909127-02) Stormwater	**Sampled: 09/04/09 11:30**		**Received: 09/04/09 12:31**						**GC-05**
Chlorpyrifos	ND	0.05	ug/l	1	9090802	09/08/09	09/09/09	EPA 8141A	
Diazinon	ND	0.05	"	"	"	"	"	"	
Malathion	ND	0.05	"	"	"	"	"	"	
Surrogate: Triphenyl phosphate		*112 %*	*60-130*		"	"	"	"	
Surrogate: Tribuytlphosphate		*92 %*	*60-130*		"	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 0909127

Conventional Chemistry Parameters by Standard/EPA Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Site-P20f (0909127-01) Stormwater	**Sampled: 09/04/09 10:40**		**Received: 09/04/09 12:31**						
Hardness (Total)	**534**	100	mg CaCO3/L	10	9090834	09/08/09	09/10/09	EPA 200.7	
Oil & Grease	ND	5	mg/l	1	9090831	09/08/09	09/08/09	EPA 1664A	
Site-J30d (0909127-02) Stormwater	**Sampled: 09/04/09 11:30**		**Received: 09/04/09 12:31**						
Hardness (Total)	**834**	100	mg CaCO3/L	10	9090834	09/08/09	09/10/09	EPA 200.7	
Oil & Grease	ND	5	mg/l	1	9090831	09/08/09	09/08/09	EPA 1664A	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 0909127

Microbiological Parameters by Standard Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Site-P20f (0909127-01) Stormwater	**Sampled: 09/04/09 10:40**		**Received: 09/04/09 12:31**						
Total Coliforms	**22000**	200	MPN/100 ml	100	9090944	09/04/09	09/08/09	SM 9221 B, E	
Fecal Coliforms	**17000**	200	"	"	"	"	09/07/09	"	
Enterococcus	**110**	20	"	10	9090945	"	09/08/09	SM 9230 A, B	
Site-J30d (0909127-02) Stormwater	**Sampled: 09/04/09 11:30**		**Received: 09/04/09 12:31**						
Total Coliforms	**300000**	2000	MPN/100 ml	1000	9090944	09/04/09	09/08/09	SM 9221 B, E	
Fecal Coliforms	**90000**	200	"	100	"	"	09/07/09	"	
Enterococcus	**30000**	200	"	"	9090945	"	09/08/09	SM 9230 A, B	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 0909127

Metals (Dissolved) by EPA 200 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9091046										
Blank (9091046-BLK1)				Prepared & Analyzed: 09/10/09						
Cadmium	ND	0.001	mg/l							
Copper	ND	0.001	"							
Zinc	ND	0.020	"							
Lead	ND	0.001	"							
LCS (9091046-BS1)				Prepared & Analyzed: 09/10/09						
Zinc	0.051	0.020	mg/l	0.0500		102	85-115			
Cadmium	0.051	0.001	"	0.0500		103	85-115			
Lead	0.050	0.001	"	0.0500		100	75-125			
Copper	0.049	0.001	"	0.0500		97	85-115			
LCS Dup (9091046-BSD1)				Prepared & Analyzed: 09/10/09						
Cadmium	0.051	0.001	mg/l	0.0500		103	85-115	0.04	20	
Copper	0.049	0.001	"	0.0500		97	85-115	0.2	20	
Lead	0.050	0.001	"	0.0500		101	75-125	0.2	20	
Zinc	0.051	0.020	"	0.0500		101	85-115	0.1	20	
Duplicate (9091046-DUP1)		**Source: 0909098-01**		Prepared & Analyzed: 09/10/09						
Copper	0.021	0.001	mg/l		0.021			0.7	20	
Cadmium	ND	0.001	"		ND				20	
Zinc	0.003	0.020	"		0.003			0.6	20	
Lead	ND	0.001	"		ND				20	
Matrix Spike (9091046-MS1)		**Source: 0909098-01**		Prepared & Analyzed: 09/10/09						
Cadmium	0.042	0.001	mg/l	0.0500	ND	85	70-130			
Copper	0.059	0.001	"	0.0500	0.021	76	70-130			
Lead	0.052	0.001	"	0.0500	ND	105	75-125			
Zinc	0.044	0.020	"	0.0500	0.003	81	70-130			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 0909127

Metals (Dissolved) by EPA 200 Series Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9091046										
Matrix Spike Dup (9091046-MSD1)		**Source: 0909098-01**		Prepared & Analyzed: 09/10/09						
Cadmium	0.044	0.001	mg/l	0.0500	ND	88	70-130	4	20	
Zinc	0.045	0.020	"	0.0500	0.003	84	70-130	3	20	
Lead	0.048	0.001	"	0.0500	ND	96	75-125	8	20	
Copper	0.061	0.001	"	0.0500	0.021	81	70-130	4	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 0909127

Organophosphorus Pesticides by EPA Method 8141A - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9090802										
Blank (9090802-BLK1)				Prepared: 09/08/09 Analyzed: 09/09/09						
Chlorpyrifos	ND	0.05	ug/l							
Diazinon	ND	0.05	"							
Malathion	ND	0.05	"							
Surrogate: Triphenyl phosphate	*0.230*		*"*	*0.250*		*92*	*60-130*			
Surrogate: Tribuytlphosphate	*0.240*		*"*	*0.250*		*96*	*60-130*			
LCS (9090802-BS1)				Prepared: 09/08/09 Analyzed: 09/09/09						
Bolstar	0.38	0.10	ug/l	0.500		76	60-130			
Diazinon	0.39	0.05	"	0.500		78	60-130			
Ethoprop	0.41	0.05	"	0.500		82	60-130			
Mevinphos	0.42	0.25	"	0.500		84	60-130			
Methyl parathion	0.38	0.10	"	0.500		76	60-130			
Phorate	0.38	0.05	"	0.500		76	60-130			
Ronnel	0.41	0.25	"	0.500		82	60-130			
Trichlorinate	0.42	0.05	"	0.500		84	60-130			
Surrogate: Triphenyl phosphate	*0.280*		*"*	*0.250*		*112*	*60-130*			
Surrogate: Tribuytlphosphate	*0.280*		*"*	*0.250*		*112*	*60-130*			
LCS Dup (9090802-BSD1)				Prepared: 09/08/09 Analyzed: 09/09/09						
Bolstar	0.34	0.10	ug/l	0.500		68	60-130	11	30	
Diazinon	0.38	0.05	"	0.500		76	60-130	3	30	
Ethoprop	0.38	0.05	"	0.500		76	60-130	8	30	
Mevinphos	0.38	0.25	"	0.500		76	60-130	10	30	
Methyl parathion	0.36	0.10	"	0.500		72	60-130	5	30	
Phorate	0.35	0.05	"	0.500		70	60-130	8	30	
Ronnel	0.38	0.25	"	0.500		76	60-130	8	30	
Trichlorinate	0.38	0.05	"	0.500		76	60-130	10	30	
Surrogate: Triphenyl phosphate	*0.250*		*"*	*0.250*		*100*	*60-130*			
Surrogate: Tribuytlphosphate	*0.250*		*"*	*0.250*		*100*	*60-130*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 0909127

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9090831										
Blank (9090831-BLK1)				Prepared & Analyzed: 09/08/09						
Oil & Grease	ND	5	mg/l							
LCS (9090831-BS1)				Prepared & Analyzed: 09/08/09						
Oil & Grease	33	5	mg/l	40.0		83	78-114			
LCS Dup (9090831-BSD1)				Prepared & Analyzed: 09/08/09						
Oil & Grease	34	5	mg/l	40.0		84	78-114	0.9	20	
Matrix Spike (9090831-MS1)		**Source: 0909200-01**		Prepared & Analyzed: 09/09/09						
Oil & Grease	32	5	mg/l	40.0	ND	79	78-114			
Batch 9090834										
Blank (9090834-BLK1)				Prepared: 09/08/09 Analyzed: 09/10/09						
Hardness (Total)	ND	10	mg CaCO3/L							
Duplicate (9090834-DUP1)		**Source: 0908793-01**		Prepared: 09/08/09 Analyzed: 09/10/09						
Hardness (Total)	515	100	mg CaCO3/L		547			6	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 0909127**
Project Name: Santee Dry Weather

Notes and Definitions

GC-05	Results confirmed by GCMS.
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CHAIN-OF-CUSTODY RECORD

EnviroMatrix Analytical, Inc.
4340 Viewridge Ave., Ste. A - San Diego, CA 92123 - Phone (858) 560-7717 - Fax (858) 560-7763

EMA LOG #: 0909177

Client: D-Max Engineering
Attn: Arsalan Dadkhah
Samplers(s): JL/MD
Address: 7220 Trade Street Suite 119
San Diego, CA 92121
Phone: 858-586-6600 Fax:
Email:
Billing Address: same
Project ID: Santee 2009 Dry Weather Round 2
Project #: 200919W-5 PO #:

SEP 4 '09 12:52

Requested Analysis

ID #	Client Sample ID	Sample Date	Sample Time	Sample Matrix	Container # / Type	Oil & Grease □ 413.1 □ 413.2 ☒ 1664	8015B (TPH) □ Gas □ Diesel □ Ext	624/8260 (VOC) Full BTXE MTBE Oxy Nap	625 / 8270 (SVOC) □ PAH only	608 / 8081 (Organochlorine Pesticides)	608 / 8082 (Polychlorinated Biphenyls)	8141 (Organophosphorus Pesticides)	TBT (Organotin Compounds)	□ pH □ EC □ TSS □ TDS	□ Nitrate □ Nitrite □ TKN □ NH3	CAC Title 22/CAM17 Metals □ TTLC □ STLC	TCLP (RCRA) □ Metals □ Organics	Cd Cr Cu Pb Ni Ag Zn ☑ Dissolved	Coliform, ☑ Total (MTF) ☑ Fecal (MTF)	Colilert, T+E.Coli □ P/A □ Enumeration	Enterococcus, ☑ MTF □ Enterolert	Heterotrophic Plate Count (HPC)	Total Hardness				
1	Site-P20f	9/4/09	10:40	SW	2G4P	X						X						X	X		X		X				
2	Site-J30d	↓	11:30	SW	2G4P	X						X						X	X		X		X				
3																											
4																											
5																											
6																											
7																											
8																											
9																											
10																											

Matrix Codes: A = Air, DW = Drinking Water, GW = Groundwater, SW = Storm Water
WW = Wastewater, S = Soil, SED = Sediment, SD = Solid, T = Tissue, O = Oil, L = Liquid

Shipped By: □ Courier □ UPS □ FedEx □ USPS □ Client Drop Off □ Other

[1]**Turn-Around-Time:** □ Same Day □ 24 hr □ 48 hr □ 3 day □ 4 day ☒ 5 day □ STD (7 day)

[1]**Reporting Requirements:** □ Fax □ PDF □ Excel □ Geotracker/EDF □ Hard Copy □ EDT

[1]**Sample Disposal:** □ By Laboratory □ [2]Return to Client: P/U or Delivery □ Archive

Sample Integrity

Correct Containers: Yes No N/A	Containers Properly Preseved: Yes No N/A
Custody Seals Intact: Yes No N/A	Temp @ Receipt:_____
COC/Labels Agree: Yes No N/A	Sampled By: Client EMA Autosampler

RELINQUISHED BY	DATE/TIME	RECEIVED BY
Signature [signature]	9/4/09 12:45	Signature [signature]
Print Joe Leonard		Print Louis Luiza
Company: D-Max		Company: EMA
Signature [signature]	9-4-09 12:31	Signature
Print Louis Luiza		Print
Company: EMA		Company:
Signature		Signature
Print		Print
Company:		Company:

Project/Sample Comments: 3°C on Ice

[1]Additional costs may apply, consult a project manager for details.

White- EMA Canary - Accounting Pink - Client (w/report) Gold - Client (Relinquish)

[2]EMA reserves the right to return any samples that do not match our waste profile.

NOTE: By relinquishing samples to EMA, Inc., client agrees to pay for the services requested on this COC form and any additional analyses performed on this project. Payment for services is due within 30 days from date of invoice. Samples will be disposed of after 30 days unless otherwise noted. All work is subject to EMA's terms and conditions.

EnviroMatrix Analytical, Inc.

21 September 2009

D-Max Engineering
Attn: Arsalan Dadkhah
7220 Trade Street, Suite 119
San Diego, California 92121

EMA Log #: 0909460

Project Name: Santee Dry Weather
Project Desc./#: 200919W-6 Round 2 Follow-Up

Enclosed are the results of analyses for samples received by the laboratory on 09/15/09 16:16. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that this data is in compliance both technically and for completeness.

Dan Verdon
Laboratory Director

CA ELAP Certification #: 2564

4340 Viewridge Avenue, Suite A - San Diego, California 92123 - (858) 560-7717 - Fax (858) 560-7763
Analytical Chemistry Laboratory

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 0909460

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Site-J30d	0909460-01	Stormwater	09/15/09 14:45	09/15/09 16:16
Site-J30d-1	0909460-02	Stormwater	09/15/09 15:05	09/15/09 16:16
Site-J30d-2	0909460-03	Stormwater	09/15/09 15:20	09/15/09 16:16
Site-J30d-3	0909460-04	Stormwater	09/15/09 15:35	09/15/09 16:16

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 0909460

Microbiological Parameters by Standard Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Date Prepared / Date Analyzed	Method	Notes
Site-J30d (0909460-01) Stormwater	**Sampled: 09/15/09 14:45**		**Received: 09/15/09 16:16**					
Total Coliforms	**173000**	100	MPN/100 ml	100	9091627	09/15/09 17:30 09/16/09 17:35	SM9223	
E. Coli	**1020**	10	"	10	"	09/15/09 17:30 09/16/09 17:35	"	
Enterococcus	**1414**	10	"	"	9091628	09/15/09 17:30 09/16/09 17:35	Idexx	
Site-J30d-1 (0909460-02) Stormwater	**Sampled: 09/15/09 15:05**		**Received: 09/15/09 16:16**					
Total Coliforms	**24200**	10	MPN/100 ml	10	9091627	09/15/09 17:30 09/16/09 17:35	SM9223	
E. Coli	**355**	10	"	"	"	09/15/09 17:30 09/16/09 17:35	"	
Enterococcus	**404**	10	"	"	9091628	09/15/09 17:30 09/16/09 17:35	Idexx	
Site-J30d-2 (0909460-03) Stormwater	**Sampled: 09/15/09 15:20**		**Received: 09/15/09 16:16**					
Total Coliforms	**15500**	10	MPN/100 ml	10	9091627	09/15/09 17:30 09/16/09 17:35	SM9223	
E. Coli	**30**	10	"	"	"	09/15/09 17:30 09/16/09 17:35	"	
Enterococcus	**355**	10	"	"	9091628	09/15/09 17:30 09/16/09 17:35	Idexx	
Site-J30d-3 (0909460-04) Stormwater	**Sampled: 09/15/09 15:35**		**Received: 09/15/09 16:16**					
Total Coliforms	**54800**	100	MPN/100 ml	100	9091627	09/15/09 17:30 09/16/09 17:35	SM9223	
E. Coli	**464**	10	"	10	"	09/15/09 17:30 09/16/09 17:35	"	
Enterococcus	**785**	10	"	"	9091628	09/15/09 17:30 09/16/09 17:35	Idexx	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 0909460**
Project Name: Santee Dry Weather

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
RPD	Relative Percent Difference

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CHAIN-OF-CUSTODY RECORD

– EnviroMatrix Analytical, Inc. ——

4340 Viewridge Ave., Ste. A - San Diego, CA 92123 - Phone (858) 560-7717 - Fax (858) 560-7763

EMA LOG #: 0909460

Client: D-Max Engineering

Attn: Arsalan Badkhah

Samplers(s): JL/MD

Address: 7220 Trade Street Suite 119
San Diego, CA 92121

Phone: 858-586-6600 Fax:

Email:

Billing Address: Same

Project ID: Santee DW 2009 Round 2 Follow-Up

Project #: 200919W-6 PO #:

Requested Analysis

ID #	Client Sample ID	Sample Date	Sample Time	Sample Matrix	Container # / Type
1	Site-J30d	9/15	14:45	SW	2P
2	Site-J30d-1		15:05		
3	Site-J30d-2		15:20		
4	Site-J30d-3		15:35		
5					
6					
7					
8					
9					
10					

Oil & Grease □ 413.1 □ 413.2 □ 1664 | 8015B (TPH) □ Gas □ Diesel □ Ext | 624/8260 (VOC) Full BTXE MTBE Oxy Nap | 625 / 8270 (SVOC) □ PAH only | 608 / 8081 (Organochlorine Pesticides) | 608 / 8082 (Polychlorinated Biphenyls) | 8141 (Organophosphorus Pesticides) | TBT (Organotin Compounds) | □ pH □ EC □ TSS □TDS | □ Nitrate □ Nitrite □ TKN □NH3 | CAC Title 22/CAM17 Metals □ TTLC □ STLC | TCLP (RCRA) □ Metals □ Organics | Cd Cr Cu Pb Ni Ag Zn □ Dissolved | Coliform, □ Total (MTF) □ Fecal (MTF) | Colilert, T+E.Coli □ P/A ✓Enumeration | Enterococcus, □ MTF ✓Enterolert | Heterotrophic Plate Count (HPC) | SEP 15 '09 16:20

Matrix Codes: A = Air, DW = Drinking Water, GW = Groundwater, SW = Storm Water
WW = Wastewater, S = Soil, SED = Sediment, SD = Solid, T = Tissue, O = Oil, L = Liquid

Shipped By: □ Courier □ UPS □ FedEx □ USPS □ Client Drop Off □ Other

[1]**Turn-Around-Time:** □ Same Day □ 24 hr □ 48 hr □ 3 day □ 4 day ☒ 5 day □ STD (7 day)

[1]**Reporting Requirements:** □ Fax □ PDF □ Excel □ Geotracker/EDF □ Hard Copy □ EDT

[1]**Sample Disposal:** □ By Laboratory □ [2]Return to Client: P/U or Delivery □ Archive

Sample Integrity

Correct Containers: Yes No N/A	Containers Properly Preseved: Yes No N/A
Custody Seals Intact: Yes No N/A	Temp @ Receipt:_____
COC/Labels Agree: Yes No N/A	Sampled By: Client EMA Autosampler

	RELINQUISHED BY	DATE/TIME	RECEIVED BY
Signature	Joe Leonard	9/15/09	Sean Flagg
Print	Joe Leonard	16:16	Sean Flagg
Company:	D-Max		EMA
Signature			
Print			
Company:			
Signature			
Print			
Company:			

Project/Sample Comments:

T=6.0 on ice

[1]Additional costs may apply, consult a project manager for details.

White- EMA Canary - Accounting Pink - Client (w/report) Gold - Client (Relinquish)

[2]EMA reserves the right to return any samples that do not match our waste profile.

NOTE: By relinquishing samples to EMA, Inc., client agrees to pay for the services requested on this COC form and any additional analyses performed on this project. Payment for services is due within 30 days from date of invoice. Samples will be disposed of after 30 days unless otherwise noted. All work is subject to EMA's terms and conditions.

EnviroMatrix Analytical, Inc.

25 September 2009

D-Max Engineering
Attn: Arsalan Dadkhah
7220 Trade Street, Suite 119
San Diego, California 92121

EMA Log #: 0909596

Project Name: Santee Dry Weather
Project Desc./#: 200919W-6 Round 2 Follow Up

Enclosed are the results of analyses for samples received by the laboratory on 09/21/09 14:46. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that this data is in compliance both technically and for completeness.

Dan Verdon
Laboratory Director

CA ELAP Certification #: 2564

4340 Viewridge Avenue, Suite A - San Diego, California 92123 - (858) 560-7717 - Fax (858) 560-7763
Analytical Chemistry Laboratory

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 0909596

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Site-J30d-4	0909596-01	Stormwater	09/21/09 11:30	09/21/09 14:46
Site-J30d-5	0909596-02	Stormwater	09/21/09 12:05	09/21/09 14:46
Site-J30d	0909596-03	Stormwater	09/21/09 14:00	09/21/09 14:46

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 0909596

Microbiological Parameters by Standard Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Date Prepared / Date Analyzed	Method	Notes
Site-J30d-4 (0909596-01) Stormwater	**Sampled: 09/21/09 11:30**		**Received: 09/21/09 14:46**					
Total Coliforms	**2420000**	1000	MPN/100 ml	1000	9092224	09/21/09 15:45 09/22/09 15:50	SM9223	
E. Coli	**443**	10	"	10	"	09/21/09 15:45 09/22/09 15:50	"	
Site-J30d-5 (0909596-02) Stormwater	**Sampled: 09/21/09 12:05**		**Received: 09/21/09 14:46**					
Total Coliforms	**51700**	100	MPN/100 ml	100	9092224	09/21/09 15:45 09/22/09 15:50	SM9223	
E. Coli	**75**	10	"	10	"	09/21/09 15:45 09/22/09 15:50	"	
Site-J30d (0909596-03) Stormwater	**Sampled: 09/21/09 14:00**		**Received: 09/21/09 14:46**					
Total Coliforms	**242000**	100	MPN/100 ml	100	9092224	09/21/09 15:45 09/22/09 15:50	SM9223	
E. Coli	**2140**	10	"	10	"	09/21/09 15:45 09/22/09 15:50	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 0909596

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
RPD	Relative Percent Difference

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CHAIN-OF-CUSTODY RECORD

– EnviroMatrix Analytical, Inc. ——

4340 Viewridge Ave., Ste. A - San Diego, CA 92123 - Phone (858) 560-7717 - Fax (858) 560-7763

EMA LOG #: 0909596

Client: D-Max Engineering

Attn: Attn: Arselan Dadkhah

Samplers(s): SL/MD

Address: 7220 Trade Street Suite 119
San Diego CA 92121

Phone: 858-586-7600 Fax:

Email:

Billing Address: same

Project ID: Santee 2009 DW Round 2 Follow Up

Project #: 200919W-6 PO #:

ID #	Client Sample ID	Sample Date	Sample Time	Sample Matrix	Container # / Type
1	Site-J30d-4	9.21	11:30	SW	1P
2	Site-J30d-5	↓	12:05	↓	↓
3	Site-J30d	↓	14:00	↓	↓
4					
5					
6					
7					
8					
9					
10					

Requested Analysis

Oil & Grease □ 413.1 □ 413.2 □ 1664	8015B (TPH) □ Gas □ Diesel □ Ext	624/8260 (VOC) Full BTXE MTBE Oxy Nap	625 / 8270 (SVOC) □ PAH only	608 / 8081 (Organochlorine Pesticides)	608 / 8082 (Polychlorinated Biphenyls)	8141 (Organophosphorus Pesticides)	TBT (Organotin Compounds)	□ pH □ EC □ TSS □TDS	□ Nitrate □ Nitrite □ TKN □NH3	CAC Title 22/CAM17 Metals □ TTLC □ STLC	TCLP (RCRA) □ Metals □ Organics	Cd Cr Cu Pb Ni Ag Zn □ Dissolved	Coliform, □ Total (MTF) □ Fecal (MTF)	Colilert, T+E.Coli □ P/A ✓ Enumeration	Enterococcus, □ MTF □ Enterolert	Heterotrophic Plate Count (HPC)	SEP 21 '09 14:72
														X			
														X			
														X			

Matrix Codes: A = Air, DW = Drinking Water, GW = Groundwater, SW = Storm Water
WW = Wastewater, S = Soil, SED = Sediment, SD = Solid, T = Tissue, O = Oil, L = Liquid

Shipped By: □ Courier □ UPS □ FedEx □ USPS □ Client Drop Off □ Other

[1]**Turn-Around-Time:** □ Same Day □ 24 hr □ 48 hr □ 3 day □ 4 day ☒ 5 day □ STD (7 day)

[1]**Reporting Requirements:** □ Fax □ PDF □ Excel □ Geotracker/EDF □ Hard Copy □ EDT

[1]**Sample Disposal:** □ By Laboratory □ [2]Return to Client: P/U or Delivery □ Archive

Sample Integrity

Correct Containers: Yes No N/A	Containers Properly Preseved: Yes No N/A
Custody Seals Intact: Yes No N/A	Temp @ Receipt:_____
COC/Labels Agree: Yes No N/A	Sampled By: Client EMA Autosampler

RELINQUISHED BY	DATE/TIME	RECEIVED BY
Signature		Signature
Print: Joe Leonard	9/21/09 14:46	Print: Sean Flores
Company: D-Max		Company: EMA Inc.
Signature		Signature
Print		Print
Company:		Company:
Signature		Signature
Print		Print
Company:		Company:

Project/Sample Comments:

T=4° on ice

[1]Additional costs may apply, consult a project manager for details.

White- EMA Canary - Accounting Pink - Client (w/report) Gold - Client (Relinquish)

[2]EMA reserves the right to return any samples that do not match our waste profile.

NOTE: By relinquishing samples to EMA, Inc., client agrees to pay for the services requested on this COC form and any additional analyses performed on this project. Payment for services is due within 30 days from date of invoice. Samples will be disposed of after 30 days unless otherwise noted. All work is subject to EMA's terms and conditions.

EnviroMatrix Analytical, Inc.

29 September 2009

D-Max Engineering
Attn: Arsalan Dadkhah
7220 Trade Street, Suite 119
San Diego, California 92121

EMA Log #: 0909676

Project Name: Santee Dry Weather
Project Desc./#: 200919W-6 Round 2 Follow Up

Enclosed are the results of analyses for samples received by the laboratory on 09/23/09 16:28. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that this data is in compliance both technically and for completeness.

Dan Verdon
Laboratory Director

CA ELAP Certification #: 2564

4340 Viewridge Avenue, Suite A - San Diego, California 92123 - (858) 560-7717 - Fax (858) 560-7763
Analytical Chemistry Laboratory

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 0909676

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Site-J30d-6	0909676-01	Stormwater	09/23/09 15:10	09/23/09 16:28
Site-J30d-7	0909676-02	Stormwater	09/23/09 15:20	09/23/09 16:28
Site-J30d-8	0909676-03	Stormwater	09/23/09 15:30	09/23/09 16:28
Site-J30d-4-2	0909676-04	Stormwater	09/23/09 15:40	09/23/09 16:28
Site-J30d	0909676-05	Stormwater	09/23/09 16:00	09/23/09 16:28

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 0909676

Microbiological Parameters by Standard Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Date Prepared / Date Analyzed	Method	Notes
Site-J30d-6 (0909676-01) Stormwater	**Sampled: 09/23/09 15:10**		**Received: 09/23/09 16:28**					
Total Coliforms	**41100**	100	MPN/100 ml	100	9092424	09/23/09 17:32 09/24/09 17:32	SM9223	
E. Coli	**738**	10	"	10	"	09/23/09 17:32 09/24/09 17:32	"	
Site-J30d-7 (0909676-02) Stormwater	**Sampled: 09/23/09 15:20**		**Received: 09/23/09 16:28**					
Total Coliforms	**12000**	10	MPN/100 ml	10	9092424	09/23/09 17:32 09/24/09 17:32	SM9223	
E. Coli	**83**	10	"	"	"	09/23/09 17:32 09/24/09 17:32	"	
Site-J30d-8 (0909676-03) Stormwater	**Sampled: 09/23/09 15:30**		**Received: 09/23/09 16:28**					
Total Coliforms	**4570**	10	MPN/100 ml	10	9092424	09/23/09 17:32 09/24/09 17:32	SM9223	
E. Coli	**10**	10	"	"	"	09/23/09 17:32 09/24/09 17:32	"	
Site-J30d-4-2 (0909676-04) Stormwater	**Sampled: 09/23/09 15:40**		**Received: 09/23/09 16:28**					
Total Coliforms	**34500**	100	MPN/100 ml	100	9092424	09/23/09 17:32 09/24/09 17:32	SM9223	
E. Coli	ND	10	"	10	"	09/23/09 17:32 09/24/09 17:32	"	
Site-J30d (0909676-05) Stormwater	**Sampled: 09/23/09 16:00**		**Received: 09/23/09 16:28**					
Total Coliforms	**242000**	100	MPN/100 ml	100	9092424	09/23/09 17:32 09/24/09 17:32	SM9223	
E. Coli	**369**	10	"	10	"	09/23/09 17:32 09/24/09 17:32	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 0909676

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
RPD	Relative Percent Difference

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CHAIN-OF-CUSTODY RECORD

– EnviroMatrix Analytical, Inc. –
4340 Viewridge Ave., Ste. A - San Diego, CA 92123 - Phone (858) 560-7717 - Fax (858) 560-7763

EMA LOG #: 0909676

Client: D-Max Engineering
Attn: Arsalan Dadkhah
Samplers(s): JL/MD
Address: 7220 Trade Street Suite 119
San Diego, CA 92121
Phone: 858-586-6600 Fax:
Email:
Billing Address: same

Project ID: Santee DW 2009 Round 2 Follow Up
Project #: 200919W-6 PO #:

Requested Analysis

ID #	Client Sample ID	Sample Date	Sample Time	Sample Matrix	Container # / Type
1	Site-J30d-6	9/23	15:10	SW	1P
2	Site-J30d-7		15:20		
3	Site-J30d-8		15:30		
4	Site-J30d-4-2		15:40		
5	Site-J30d		16:00		
6					
7					
8					
9					
10					

Requested analysis columns: Oil & Grease □ 413.1 □ 413.2 □ 1664; 8015B (TPH) □ Gas □ Diesel □ Ext; 624/8260 (VOC) Full BTXE MTBE Oxy Nap; 625 / 8270 (SVOC) □ PAH only; 608 / 8081 (Organochlorine Pesticides); 608 / 8082 (Polychlorinated Biphenyls); 8141 (Organophosphorus Pesticides); TBT (Organotin Compounds); □ pH □ EC □ TSS □ TDS; □ Nitrate □ Nitrite □ TKN □ NH3; CAC Title 22/CAM17 Metals □ TTLC □ STLC; TCLP (RCRA) □ Metals □ Organics; Cd Cr Cu Pb Ni Ag Zn □ Dissolved; Coliform, □ Total (MTF) □ Fecal (MTF); Colilert, T+E.Coli □ P/A ✓Enumeration; Enterococcus, □ MTF □ Enterolert; Heterotrophic Plate Count (HPC)

Sample 1 Colilert: X. Sample 2 Colilert: X. Sample 3 Colilert: X. Sample 4 Colilert: X. Sample 5 Colilert: X.

SEP 23 '09 16:49

Matrix Codes: A = Air, DW = Drinking Water, GW = Groundwater, SW = Storm Water
WW = Wastewater, S = Soil, SED = Sediment, SD = Solid, T = Tissue, O = Oil, L = Liquid

Shipped By: □ Courier □ UPS □ FedEx □ USPS □ Client Drop Off □ Other

[1]**Turn-Around-Time:** □ Same Day □ 24 hr □ 48 hr □ 3 day □ 4 day ☒ 5 day □ STD (7 day)

[1]**Reporting Requirements:** □ Fax □ PDF □ Excel □ Geotracker/EDF □ Hard Copy □ EDT

[1]**Sample Disposal:** □ By Laboratory □ [2]Return to Client: P/U or Delivery □ Archive

Sample Integrity

Correct Containers: Yes No N/A
Custody Seals Intact: Yes No N/A
COC/Labels Agree: Yes No N/A
Containers Properly Preseved: Yes No N/A
Temp @ Receipt:_____
Sampled By: Client EMA Autosampler

	RELINQUISHED BY	DATE/TIME	RECEIVED BY
Signature		9/23/09	
Print	Joe Leonard	16 28	Sam Flores
Company:	D-Max		EMA Inc
Signature			
Print			
Company:			
Signature			
Print			
Company:			

Project/Sample Comments:

T=7.0°C

[1]Additional costs may apply, consult a project manager for details.

White- EMA Canary - Accounting Pink - Client (w/report) Gold - Client (Relinquish)

[2]EMA reserves the right to return any samples that do not match our waste profile.

NOTE: By relinquishing samples to EMA, Inc., client agrees to pay for the services requested on this COC form and any additional analyses performed on this project. Payment for services is due within 30 days from date of invoice. Samples will be disposed of after 30 days unless otherwise noted. All work is subject to EMA's terms and conditions.

Appendix D

Field Data and Trash Assessment Sheets

Round One

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

✓

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	ASc	**Latitude**	32.84081	**Watershed**	**Hydrologic Unit**	907
Location	Carlton Oaks Drive, across from Cadorette Avenue, next to 8335	**Longitude**	-117.02160		**Hydrologic Area**	907.1
		TB Page	1230, H6		**Hydrologic Subarea** (Optional)	907.12
Date	05/26/2009	**Time**	1145	**Observer**	MD/AK	**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☒ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☐ None	☒ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☒ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other

Biology ☐ None ☒ Insects ☐ Algae ☐ Fish ☒ Snails ☐ Mussels/ Barnacles ☐ Insect/ Algae ☐ Insect/ Snail ☐ Other

Water Flow ☐ Flowing ☒ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☒ Yes ☐ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 66, 67 (2)

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	21.4	NH_3-N (mg/L)	0.183	NO_3 (mg/L)	5.055	Ortho-PO_4 (mg/L)	1.447
pH (pH units)	8.2	TURB (NTU)	5.83	NO_3-N (mg/L)	4.829	Ortho-PO_4-P (mg/L)	0.472
COND (mS/cm)	2.14	MBAS (mg/L)	0.5	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2009 Trash Assessment Form

SITE ID: ASC **DATE:** 08/26/2009

LOCATION: ~~ASC~~ Carlton Oaks Drive, across from Cadorette Ave., next to 8335 **TIME:** 11:45

OBSERVER: MV/AR

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): Optimal

ESTIMATED AREA OF ASSESSMENT L x W (FT): 30x30

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ **MS4** ☐ **RECEIVING WATER** ☐ **BOTH**	
☐ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☒ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ **Potential Threat to Human Health**	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ **Potential Threat to Aquatic Health**	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries, or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	E5a		**Latitude**	32.84854	**Watershed**	**Hydrologic Unit**	907
Location	Santee Recreation Lakes, West of the Southern Lake, east of Sycamore Creek		**Longitude**	-117.00723		**Hydrologic Area**	907.1
			TB Page	1231, A5		**Hydrologic Subarea** (Optional)	907.12
Date	05/20/2009	**Time** 1600	**Observer**	MD/AK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only): ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%): ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ~~☐ Open~~ ☒ None

Conveyance (Check one only): ☐ Manhole ☐ Catch Basin ☒ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☐ Sunny ☒ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☐ None	☐ Trash	☐ Bubbles/Foam	☒ Sheen - Dust	☐ Fecal Matter	~~☒ Other Leaves~~
Deposits	☐ None	☒ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☒ Normal	☐ Excessive		☐ Other
Biology	☐ None	☒ Insects	~~☒ Algae~~ ☐ Fish	☐ Snails	☐ Mussels/ Barnacles ☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☒ Yes ☐ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 29, 30

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	22.1	NH_3-N (mg/L)	1.590	NO_3 (mg/L)	37.08	Ortho-PO_4 (mg/L)	3.022
pH (pH units)	7.0	TURB (NTU)	7.72	NO_3-N (mg/L)	8.38	Ortho-PO_4-P (mg/L)	0.985
COND (mS/cm)	5.12	MBAS (mg/L)	0.5	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	2	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2009 Trash Assessment Form

SITE ID: ESa (Santee Recreation Lakes, West) **DATE:** 05/20/2009

LOCATION: at the Southern lake, east of Sycamore Creek **TIME:** 1600

OBSERVER: MD / AK

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): Marginal

ESTIMATED AREA OF ASSESSMENT L x W (FT): 30 x 15

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ **MS4** ☐ **RECEIVING WATER** ☐ **BOTH**	
☐ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☒ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☒ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☒ **Potential Threat to Human Health**	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ **Potential Threat to Aquatic Health**	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries, or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☐ Field Screening ☒ Confirmation For NH_3-N ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	E5g		**Latitude**	32.84854	**Watershed**	**Hydrologic Unit**	907
Location	Santee Recreation Lakes, west of the Southern Lake, East of Sycamore Creek		**Longitude**	-117.00723		**Hydrologic Area**	907.1
			TB Page	1231, A5		**Hydrologic Subarea** (Optional)	907.12
Date	05/21/2009	**Time** 1345	**Observer**	MD/AK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☒ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☐ None	☐ Trash	☐ Bubbles/Foam	☒ Sheen (Dust)	☐ Fecal Matter	☒ ~~Other leaves~~
Deposits	☐ None	☐ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☒ Normal	☐ Excessive		☐ Other
Biology	☐ None	☒ Insects ☐ Algae ☐ Fish ☐ Snails		☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☒ Yes ☐ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 43,44

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	22.1	NH_3-N (mg/L)	2.924	NO_3 (mg/L)	NA	Ortho-PO_4 (mg/L)	NA
pH (pH units)	7.3	TURB (NTU)	NA	NO_3-N (mg/L)	NA	Ortho-PO_4-P (mg/L)	NA
COND (mS/cm)	2.80	MBAS (mg/L)	NA	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	1	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☐ Field Screening ☒ Confirmation For 2nd for Ammonia ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	ES9		**Latitude**	32.84894	**Watershed**	**Hydrologic Unit**	907
Location	Santee Recreation Lakes, West of the Southern Lake, East of Sycamore Creek		**Longitude**	-117.00723		**Hydrologic Area**	907.1
			TB Page	1231, A5		**Hydrologic Subarea** (Optional)	907.12
Date	05/22/2009	**Time** 1440	**Observer**	MD/AK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☒ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☐ Sunny ☒ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☐ None	☐ Trash	☐ Bubbles/Foam	☒ Sheen (Dust)	☐ Fecal Matter	~~☒ Other (leaves)~~
Deposits	☐ None	☒ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☒ Normal	☐ Excessive		☐ Other
Biology	☐ None	☒ Insects ☐ Algae ☐ Fish ☐ Snails		☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☒ Yes ☐ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☐ Yes ☒ No **Photo #** 57

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	22.4	NH_3-N (mg/L)	>3	NO_3 (mg/L)	NA	Ortho-PO_4 (mg/L)	NA
pH (pH units)	7.3	TURB (NTU)	NA	NO_3-N (mg/L)	NA	Ortho-PO_4 -P (mg/L)	NA
COND (mS/cm)	3.02	MBAS (mg/L)	NA	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	<1	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☐ Field Screening ☐ Confirmation For _____ ☒ IC/ID Follow-Up For Ammonia

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	ESg-1	**Latitude**	32.84887	**Watershed**	**Hydrologic Unit**	907
Location	Santee Recreational Lakes, West side of entrance road, ~100 feet South of entrance toll booth in grassy area	**Longitude**	-117.004166		**Hydrologic Area**	907.1
		TB Page	1231-A5		**Hydrologic Subarea** (Optional)	907.12
Date	05/22/2009 **Time** 15:30	**Observer**	MD/AK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only) ☒ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☐ Sunny ☒ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☒ None	☐ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☒ None	☐ Insects ☐ Algae	☐ Fish ☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 57, 58

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	NA	NH_3-N (mg/L)	0.319	NO_3 (mg/L)	NA	Ortho-PO_4 (mg/L)	NA
pH (pH units)	NA	TURB (NTU)	NA	NO_3-N (mg/L)	NA	Ortho-PO_4 -P (mg/L)	NA
COND (mS/cm)	NA	MBAS (mg/L)	NA	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	<1	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	G30c		**Latitude**	32.84501	**Watershed**	**Hydrologic Unit**	907
Location	North of San Diego River, Silver Creek Dr. South of River Trail Place		**Longitude**	-116.99122		**Hydrologic Area**	907.1
			TB Page	1231-C5		**Hydrologic Subarea** (Optional)	907.12
Date	05/20/2009	**Time** 11:45	**Observer**	MD/AK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☒ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☒ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☐ Sunny ☒ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☒ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☒ Normal	☐ Excessive		☐ Other
Biology	☐ None	☒ Insects	☒ Algae	☐ Fish	☒ Snails	☐ Mussels/ Barnacles ☐ Insect/ Algae ☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☒ Yes ☐ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 23, 24

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	29.0	NH_3-N (mg/L)	0.199	NO_3 (mg/L)	15.05	Ortho-PO_4 (mg/L)	0.245
pH (pH units)	8.9	TURB (NTU)	3.49	NO_3-N (mg/L)	3.40	Ortho-PO_4-P (mg/L)	0.080
COND (mS/cm)	3.02	MBAS (mg/L)	0.25	DO (mg/L)	8.33		

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	1	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2009 Trash Assessment Form

SITE ID: G30c **DATE:** 05/20/2009

LOCATION: North of San Diego River, Silver Creek Dr., South of River Trail Pl. **TIME:** 11:45

OBSERVER: MD/AK

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): Optimal

ESTIMATED AREA OF ASSESSMENT L x W (FT): 20 x 10

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ **MS4** ☐ **RECEIVING WATER** ☐ **BOTH**	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ **Potential Threat to Human Health**	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ **Potential Threat to Aquatic Health**	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries, or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	H5e	**Latitude**	32.84561	**Watershed**	**Hydrologic Unit**	907
Location	North of San Diego River, Silver Creek Dr., South of River Trail Place	**Longitude**	-116.98769		**Hydrologic Area**	907.1
		TB Page	1231-C5		**Hydrologic Subarea** (Optional)	907.12
Date	05/20/2009	**Time**	12:50 pm	**Observer**	MD/AK	**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☒ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☐ Sunny ☒ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** ____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor ☒ None ☐ Musty ☐ Rotten Eggs ☐ Chemical ☐ Sewage ☐ Other

Color ☒ None ☐ Yellow ☐ Brown ☐ White ☐ Gray ☐ Other

Clarity ☒ Clear ☐ Slightly Cloudy ☐ Opaque ☐ Other

Floatables ☒ None ☐ Trash ☐ Bubbles/Foam ☐ Sheen ☐ Fecal Matter ☐ Other

Deposits ☐ None ☐ Sediment/Gravel ☒ Fine Particulates ☐ Stains ☐ Oily Deposits ☐ Other

Vegetation ☒ None ☐ Limited ☐ Normal ☐ Excessive ☐ Other

Biology ☐ None ☒ Insects ☒ Algae ☐ Fish ☒ Snails ☐ Mussels/ Barnacles ☐ Insect/ Algae ☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☒ Yes ☐ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 27, 28

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	25.3	NH_3-N (mg/L)	0.049	NO_3 (mg/L)	4.848	Ortho-PO_4 (mg/L)	0.275
pH (pH units)	8.3	TURB (NTU)	0.92	NO_3-N (mg/L)	1.096	Ortho-PO_4-P (mg/L)	0.090
COND (mS/cm)	1.52	MBAS (mg/L)	0.25	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	1	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2009 Trash Assessment Form

SITE ID: H5e **DATE:** 05/20/2009

LOCATION: North of San Diego River, Silver Creek Dr. / South of River Trail Pl. **TIME:** 1450

OBSERVER: MD/AK

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): Marginal

ESTIMATED AREA OF ASSESSMENT L x W (FT): 30 x 7

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ **MS4** ☐ **RECEIVING WATER** ☐ **BOTH**	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ **Potential Threat to Human Health**	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ **Potential Threat to Aquatic Health**	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries, or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	J25c	**Latitude**	32.85813	**Watershed**	**Hydrologic Unit**	907
Location	West end of Caretree Dr. at the west side of channel	**Longitude**	-116.97601		**Hydrologic Area**	907.1
		TB Page	1231, D4		**Hydrologic Subarea** (Optional)	907.12
Date	05/21	**Time**	1215	**Observer**	MD/AK	**Discharge Area** (Optional)	

Land Use (Primary) (Check one only): ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%): ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only): ☐ Manhole ☐ Catch Basin ☒ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** ____ ft

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☐ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☐ None	☒ Insects	☒ Algae	☐ Fish	☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail	☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☒ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 38, 39

Field Screening Samples Collected? ☐ Yes ☐ No

Water Temp (°C)	20.8	NH_3-N (mg/L)	0.220	NO_2 (mg/L)	30.89	Ortho-PO_4 (mg/L)	0.134
pH (pH units)	8.2	TURB (NTU)	0.78	NO_3-N (mg/L)	6.98	Ortho-PO_4-P (mg/L)	0.044
COND (mS/cm)	4.39	MBAS (mg/L)	0.75	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	2	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2009 Trash Assessment Form

SITE ID: J25c West end of Carefree Dr, at the **DATE:** 05/21/2009

LOCATION: West side of channel **TIME:** 1215

OBSERVER: MD/AK

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): Marginal

ESTIMATED AREA OF ASSESSMENT L x W (FT): 8 x 4

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ **MS4** ☐ **RECEIVING WATER** ☐ **BOTH**	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ **Potential Threat to Human Health**	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ **Potential Threat to Aquatic Health**	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries, or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	J25c2		**Latitude**	32.85639	**Watershed**	**Hydrologic Unit**	907
Location	Conejo rd, at the end of Country Scenes		**Longitude**	-116.97598		**Hydrologic Area**	907.1
			TB Page	1231, D4		**Hydrologic Subarea** (Optional)	907.12
Date	05/19/2009	**Time** 3:25	**Observer**	MD/AK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☒ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☐ None	☒ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☐ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☐ None	☒ Insects	☒ Algae	☐ Fish	☒ Snails	☐ Mussels/ Barnacles ☐ Insect/ Algae ☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 16,17

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	25.2	NH_3-N (mg/L)	0.257	NO_3 (mg/L)	26.25	Ortho-PO_4 (mg/L)	0.301
pH (pH units)	8.0	TURB (NTU)	2.26	NO_3-N (mg/L)	5.93	Ortho-PO_4 -P (mg/L)	0.098
COND (mS/cm)	4.47	MBAS (mg/L)	0.5	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	2	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2009 Trash Assessment Form

SITE ID: J25c2 **DATE:** 05/19/2009

LOCATION: Conejo road, at the end of Country Acres **TIME:** 3:25pm

OBSERVER: MD/AK

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): ~~Optimal~~ Suboptimal

ESTIMATED AREA OF ASSESSMENT L x W (FT): 5x3

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ **MS4** ☐ **RECEIVING WATER** ☐ **BOTH**	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ **Potential Threat to Human Health**	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ **Potential Threat to Aquatic Health**	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries, or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

✓

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	J30d	**Latitude**	32.89485	**Watershed**	**Hydrologic Unit**	907
Location	Woodglen Vista channel, South of Mast Boulevard	**Longitude**	-116.97588		**Hydrologic Area**	907.1
		TB Page	1231 - D4		**Hydrologic Subarea** (Optional)	907.12
Date	05/22/2009	**Time**	0950	**Observer**	MD/AK	**Discharge Area** (Optional)	

Land Use (Primary) (Check one only): ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%): ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only): ☐ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☒ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☒ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☒ Normal	☐ Excessive		☐ Other
Biology	☐ None	☐ Insects	☒ Algae ☒ Fish	☐ Snails	☐ Mussels/ Barnacles ☐ Insect/ Algae ☐ Insect/ Snail	☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 2 47, 48

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	20.9	NH_3-N (mg/L)	0.233	NO_3 (mg/L)	21.63	Ortho-PO_4 (mg/L)	0.032
pH (pH units)	8.2	TURB (NTU)	0.01	NO_3-N (mg/L)	4.89	Ortho-PO_4-P (mg/L)	0.010
COND (mS/cm)	2.68	MBAS (mg/L)	0.25	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width	30	in
Depth	0.25	in
Velocity	10/10	ft/sec
Flow	23	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2009 Trash Assessment Form

SITE ID: J30d **DATE:** 05/22/2009

LOCATION: Woodglen Vista Channel, South Side of Mast Blvd. **TIME:** 9:50

OBSERVER: MD/AK

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): Suboptimal

ESTIMATED AREA OF ASSESSMENT L x W (FT): 30 x 15

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ **MS4** ☐ **RECEIVING WATER** ☐ **BOTH**	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ **Potential Threat to Human Health**	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ **Potential Threat to Aquatic Health**	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries, or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	K15j2		**Latitude**	32.86596	**Watershed**	**Hydrologic Unit**	907
Location	Woodglen Vista Drive, east of Woodrose Ave. South side of the park		**Longitude**	-116.97418		**Hydrologic Area**	907.1
			TB Page	1231, D2		**Hydrologic Subarea** (Optional)	907.12
Date	05/19/2009	**Time** 2:10 pm	**Observer**	MD / AK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☒ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☐ Outlet ☒ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor ☒ None ☐ Musty ☐ Rotten Eggs ☐ Chemical ☐ Sewage ☐ Other

Color ☒ None ☐ Yellow ☐ Brown ☐ White ☐ Gray ☐ Other

Clarity ☒ Clear ☐ Slightly Cloudy ☐ Opaque ☐ Other

Floatables ☒ None ☐ Trash ☐ Bubbles/Foam ☐ Sheen ☐ Fecal Matter ☒ ~~Other leaf litter~~

Deposits ☐ None ☐ Sediment/Gravel ☒ Fine Particulates ☐ Stains ☐ Oily Deposits ☐ Other

Vegetation ☒ None ☐ Limited ☐ Normal ☐ Excessive ☐ Other

Biology ☐ None ☒ Insects ☒ Algae ☐ Fish ☐ Snails ☐ Mussels/ Barnacles ☐ Insect/ Algae ☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 14, 15

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	28.6	NH_3-N (mg/L)	0.281	NO_3 (mg/L)	22.83	Ortho-PO_4 (mg/L)	0.061
pH (pH units)	8.1	TURB (NTU)	1.8	NO_3-N (mg/L)	5.16	Ortho-PO_4 -P (mg/L)	0.02
COND (mS/cm)	2.44	MBAS (mg/L)	0.38	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	2	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2009 Trash Assessment Form

SITE ID: K15j2 **DATE:** 05/19/2009

LOCATION: Woodglen Vista Drive east of Woodrose Ave, south side of the park **TIME:** 2:10 pm

OBSERVER: MD/AK

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): Suboptimal

ESTIMATED AREA OF ASSESSMENT L x W (FT): 20 x 8

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ **MS4** ☐ **RECEIVING WATER** ☐ **BOTH**	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ **Potential Threat to Human Health**	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ **Potential Threat to Aquatic Health**	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries, or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

✓

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	0406		**Latitude**	32.84851	**Watershed**	**Hydrologic Unit**	907
Location	Abraham Way, South of San Diego River		**Longitude**	-116.96392		**Hydrologic Area**	907.1
			TB Page	1231-F5		**Hydrologic Subarea** (Optional)	907.12
Date	05/20/2009	**Time** 9:20	**Observer**	MD/AK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☒ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☒ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☒ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☐ Sunny ☒ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor ☒ None ☐ Musty ☐ Rotten Eggs ☐ Chemical ☐ Sewage ☐ Other

Color ☐ None ☒ Yellow ☐ Brown ☐ White ☐ Gray ☐ Other

Clarity ☒ Clear ☐ Slightly Cloudy ☐ Opaque ☐ Other

Floatables ☒ None ☐ Trash ☐ Bubbles/Foam ☐ Sheen ☐ Fecal Matter ☐ Other

Deposits ☐ None ☒ Sediment/Gravel ☒ Fine Particulates ☐ Stains ☐ Oily Deposits ☐ Other

Vegetation ☐ None ☐ Limited ☒ Normal ☐ Excessive ☐ Other

Biology ☐ None ~~☒ Insects~~ ~~☒ Algae~~ ☐ Fish ☒ Snails ☐ Mussels/ Barnacles ☒ Insect/ Algae ☐ Insect/ Snail ☐ Other

Water Flow ☐ Flowing ☒ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☒ Yes ☐ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 18-20

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	19.1	NH_3-N (mg/L)	0.069	NO_3 (mg/L)	9.99	Ortho-PO_4 (mg/L)	1.487
pH (pH units)	8.1	TURB (NTU)	9.17	NO_3-N (mg/L)	2.26	Ortho-PO_4-P (mg/L)	0.485
COND (mS/cm)	1.51	MBAS (mg/L)	0.25	DO (mg/L)	5.36		

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	ponded	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2009 Trash Assessment Form

SITE ID: 040b DATE: 05/20/2009

LOCATION: Abraham Way, South of San Diego River TIME: 9:20

OBSERVER: MD/AK

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): Optimal

ESTIMATED AREA OF ASSESSMENT L x W (FT): 20 x 10

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ Optimal	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
~~☒ Suboptimal~~	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ Marginal	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ Submarginal	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ Poor	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ Potential Threat to Human Health	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ Potential Threat to Aquatic Health	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries, or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☐ Field Screening ☒ Confirmation For Bacteria ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	040b	**Latitude**	32.84851	**Watershed**	**Hydrologic Unit**	907
Location	Abraham Way, South of San Diego River	**Longitude**	-116.96397		**Hydrologic Area**	907.1
		TB Page	1231-F5		**Hydrologic Subarea** (Optional)	907.12
Date	06/02/2009	**Time**	9:50	**Observer**	MD/AK	**Discharge Area** (Optional)	

Land Use (Primary) (Check one only): ☐ Residential ☒ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%): ☐ Residential ☐ Commercial ☒ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only): ☐ Manhole ☐ Catch Basin ☒ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☐ Sunny ☒ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☒ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☒ Normal	☐ Excessive		☐ Other
Biology	☐ None	☐ Insects ☐ Algae	☐ Fish ☐ Snails	☐ Mussels/ Barnacles	☒ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☐ Flowing ☒ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☒ Yes ☐ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ~~☒ No~~ **Photo #** ~~22, 23~~ 72, 73

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	19.1	NH_3-N (mg/L)	NA	NO_3 (mg/L)	NA	Ortho-PO_4 (mg/L)	NA
pH (pH units)	8.2	TURB (NTU)	NA	NO_3-N (mg/L)	NA	Ortho-PO_4-P (mg/L)	NA
COND (mS/cm)	1.68	MBAS (mg/L)	NA	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	ponded	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: Small amount of trash in area. Surrounding location

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	P15b		Latitude	32.83704	Watershed	Hydrologic Unit	907
Location	Northeast of Magnolia Avenue and Rockvill Street intersection		Longitude	-116.96633		Hydrologic Area	907.1
			TB Page	1231 E6		Hydrologic Subarea (Optional)	907.12
Date	05/21/2009	Time 1515	Observer	MD/AK		Discharge Area (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☒ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☒ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather	☒ Sunny	☐ Partly Cloudy	☐ Overcast	☐ Fog		
Tide	☒ N/A	☐ Low	☐ Incoming	☐ High	☐ Outgoing	Tide Height: _____ ft.
Last Rain	☒ > 72 hours	☐ < 72 hours				
Rainfall	☒ None	☐ < 0.1"	☐ > 0.1"			

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☒ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	~~☒ None~~	☐ Insects	☐ Algae	☐ Fish	☐ Snails	☐ Mussels/ Barnacles ☐ Insect/ Algae ☐ Insect/ Snail ☒ Other cockroach

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other _____

Photo Taken ☒ Yes ☐ No Photo # 3 40 - 42

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	~~25.1~~ 24.6	NH_3-N (mg/L)	0.130	NO_3 (mg/L)	30.97	Ortho-PO_4 (mg/L)	0.386
pH (pH units)	7.87	TURB (NTU)	0.79	NO_3-N (mg/L)	7.00	Ortho-PO_4-P (mg/L)	0.126
COND (mS/cm)	1.62	MBAS (mg/L)	0.13	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	4	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2009 Trash Assessment Form

SITE ID: P15b **DATE:** 05/21/2009

LOCATION: Northeast of Magnolia Avenue and Rockvill street intersection **TIME:** 1515

OBSERVER: MD/AK

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): Optimal

ESTIMATED AREA OF ASSESSMENT L x W (FT): 8 x 5

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ **MS4** ☐ **RECEIVING WATER** ☐ **BOTH**	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ **Potential Threat to Human Health**	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ **Potential Threat to Aquatic Health**	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries, or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	P20f		**Latitude**	32.84674	**Watershed**	**Hydrologic Unit**	907
Location	Magnolia Ave, East of Chubb Lane		**Longitude**	-116.96920		**Hydrologic Area**	907.1
			TB Page	1231-E5		**Hydrologic Subarea** (Optional)	907.12
Date	05/21/2009	**Time** 1140	**Observer**	MD/AK		**Discharge Area** (Optional)	907.12

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☒ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☐ Outlet ☒ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** ____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor ☒ None ☐ Musty ☐ Rotten Eggs ☐ Chemical ☐ Sewage ☐ Other

Color ☒ None ☐ Yellow ☐ Brown ☐ White ☐ Gray ☐ Other

Clarity ☒ Clear ☐ Slightly Cloudy ☐ Opaque ☐ Other

Floatables ☒ None ☐ Trash ☐ Bubbles/Foam ☐ Sheen ☐ Fecal Matter ☐ Other

Deposits ☐ None ☐ Sediment/Gravel ☒ Fine Particulates ☐ Stains ☐ Oily Deposits ☐ Other

Vegetation ☒ None ☐ Limited ☐ Nominal ☐ Excessive ☐ Other

Biology ☐ None ☐ Insects ☒ Algae ☐ Fish ☒ Snails ☐ Mussels/ Barnacles ☐ Insect/ Algae ☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☒ Yes ☐ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 36,37

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	23.8	NH_3-N (mg/L)	0.232	NO_3 (mg/L)	11.47	Ortho-PO_4 (mg/L)	0.149
pH (pH units)	8.8	TURB (NTU)	10.3	NO_3-N (mg/L)	2.59	Ortho-PO_4-P (mg/L)	0.049
COND (mS/cm)	1.36	MBAS (mg/L)	0.13	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width	20	in
Depth	0.25	in
Velocity	10/10	ft/sec
Flow	15.5	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2009 Trash Assessment Form

SITE ID: P20f **DATE:** 05/21/2009

LOCATION: Magnolia Ave, East of Chubb Lane **TIME:** 1140

OBSERVER: MD / AK

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): Optimal

ESTIMATED AREA OF ASSESSMENT L x W (FT): 20 x 12

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ **MS4** ☐ **RECEIVING WATER** ☐ **BOTH**	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ **Potential Threat to Human Health**	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ **Potential Threat to Aquatic Health**	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries, or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	Q5l		**Latitude**	32.83121	**Watershed**	**Hydrologic Unit**	907
Location	Northside of Prospect Ave, East of Railroad ave.		**Longitude**	-116.97090		**Hydrologic Area**	907.1
			TB Page	1231, E7		**Hydrologic Subarea** (Optional)	907.13
Date	05/21/09	**Time** 0925	**Observer**	MD/AK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☒ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☒ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☒ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☐ Sunny ☒ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor ☒ None ☐ Musty ☐ Rotten Eggs ☐ Chemical ☐ Sewage ☐ Other

Color ☐ None ☒ Yellow ☐ Brown ☐ White ☐ Gray ☐ Other

Clarity ☐ Clear ☒ Slightly Cloudy ☐ Opaque ☐ Other

Floatables ☒ None ☐ Trash ☐ Bubbles/Foam ☐ Sheen ☐ Fecal Matter ☐ Other

Deposits ☐ None ☒ Sediment/Gravel ☒ Fine Particulates ☐ Stains ☐ Oily Deposits ☐ Other

Vegetation ☒ None ☐ Limited ☐ Normal ☐ Excessive ☐ Other

Biology ☒ None ☐ Insects ☐ Algae ☐ Fish ☐ Snails ☐ Mussels/ Barnacles ☐ Insect/ Algae ☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☒ ~~Ponded~~ ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☒ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 31-32

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	19.8	NH_3-N (mg/L)	0.568	NO_3 (mg/L)	28.17	Ortho-PO_4 (mg/L)	2.214
pH (pH units)	8.2	TURB (NTU)	49.91	NO_3-N (mg/L)	6.37	Ortho-PO_4 -P (mg/L)	0.722
COND (mS/cm)	1.84	MBAS (mg/L)	0.5	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	< 1	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2009 Trash Assessment Form

SITE ID: Q52 **DATE:** 05/21/2009

LOCATION: North side of Prospect Ave, East of Railroad Ave. **TIME:** 0925

OBSERVER: MD/AK

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): Optimal

ESTIMATED AREA OF ASSESSMENT L x W (FT): 6 x 4

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ **MS4** ☐ **RECEIVING WATER** ☐ **BOTH**	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ **Potential Threat to Human Health**	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ **Potential Threat to Aquatic Health**	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries, or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	RCP1	**Latitude**	32.84949	**Watershed**	**Hydrologic Unit**	907
Location	North bank of the San Diego River, in the RCP brick factory south of an open field with radio antennae	**Longitude**	-116.96666		**Hydrologic Area**	907.1
		TB Page	1231-E5		**Hydrologic Subarea** (Optional)	907.12
Date	05/21/2009	**Time**	1045	**Observer**	MD/AK	**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☒ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☐ Sunny ☒ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☐ None	☐ Trash	☒ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☒ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☒ Normal	☐ Excessive		☐ Other
Biology	☐ None	☒ Insects ☐ Algae ☐ Fish ☐ Snails		☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☒ Yes ☐ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 3 33-35

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	21.5	NH_3-N (mg/L)	0.059	NO_3 (mg/L)	4.141	Ortho-PO_4 (mg/L)	0.29
pH (pH units)	8.3	TURB (NTU)	0.64	NO_3-N (mg/L)	9.27	Ortho-PO_4-P (mg/L)	0.09
COND (mS/cm)	1.60	MBAS (mg/L)	0.25	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	5	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2009 Trash Assessment Form

SITE ID: RCP1 **DATE:** 05/21/2009

LOCATION: North bank of the San Diego River in the RCP brick factory, South of an open field with radio antennae **TIME:** 1045

OBSERVER: MD / AK

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): Suboptimal

ESTIMATED AREA OF ASSESSMENT L x W (FT): 15 x 6

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ **MS4** ☐ **RECEIVING WATER** ☐ **BOTH**	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ **Potential Threat to Human Health**	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ **Potential Threat to Aquatic Health**	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries, or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

✓

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	RCP3	Latitude	32.84982	Watershed	Hydrologic Unit	907
Location	North bank of the San Diego River, in the RCP brick factory, across from the Southeast corner of the Antennae field	Longitude	-116.96342		Hydrologic Area	907.1
		TB Page	1231. E5		Hydrologic Subarea (Optional)	907.12
Date	05/26/2009	Time	10:25	Observer	MD/AK	Discharge Area (Optional)	

Land Use (Primary) (Check one only): ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%): ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only): ☐ Manhole ☐ Catch Basin ☒ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather	☒ Sunny	☐ Partly Cloudy	☐ Overcast	☐ Fog		
Tide	☒ N/A	☐ Low	☐ Incoming	☐ High	☐ Outgoing	Tide Height: ____ ft.
Last Rain	☒ > 72 hours	☐ < 72 hours				
Rainfall	☒ None	☐ < 0.1"	☐ > 0.1"			

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☒ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☒ Normal	☐ Excessive		☐ Other
Biology	☐ None	☒ Insects	☒ Algae	☐ Fish	☒ Snails	☐ Mussels/ Barnacles ☐ Insect/ Algae ☐ Insect/ Snail ☐ Other

Water Flow: ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☒ Yes ☐ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken: ☒ Yes ☐ No Photo # 3 6163

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	21.8	NH_3-N (mg/L)	0.172	NO_3 (mg/L)	3.828	Ortho-PO_4 (mg/L)	0.316
pH (pH units)	8.2	TURB (NTU)	0.42	NO_3-N (mg/L)	0.865	Ortho-PO_4-P (mg/L)	0.103
COND (mS/cm)	1.84	MBAS (mg/L)	0.25	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width	10	in
Depth	0.25	in
Velocity	10/10	ft/sec
Flow	7.7	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2009 Trash Assessment Form

SITE ID: RCP3 **DATE:** 05/26/2009

LOCATION: North bank of the San Diego River, in the RCP brick factory, across from the southeast corner of Antenna Field **TIME:** 10:25

OBSERVER: MD/AK

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): ~~Suboptimal~~ N/A

ESTIMATED AREA OF ASSESSMENT L x W (FT): 25 x 15

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ **MS4** ☐ **RECEIVING WATER** ☐ **BOTH**	
☐ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☒ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ **Potential Threat to Human Health**	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ **Potential Threat to Aquatic Health**	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries, or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	S15h	**Latitude**	32.84324	Watershed	**Hydrologic Unit**	907
Location	Mission Gorge Road, Town Center Pkwy, North of Walmart West of trail	**Longitude**	-116.98969		**Hydrologic Area**	907.1
		TB Page	1231, C6		**Hydrologic Subarea** (Optional)	907.12
Date	05/26/2009 **Time** 1410	**Observer**	MD/AK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☒ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☒ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather	☒ Sunny	☐ Partly Cloudy	☐ Overcast	☐ Fog	
Tide	☒ N/A	☐ Low	☐ Incoming	☐ High	☐ Outgoing Tide Height: _____ ft.
Last Rain	☒ > 72 hours	☐ < 72 hours			
Rainfall	☒ None	☐ < 0.1"	☐ > 0.1"		

RUNOFF CHARACTERISTICS

Odor	☐ None	☒ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☐ None	☒ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☐ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☐ None	☒ Insects	☐ Algae	☐ Fish	☐ Snails	☐ Mussels/ Barnacles ☐ Insect/ Algae ☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☒ Yes ☐ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 2 70, 71

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	24.6	NH_3-N (mg/L)	0.194	NO_3 (mg/L)	5.823	Ortho-PO_4 (mg/L)	1.363
pH (pH units)	8.7	TURB (NTU)	15.00	NO_3-N (mg/L)	1.316	Ortho-PO_4-P (mg/L)	0.444
COND (mS/cm)	1.64	MBAS (mg/L)	0.38	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	<1	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2009 Trash Assessment Form

SITE ID: S15h **DATE:** 05/26/2009

LOCATION: Mission Gorge rd. Town Center Pkwy, North of Walmart, west of trail **TIME:** 1410

OBSERVER: MD/AK

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): Suboptimal

ESTIMATED AREA OF ASSESSMENT L x W (FT): 25 x 10

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ **MS4** ☐ **RECEIVING WATER** ☐ **BOTH**	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ **Potential Threat to Human Health**	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ **Potential Threat to Aquatic Health**	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries, or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	S5c		**Latitude**	32.84371	**Watershed**	**Hydrologic Unit**	907
Location	Mission Gorge Rd, Town Center Parkway, West of Michael's		**Longitude**	-116.98798		**Hydrologic Area**	907.1
			TB Page	1231, C6		**Hydrologic Subarea** (Optional)	907.12
Date	05/20/2009	**Time** 12:45	**Observer**	MD/AK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☒ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☒ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather	☐ Sunny	☒ Partly Cloudy	☐ Overcast	☐ Fog		
Tide	☒ N/A	☐ Low	☐ Incoming	☐ High	☐ Outgoing	**Tide Height:** _____ ft.
Last Rain	☒ > 72 hours	☐ < 72 hours				
Rainfall	☒ None	☐ < 0.1"	☐ > 0.1"			

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☐ None	☐ Trash	☒ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☐ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☒ Normal	☐ Excessive		☐ Other
Biology	☐ None	☒ Insects	☒ Algae	☐ Fish	☐ Snails	☐ Mussels/ Barnacles ☐ Insect/ Algae ☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☒ Yes ☐ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 25, 26

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	~~25.~~ 24.7	NH_3-N (mg/L)	0.038	NO_3 (mg/L)	1.449	Ortho-PO_4 (mg/L)	0.132
pH (pH units)	8.1	TURB (NTU)	2.59	NO_3-N (mg/L)	0.327	Ortho-PO_4 -P (mg/L)	0.043
COND (mS/cm)	1.02	MBAS (mg/L)	0.13	DO (mg/L)	6.53		

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	2	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2009 Trash Assessment Form

SITE ID: S5c Mission Gorge Rd., Town **DATE:** 05/20/2009

LOCATION: Center Parkway, West of Michael's **TIME:** 12:45

OBSERVER: MD/AK

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): Submarginal

ESTIMATED AREA OF ASSESSMENT L x W (FT): 20 x 6

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ **MS4** ☐ **RECEIVING WATER** ☐ **BOTH**	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ **Potential Threat to Human Health**	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ **Potential Threat to Aquatic Health**	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries, or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	T5e	**Latitude**	32.83892	**Watershed**	**Hydrologic Unit**	907
Location	Prospect Avenue, across the street from Argent street, south of Forester creek	**Longitude**	-116.98960		**Hydrologic Area**	907.1
		TB Page	1231,07		**Hydrologic Subarea** (Optional)	907.12
Date	05/26/2009 **Time** 1300	**Observer**	MD/AK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☒ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☒ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☒ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor ☒ None ☐ Musty ☐ Rotten Eggs ☐ Chemical ☐ Sewage ☐ Other

Color ☒ None ☐ Yellow ☐ Brown ☐ White ☐ Gray ☐ Other

Clarity ☒ Clear ☐ Slightly Cloudy ☐ Opaque ☐ Other

Floatables ☒ None ☐ Trash ☐ Bubbles/Foam ☐ Sheen ☐ Fecal Matter ☐ Other

Deposits ☐ None ☒ Sediment/~~Gravel~~ ☐ Fine Particulates ☐ Stains ☐ Oily Deposits ☐ Other

Vegetation ☒ None ☐ Limited ☐ Normal ☐ Excessive ☐ Other

Biology ☐ None ☒ Insects ☐ Algae ☐ Fish ☐ Snails ☐ Mussels/ Barnacles ☐ Insect/ Algae ☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☒ Yes ☐ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 69

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	24.4	NH_3-N (mg/L)	0.146	NO_3 (mg/L)	1.585	Ortho-PO_4 (mg/L)	1.195
pH (pH units)	8.2	TURB (NTU)	5.89	NO_3-N (mg/L)	0.358	Ortho-PO_4-P (mg/L)	0.390
COND (mS/cm)	1.05	MBAS (mg/L)	0.25	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☐ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	<1	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2009 Trash Assessment Form

SITE ID: T5e **DATE:** 05/26/2009

LOCATION: Prospect Avenue, across the Street from Argent st., South of Forester creek **TIME:** 1300

OBSERVER: MDIAK

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): N/A

ESTIMATED AREA OF ASSESSMENT L x W (FT): 12 * 6

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ **MS4** ☐ **RECEIVING WATER** ☐ **BOTH**	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ **Potential Threat to Human Health**	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ **Potential Threat to Aquatic Health**	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries, or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	U10a	**Latitude**	32.83745	**Watershed**	**Hydrologic Unit**	907
Location	South bank of Forester Creek ~200 yards south of the Mission Gorge rd. and Carlton Hill intersection	**Longitude**	-116.99586		**Hydrologic Area**	907.1
		TB Page	1231, B6		**Hydrologic Subarea** (Optional)	907.12
Date	05/22/2009	**Time**	0910	**Observer**	MD/AK	**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☒ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☒ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☒ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather	☒ Sunny	☐ Partly Cloudy	☐ Overcast	☐ Fog		
Tide	☒ N/A	☐ Low	☐ Incoming	☐ High	☐ Outgoing	**Tide Height:** _____ ft.
Last Rain	☒ > 72 hours	☐ < 72 hours				
Rainfall	☒ None	☐ < 0.1"	☐ > 0.1"			

RUNOFF CHARACTERISTICS

Odor	☐ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☒ Other N/A
Color	☐ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☒ Other N/A
Clarity	☐ Clear		☐ Slightly Cloudy	☐ Opaque		☒ Other N/A
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☒ Other N/A
Deposits	☐ None	☒ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☒ Normal	☐ Excessive		☐ Other
Biology	☒ None	☐ Insects ☐ Algae	☐ Fish ☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☒ Yes ☐ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 45, 46

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)	NS	NH_3-N (mg/L)	NS	NO_3 (mg/L)	NS	Ortho-PO_4 (mg/L)	NS
pH (pH units)	NS	TURB (NTU)	NS	NO_3-N (mg/L)	NS	Ortho-PO_4-P (mg/L)	NS
COND (mS/cm)	NS	MBAS (mg/L)	NS	DO (mg/L)	NS		

Analytical Lab Samples Collected? ☐ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	0 cfs	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2009 Trash Assessment Form

SITE ID: U10a DATE: 05/22/2009

LOCATION: South bank of Forester creek, ~200 yards South of Mission Gorge & Carlton Hill intersection TIME: 0910

OBSERVER: MD/AK

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): N/A

ESTIMATED AREA OF ASSESSMENT L x W (FT): 20 x 5

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ **Potential Threat to Human Health**	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ **Potential Threat to Aquatic Health**	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries, or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	V402		**Latitude**	32.83375	**Watershed**	**Hydrologic Unit**	907
Location	Prospect Avenue, East of Fanita Drive		**Longitude**	-117.00005		**Hydrologic Area**	907.1
			TB Page	1231, B7		**Hydrologic Subarea** (Optional)	907.12
Date	05/27/2009	**Time** 1110	**Observer**	MD/AL		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☐ Outlet ☒ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing Tide Height: _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☐ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☐ None	☒ Insects	☒ Algae ☐ Fish	☒ Snails	☐ Mussels/ Barnacles ☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 49, 50 (2)

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	27.9	NH_3-N (mg/L)	0.138	NO_3 (mg/L)	0.626	Ortho-PO_4 (mg/L)	0.011
pH (pH units)	8.16	TURB (NTU)	1.68	NO_3-N (mg/L)	0.141	Ortho-PO_4-P (mg/L)	0.004
COND (mS/cm)	4.19	MBAS (mg/L)	0.5	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width	43	in
Depth	0.25	in
Velocity	10/10	ft/sec
Flow	33.5	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2009 Trash Assessment Form

SITE ID: V40d **DATE:** 05/22/2009

LOCATION: Prospect Avenue, East of Fanita Drive **TIME:** 11:10

OBSERVER: MD/AK

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): Suboptimal

ESTIMATED AREA OF ASSESSMENT L x W (FT): 40 x 10

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ **MS4** ☐ **RECEIVING WATER** ☐ **BOTH**	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ **Potential Threat to Human Health**	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ **Potential Threat to Aquatic Health**	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries, or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

✓

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	VH5k		**Latitude**	32.83878	**Watershed**	**Hydrologic Unit**	907
Location	North of Mission Gorge Rd, East of Freeway 125		**Longitude**	-117.00268		**Hydrologic Area**	907.1
			TB Page	1231, A6		**Hydrologic Subarea** (Optional)	907.12
Date	05/22/2009	**Time** 12:00	**Observer**	MD/AK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☒ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☒ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☒ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☒ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☒ Normal	☐ Excessive		☐ Other
Biology	☐ None	☒ Insects ☒ Algae	☐ Fish	☒ Snails	☐ Mussels/ Barnacles ☐ Insect/ Algae	☐ Insect/ Snail ☒ Other crayfish

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☒ Yes ☐ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 51-56

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	21.6	NH_3-N (mg/L)	0.152	NO_3 (mg/L)	~~7.5~~ 0.617	Ortho-PO_4 (mg/L)	0.058
pH (pH units)	7.8	TURB (NTU)	0.01	NO_3-N (mg/L)	0.139	Ortho-PO_4-P (mg/L)	0.019
COND (mS/cm)	4.55	MBAS (mg/L)	0.5	DO (mg/L)	7.51		

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	6	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2009 Trash Assessment Form

SITE ID: VHSK **DATE:** 05/22/2009

LOCATION: South of Mission Gorge Rd, East of Freeway 125 **TIME:** 12:00

OBSERVER: MD/AK

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): N/A

ESTIMATED AREA OF ASSESSMENT L x W (FT): 30 x 15

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ **MS4** ☐ **RECEIVING WATER** ☐ **BOTH**	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ **Potential Threat to Human Health**	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ **Potential Threat to Aquatic Health**	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries, or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	Y15e	**Latitude**	32.83670	**Watershed**	**Hydrologic Unit**	907
Location	Mission Gorge rd, West of Big Rock rd across from a shopping center	**Longitude**	-117.02156		**Hydrologic Area**	907.1
		TB Page	1230, H7		**Hydrologic Subarea** (Optional)	907.12
Date	05/26/2009 **Time** 1235	**Observer**	MD/AK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☒ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☒ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☐ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☒ Other N/A
Color	☐ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☒ Other N/A
Clarity	☐ Clear		☐ Slightly Cloudy	☐ Opaque		☒ Other N/A
Floatables	☐ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☒ Other N/A
Deposits	☐ None	☒ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☒ Normal	☐ Excessive		☐ Other

Biology ☒ None ☐ Insects ☐ Algae ☐ Fish ☐ Snails ☐ Mussels/ Barnacles ☐ Insect/ Algae ☐ Insect/ Snail ☐ Other

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☒ Yes ☐ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 68

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)	NS	NH_3-N (mg/L)	NS	NO_3 (mg/L)	NS	Ortho-PO_4 (mg/L)	NS
pH (pH units)	NS	TURB (NTU)	NS	NO_3-N (mg/L)	NS	Ortho-PO_4-P (mg/L)	NS
COND (mS/cm)	NS	MBAS (mg/L)	NS	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2009 Trash Assessment Form

SITE ID: Y15e **DATE:** 05/26/2009

LOCATION: Mission Gorge Rd., West of Big Rock Rd. across from a shopping center **TIME:** 1235

OBSERVER: MD/AK

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): Marginal

ESTIMATED AREA OF ASSESSMENT L x W (FT): ~~20~~ 20 x 10

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ **MS4** ☐ **RECEIVING WATER** ☐ **BOTH**	
☐ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☒ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ **Potential Threat to Human Health**	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ **Potential Threat to Aquatic Health**	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries, or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

✓

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	Z156		**Latitude**	32.83370	**Watershed**	**Hydrologic Unit**	907
Location	North of Mission Gorge Road, East of Father Junipero Serra Trail		**Longitude**	-117.02997		**Hydrologic Area**	907.1
			TB Page	1230, G7		**Hydrologic Subarea** (Optional)	907.12
Date	05/26/2009	**Time** 9:20	**Observer**	MD/AK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☒ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☐ Sunny ☒ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☒ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☒ Normal	☐ Excessive		☐ Other
Biology	☐ None	☒ Insects ☐ Algae ☐ Fish ☐ Snails		☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☒ Yes ☐ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 2 59, 60

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	19.8	NH_3-N (mg/L)	0.034	NO_3 (mg/L)	4.332	Ortho-PO_4 (mg/L)	0.929
pH (pH units)	8.1	TURB (NTU)	5.14	NO_3-N (mg/L)	0.979	Ortho-PO_4-P (mg/L)	0.303
COND (mS/cm)	1.13	MBAS (mg/L)	0.13	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	21	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2009 Trash Assessment Form

SITE ID: 215 **DATE:** 05/26/2009

LOCATION: North of Mission Gorge Rd., East of Father Junipero Serra Trail **TIME:** 9:20

OBSERVER: MD/AK

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): Optimal

ESTIMATED AREA OF ASSESSMENT L x W (FT): 15 x 8

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ **MS4** ☐ **RECEIVING WATER** ☐ **BOTH**	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ **Potential Threat to Human Health**	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ **Potential Threat to Aquatic Health**	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries, or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

Round Two

LW

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	A5c		**Latitude**	32.84081	**Watershed**	**Hydrologic Unit**	907
Location	Carlton Oaks Drive across from Cadorette Avenue, next to 8335		**Longitude**	-117.02160		**Hydrologic Area**	907.1
			TB Page	1230-H6		**Hydrologic Subarea** (Optional)	907.12
Date	9/8/09	**Time** 12:30	**Observer**	JL/MD		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☒ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather	☒ Sunny	☐ Partly Cloudy	☐ Overcast	☐ Fog		
Tide	☒ N/A	☐ Low	☐ Incoming	☐ High	☐ Outgoing	Tide Height: _____ ft.
Last Rain	☒ > 72 hours	☐ < 72 hours				
Rainfall	☒ None	☐ < 0.1"	☐ > 0.1"			

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☐ None	☒ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☒ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☐ None	☐ Insects ☐ Algae	☐ Fish ☐ Snails	☐ Mussels/ Barnacles	☒ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 43, 44

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	25.1	NH_3-N (mg/L)	0.432	NO_3 (mg/L)	5.878	Ortho-PO_4 (mg/L)	2.184
pH (pH units)	8.0	TURB (NTU)	18.10	NO_3-N (mg/L)	1.328	Ortho-PO_4-P (mg/L)	0.712
COND (mS/cm)	2.16	MBAS (mg/L)	0.75	DO (mg/L)			

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	<1	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2009 Trash Assessment Form

SITE ID: A5C DATE: 9/8/09

OBSERVER: JL/MD TIME: 12:30

LOCATION: Carlton Oaks Drive across from Cadorette Avenue, next to 8335

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L x W (FT): 25x25

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☑ MS4 ☐ RECEIVING WATER ☐ BOTH	
☑ Optimal	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ Suboptimal	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ Marginal	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ Submarginal	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ Poor	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ Potential Threat to Human Health	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ Potential Threat to Aquatic Health	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

LN

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	E5.9		**Latitude**	32.84854	**Watershed**	**Hydrologic Unit**	907
Location	Santee Recreation Lakes, west of the Southern Lake, east of Sycamore Creek		**Longitude**	-117.00723		**Hydrologic Area**	907.1
			TB Page	1231-A5		**Hydrologic Subarea** (Optional)	907.12
Date	9/8/09	**Time** 16:00	**Observer**	JL/MD		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☒ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☐ None	☒ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other	
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other	
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other	
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other	
Deposits	☐ None	☒ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other	
Vegetation	☐ None	☐ Limited	☒ Normal	☐ Excessive		☐ Other	
Biology	☐ None	☒ Insects	☐ Algae	☐ Fish	☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail	☒ Other Frogs

Water Flow ☐ Flowing ☒ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☒ Yes ☐ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 46,47

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	24.8	NH_3-N (mg/L)	0.693	NO_3 (mg/L)	2.419	Ortho-PO_4 (mg/L)	1.427
pH (pH units)	7.4	TURB (NTU)	12.68	NO_3-N (mg/L)	0.547	Ortho-PO_4 -P (mg/L)	0.465
COND (mS/cm)	3.26	MBAS (mg/L)	0.50	DO (mg/L)	na		

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	Ponded	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2009 Trash Assessment Form

SITE ID: E5g DATE: 9/8/09

OBSERVER: JL/MD TIME: 14:00

LOCATION: Santee Recreation Lakes, west of the Southern Lake, east of Sycamore Creek

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L X W (FT): 20x20

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☑ MS4 ☐ RECEIVING WATER ☐ BOTH	
☑ Optimal	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ Suboptimal	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ Marginal	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ Submarginal	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400). Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ Poor	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ Potential Threat to Human Health	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ Potential Threat to Aquatic Health	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

LW

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☑ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☑ MS4 ☐ Receiving Water

Site ID	630c ~~630E~~	**Latitude**	32.84501	**Watershed**	**Hydrologic Unit**	907
Location	North of San Diego River, Silver Creek Drive, south of River Trail Place	**Longitude**	-116.99122		**Hydrologic Area**	907.1
		TB Page	1231-B5		**Hydrologic Subarea** (Optional)	907.12
Date	9/2/09 **Time** 15:50	**Observer**	JL/MD		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☑ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☒ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☒ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☑ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☑ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☑ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☑ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☐ None	☒ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☒ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☒ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☐ None	☐ Insects ☐ Algae	☐ Fish ☐ Snails	☐ Mussels/ Barnacles	☒ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 11, 12

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	33.0	NH_3-N (mg/L)	0.214	NO_3 (mg/L)	12.67	Ortho-PO_4 (mg/L)	0.570
pH (pH units)	8.8	TURB (NTU)	3.46	NO_3-N (mg/L)	2.863	Ortho-PO_4 -P (mg/L)	0.186
COND (mS/cm)	2.58	MBAS (mg/L)	0.25	DO (mg/L)	na		

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	1	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2009 Trash Assessment Form

SITE ID: ~~G30E~~ G30c DATE: 9/2/09

OBSERVER: JL/MD TIME: 15:50

LOCATION: North of San Diego River, Silver Creek Drive, south of River Trail Place

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L x W (FT): 15x15

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☑ MS4 ☐ RECEIVING WATER ☐ BOTH	
☑ Optimal	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ Suboptimal	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ Marginal	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ Submarginal	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ Poor	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ Potential Threat to Human Health	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ Potential Threat to Aquatic Health	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

HW

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☑ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☑ MS4 ☐ Receiving Water

Site ID	H5e		**Latitude**	32.84561	**Watershed**	**Hydrologic Unit**	907
Location	North of San Diego River, 100 feet west of Whispering Willow Drive and River Park Place intersection		**Longitude**	-116.98769		**Hydrologic Area**	907.1
			TB Page	1231-C5		**Hydrologic Subarea** (Optional)	907.12
Date	9/4/09	**Time** 14:50	**Observer**	JL/MD		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☑ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☑ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☑ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☑ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☑ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☑ > 72 hours ☐ < 72 hours

Rainfall ☑ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☑ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☑ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☑ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☐ None	☑ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☐ Sediment/Gravel	☑ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☑ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☐ None	☐ Insects	☐ Algae	☐ Fish	☑ Snails	☐ Mussels/ Barnacles	☑ Insect/ Algae	☐ Insect/ Snail	☐ Other

Water Flow ☑ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☑ N/A

Evidence of Overland Flow? ☐ Yes ☑ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☑ Yes ☐ No **Photo #** 33

Field Screening Samples Collected? ☑ Yes ☐ No

Water Temp (°C)	27.9	NH_3-N (mg/L)	0.285	NO_3 (mg/L)	3.597	Ortho-PO_4 (mg/L)	1.271
pH (pH units)	7.9	TURB (NTU)	1.14	NO_3-N (mg/L)	0.813	Ortho-PO_4 -P (mg/L)	0.414
COND (mS/cm)	2.70	MBAS (mg/L)	0.25	DO (mg/L)	na		

Analytical Lab Samples Collected? ☐ Yes ☑ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	<1	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2009 Trash Assessment Form

SITE ID: H5e DATE: 9/4/09

OBSERVER: JL/MD TIME: 14:50

LOCATION: North of SD River, 100 feet west of Whispering Willow Drive and River Park Place intersection

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L x W (FT): 20x20

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☑ MS4 ☐ RECEIVING WATER ☐ BOTH	
☐ Optimal	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☑ Suboptimal	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ Marginal	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ Submarginal	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ Poor	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ Potential Threat to Human Health	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ Potential Threat to Aquatic Health	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

LN

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☑ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☑ MS4 ☐ Receiving Water

Site ID	~~J25C~~ J25c	**Latitude**	32.85813	**Watershed**	**Hydrologic Unit**	907
Location	West end of Carefree Drive, at the west side of channel	**Longitude**	-116.97601		**Hydrologic Area**	907.1
		TB Page	1231-D4		**Hydrologic Subarea** (Optional)	907.12
Date	9/3/09 **Time** 11:10	**Observer**	JL/MD		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☒ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☒ None	☐ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other

Biology ☐ None ☐ Insects ☐ Algae ☐ Fish ☐ Snails ☐ Mussels/ Barnacles ☒ Insect/ Algae ☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 15, 16

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	26.4	NH_3-N (mg/L)	0.221	NO_3 (mg/L)	35.14	Ortho-PO_4 (mg/L)	0.600
pH (pH units)	8.3	TURB (NTU)	0.18	NO_3-N (mg/L)	7.942	Ortho-PO_4 -P (mg/L)	0.196
COND (mS/cm)	4.36	MBAS (mg/L)	0.38	DO (mg/L)	na		

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2009 Trash Assessment Form

SITE ID: ~~J25E~~ J25c DATE: 9/3/09

OBSERVER: JL/MD TIME: 11:10

LOCATION: West end of Carefree Drive, at the west side of channel

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L x W (FT): 5x5

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☑ MS4 ☐ RECEIVING WATER ☐ BOTH	
☑ Optimal	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ Suboptimal	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ Marginal	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ Submarginal	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ Poor	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ Potential Threat to Human Health	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ Potential Threat to Aquatic Health	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

LW

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☑ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☑ MS4 ☐ Receiving Water

Site ID	J25c2 ~~J25E2~~	**Latitude**	32.85639	Watershed	**Hydrologic Unit**	907
Location	Conejo Road, at the end of Country Scenes	**Longitude**	-116.97598		**Hydrologic Area**	907.1
		TB Page	1231-D4		**Hydrologic Subarea** (Optional)	907.12
Date	9/2/09 **Time** 15:00	**Observer**	JL/MD		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☑ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☑ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☒ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☐ None	☒ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☒ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☐ None	☐ Insects	☒ Algae ☐ Fish	☒ Snails	☐ Mussels/ Barnacles ☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 9,10

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	30.1	NH_3-N (mg/L)	0.240	NO_3 (mg/L)	26.58	Ortho-PO_4 (mg/L)	0.165
pH (pH units)	7.9	TURB (NTU)	0.41	NO_3-N (mg/L)	6.007	Ortho-PO_4 -P (mg/L)	0.054
COND (mS/cm)	5.42	MBAS (mg/L)	0.38	DO (mg/L)	na		

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	1	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2009 Trash Assessment Form

SITE ID: ~~F25C2~~ J25c2 **DATE:** 9/2/09

OBSERVER: JL/MD **TIME:** 15:00

LOCATION: Conejo Road, at the end of Country Scenes

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L x W (FT): 15x15

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☑ **MS4** ☐ **RECEIVING WATER** ☐ **BOTH**	
☐ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☑ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ **Potential Threat to Human Health**	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ **Potential Threat to Aquatic Health**	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

LN

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☑ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☑ MS4 ☐ Receiving Water

Site ID	J30d	**Latitude**	32.85485	**Watershed**	**Hydrologic Unit**	907
Location	Woodglen Vista Channel, south of Mast Blvd	**Longitude**	-116.97588		**Hydrologic Area**	907.1
		TB Page	1231-D4		**Hydrologic Subarea** (Optional)	907.12
Date	9/4/09 **Time** 11:30	**Observer**	JL/MD		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☑ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☑ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☑ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☑ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☑ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☑ > 72 hours ☐ < 72 hours

Rainfall ☑ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☑ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☑ None	☑ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☑ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☑ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☑ Sediment/Gravel	☑ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☑ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☐ None	☐ Insects	☐ Algae	☐ Fish	☐ Snails	☐ Mussels/ Barnacles	☑ Insect/ Algae	☐ Insect/ Snail	☐ Other

Water Flow ☑ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☑ N/A

Evidence of Overland Flow? ☐ Yes ☑ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☑ Yes ☐ No **Photo #** 29, 30

Field Screening Samples Collected? ☑ Yes ☐ No

Water Temp (°C)	30.8	NH_3-N (mg/L)	0.643	NO_3 (mg/L)	10.76	Ortho-PO_4 (mg/L)	0.135
pH (pH units)	8.0	TURB (NTU)	8.66	NO_3-N (mg/L)	2.432	Ortho-PO_4 -P (mg/L)	0.044
COND (mS/cm)	3.11	MBAS (mg/L)	0.25	DO (mg/L)	na		

Analytical Lab Samples Collected? ☑ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	10	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2009 Trash Assessment Form

SITE ID: J30d DATE: 9/4/09

OBSERVER: JL/MD TIME: 11:30

LOCATION: Woodglen Vista channel, south of Mast Blvd

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L x W (FT): 20x20

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☑ MS4 ☐ RECEIVING WATER ☐ BOTH	
☑ Optimal	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ Suboptimal	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ Marginal	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ Submarginal	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ Poor	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ Potential Threat to Human Health	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ Potential Threat to Aquatic Health	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

LV

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☐ Field Screening ☒ Confirmation For Bacteria ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	J30d	**Latitude**	32.85485	**Watershed**	**Hydrologic Unit**	907 ~~12~~
Location	Woodglen Vista Channel, South of Mast Blvd	**Longitude**	-116.97588		**Hydrologic Area**	907.1
		TB Page	1231-D4		**Hydrologic Subarea** (Optional)	907.12
Date	9/15/09 **Time** 14:45	**Observer**	JL/MD		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☒ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☒ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☐ None	☐ Insects ☐ Algae	☒ Fish ☒ Snails	☐ Mussels/ Barnacles	☒ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 60, 61

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	29.9	NH_3-N (mg/L)	na	NO_3 (mg/L)	na	Ortho-PO_4 (mg/L)	na
pH (pH units)	8.9	TURB (NTU)	na	NO_3-N (mg/L)	na	Ortho-PO_4 -P (mg/L)	na
COND (mS/cm)	2.82	MBAS (mg/L)	na	DO (mg/L)	na		

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	3	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

LN

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☐ Field Screening ☒ Confirmation For Bacteria ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	J30d		**Latitude**	32.85485	**Watershed**	**Hydrologic Unit**	907
Location	Woodglen Vista channel, South of Mast Blvd		**Longitude**	-116.97588		**Hydrologic Area**	907.1
			TB Page	~~1231~~ 1231-D4		**Hydrologic Subarea** (Optional)	907.12
Date	9/21/09	**Time** 14:00	**Observer**	JL/MD		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☒ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☐ None	☒ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☒ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☐ None	☐ Insects	☐ Algae	☐ Fish	☒ Snails ☐ Mussels/ Barnacles ☒ Insect/ Algae ☐ Insect/ Snail	☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☐ Yes ☒ No **Photo #** _____

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)	~~29.5~~	NH_3-N (mg/L)	na	NO_3 (mg/L)	na	Ortho-PO_4 (mg/L)	na
pH (pH units)	~~8.7~~	TURB (NTU)	na	NO_3-N (mg/L)	na	Ortho-PO_4 -P (mg/L)	na
COND (mS/cm)	~~2.45~~	MBAS (mg/L)	na	DO (mg/L)	na		

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	5	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

LW

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☐ Field Screening ☒ Confirmation For Bacteria ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	J30d	**Latitude**	32.85485	**Watershed**	**Hydrologic Unit**	907
Location	In the Woodglen Vista channel, south of Mast Blvd, 100 feet east of San Remo Road	**Longitude**	-116.97588		**Hydrologic Area**	907.1
		TB Page	1231-D4		**Hydrologic Subarea** (Optional)	907.12
Date	9/23/09 **Time** 16:00	**Observer**	JL/MD		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☒ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor ☒ None ☐ Musty ☐ Rotten Eggs ☐ Chemical ☐ Sewage ☐ Other

Color ☒ None ☐ Yellow ☐ Brown ☐ White ☐ Gray ☐ Other

Clarity ☒ Clear ☐ Slightly Cloudy ☐ Opaque ☐ Other

Floatables ☒ None ☐ Trash ☐ Bubbles/Foam ☐ Sheen ☐ Fecal Matter ☐ Other

Deposits ☐ None ☒ Sediment/Gravel ☒ Fine Particulates ☐ Stains ☐ Oily Deposits ☐ Other

Vegetation ☐ None ☒ Limited ☐ Normal ☐ Excessive ☐ Other

Biology ☐ None ☐ Insects ☐ Algae ☐ Fish ☒ Snails ☐ Mussels/ Barnacles ☒ Insect/ Algae ☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☐ Yes ☒ No **Photo #** _____

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	27.4	NH_3-N (mg/L)	na	NO_3 (mg/L)	na	Ortho-PO_4 (mg/L)	na
pH (pH units)	8.6	TURB (NTU)	15.65	NO_3-N (mg/L)	na	Ortho-PO_4 -P (mg/L)	na
COND (mS/cm)	2.92	MBAS (mg/L)	na	DO (mg/L)	na		

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	2	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☐ Field Screening ☐ Confirmation For _____ ☒ IC/ID Follow-Up For Bacteria

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	J30d-1		**Latitude**	32.85639	**Watershed**	**Hydrologic Unit**	907
Location	Primary site J25c2, Lonejo Road, at the end of Country Scenes		**Longitude**	-116.97598		**Hydrologic Area**	907.1
			TB Page	1231-D4		**Hydrologic Subarea** (Optional)	907.12
Date	9/15/09	**Time** 15:05	**Observer**	JL/MD		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☒ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☐ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☐ None	☐ Insects ☐ Algae	☐ Fish ☒ Snails	☐ Mussels/ Barnacles	☒ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☐ Yes ☒ No **Photo #** _____

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)	na	NH_3-N (mg/L)	na	NO_3 (mg/L)	na	Ortho-PO_4 (mg/L)	na
pH (pH units)	na	TURB (NTU)	na	NO_3-N (mg/L)	na	Ortho-PO_4 -P (mg/L)	na
COND (mS/cm)	na	MBAS (mg/L)	na	DO (mg/L)	na		

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	1	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

LN

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City of Santee
Dry Weather Monitoring Field Datasheet

☐ Field Screening ☐ Confirmation For _____ ☒ IC/ID Follow-Up For Bacteria

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	J30d-2		**Latitude**	32.85817	**Watershed**	**Hydrologic Unit**	907
Location	Primary site J25c, West end of Carefree Drive, at the west side of channel		**Longitude**	-116.97604		**Hydrologic Area**	907.1
			TB Page	1231-D4		**Hydrologic Subarea** (Optional)	907.12
Date	9/15/09	**Time** 15:20	**Observer**	JL/MD		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☒ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather	☒ Sunny	☐ Partly Cloudy	☐ Overcast	☐ Fog		
Tide	☒ N/A	☐ Low	☐ Incoming	☐ High	☐ Outgoing	**Tide Height:** _____ ft.
Last Rain	☒ > 72 hours	☐ < 72 hours				
Rainfall	☒ None	☐ < 0.1"	☐ > 0.1"			

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☐ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☐ None	☐ Insects	☐ Algae	☐ Fish	☒ Snails	☐ Mussels/ Barnacles ☒ Insect/ Algae ☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☐ Yes ☒ No **Photo #** _____

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)	na	NH_3-N (mg/L)	na	NO_3 (mg/L)	na	Ortho-PO_4 (mg/L)	na
pH (pH units)	na	TURB (NTU)	na	NO_3-N (mg/L)	na	Ortho-PO_4 -P (mg/L)	na
COND (mS/cm)	na	MBAS (mg/L)	na	DO (mg/L)	na		

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	<1	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

LW

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City of Santee
Dry Weather Monitoring Field Datasheet

☐ Field Screening ☐ Confirmation For _____ ☒ IC/ID Follow-Up For Bacteria

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	J30d3		**Latitude**	32.85820	**Watershed**	**Hydrologic Unit**	907
Location	West end of Carefree Drive, channel from the north		**Longitude**	-116.97607		**Hydrologic Area**	907.1
			TB Page	1231-D4		**Hydrologic Subarea** (Optional)	907.12
Date	9/15/09	**Time** 15:35	**Observer**	JL/MD		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☐ Outlet ☒ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☐ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☐ None	☐ Insects ☐ Algae	☐ Fish	☒ Snails	☐ Mussels/ Barnacles ☒ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☐ Yes ☒ No **Photo #** _____

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)	na	NH_3-N (mg/L)	na	NO_3 (mg/L)	na	Ortho-PO_4 (mg/L)	na
pH (pH units)	na	TURB (NTU)	na	NO_3-N (mg/L)	na	Ortho-PO_4 -P (mg/L)	na
COND (mS/cm)	na	MBAS (mg/L)	na	DO (mg/L)	na		

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	2	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

LW

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☐ Field Screening ☐ Confirmation For _____ ☑ IC/ID Follow-Up For Bacteria

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	J30d-4		**Latitude**	32.85896	**Watershed**	**Hydrologic Unit**	907
Location	Outlet from Beck Drive and Woodrose Avenue area to channel. Access via apartment complex at Carefree Drive and Woodpark Dr.		**Longitude**	-116.97427		**Hydrologic Area**	907.1
			TB Page	1231-D3		**Hydrologic Subarea** (Optional)	907.12
Date	9/21/09	**Time** 11:30	**Observer**	JL/MD		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☒ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor ☒ None ☐ Musty ☐ Rotten Eggs ☐ Chemical ☐ Sewage ☐ Other

Color ☒ None ☐ Yellow ☐ Brown ☐ White ☐ Gray ☐ Other

Clarity ☒ Clear ☐ Slightly Cloudy ☐ Opaque ☐ Other

Floatables ☒ None ☐ Trash ☐ Bubbles/Foam ☐ Sheen ☐ Fecal Matter ☐ Other

Deposits ☐ None ☐ Sediment/Gravel ☒ Fine Particulates ☐ Stains ☐ Oily Deposits ☐ Other

Vegetation ☒ None ☐ Limited ☐ Normal ☐ Excessive ☐ Other

Biology ☐ None ☐ Insects ☐ Algae ☐ Fish ☒ Snails ☐ Mussels/ Barnacles ☒ Insect/ Algae ☐ Insect/ Snail ☐ Other

Water Flow ☐ Flowing ☒ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 62-65

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)	na	NH_3-N (mg/L)	na	NO_3 (mg/L)	na	Ortho-PO_4 (mg/L)	na
pH (pH units)	na	TURB (NTU)	na	NO_3-N (mg/L)	na	Ortho-PO_4 -P (mg/L)	na
COND (mS/cm)	na	MBAS (mg/L)	na	DO (mg/L)	na		

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	2	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

LN

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☐ Field Screening ☐ Confirmation For _____ ☒ IC/ID Follow-Up For Bacteria

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	J30d-4-2	**Latitude**	32.85896	**Watershed**	**Hydrologic Unit**	907
Location	Outlet from Beck Drive and Woodrose Avenue area to channel. Access via apartment complex @ Carefree Drive/Woodpark Drive	**Longitude**	-116.97427		**Hydrologic Area**	907.1
		TB Page	1231-D3		**Hydrologic Subarea** (Optional)	907.12
Date	9/23/09 **Time** 15:40	**Observer**	JL/MD		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☒ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:**_____ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☐ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☐ None	☐ Insects ☐ Algae	☐ Fish ☒ Snails	☐ Mussels/ Barnacles	☒ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☐ Yes ☒ No **Photo #** _____

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)	na	NH_3-N (mg/L)	na	NO_3 (mg/L)	na	Ortho-PO_4 (mg/L)	na
pH (pH units)	na	TURB (NTU)	na	NO_3-N (mg/L)	na	Ortho-PO_4 -P (mg/L)	na
COND (mS/cm)	na	MBAS (mg/L)	na	DO (mg/L)	na		

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	<1	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

LN

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City of Santee
Dry Weather Monitoring Field Datasheet

☐ Field Screening ☐ Confirmation For _____ ☑ MC/ID Follow-Up For Bacteria

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☑ MS4 ☐ Receiving Water

Site ID	J30d-5		**Latitude**	32.86596	**Watershed**	**Hydrologic Unit**	907
Location	Woodglen Vista Drive, east of Woodrose Avenue south side of park. Primary Site K15;2		**Longitude**	-116.97418		**Hydrologic Area**	907.1
			TB Page	1231-D2		**Hydrologic Subarea** (Optional)	907.12
Date	9/21/09	**Time** 12:05	**Observer**	JL/MD		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☒ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☐ Outlet ☒ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☐ None	☒ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☐ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☐ None	☐ Insects ☐ Algae ☐ Fish	☒ Snails	☐ Mussels/ Barnacles	☒ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☑ Yes ☒ No **Photo #** 66, 67

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)	na	NH_3-N (mg/L)	na	NO_3 (mg/L)	na	Ortho-PO_4 (mg/L)	na
pH (pH units)	na	TURB (NTU)	na	NO_3-N (mg/L)	na	Ortho-PO_4 -P (mg/L)	na
COND (mS/cm)	na	MBAS (mg/L)	na	DO (mg/L)	na		

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	2	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

LN

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☐ Field Screening ☐ Confirmation For _____ ☒ IC/ID Follow-Up For Bacteria

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	J30d-6		**Latitude**	32.86572	**Watershed**	**Hydrologic Unit**	907
Location	24 inch outlet pipe on west side of channel, south of Woodglen Vista Drive		**Longitude**	-116.97416		**Hydrologic Area**	907.1
			TB Page	1231-D2		**Hydrologic Subarea** (Optional)	907.12
Date	9/23/09	**Time** 15:10	**Observer**	JL/MD		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☒ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☒ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor ☒ None ☐ Musty ☐ Rotten Eggs ☐ Chemical ☐ Sewage ☐ Other

Color ☒ None ☐ Yellow ☐ Brown ☐ White ☐ Gray ☐ Other

Clarity ☒ Clear ☐ Slightly Cloudy ☐ Opaque ☐ Other

Floatables ☒ None ☐ Trash ☐ Bubbles/Foam ☐ Sheen ☐ Fecal Matter ☐ Other

Deposits ☐ None ☐ Sediment/Gravel ☒ Fine Particulates ☐ Stains ☐ Oily Deposits ☐ Other

Vegetation ☒ None ☐ Limited ☐ Normal ☐ Excessive ☐ Other

Biology ☐ None ☐ Insects ☐ Algae ☐ Fish ☒ Snails ☐ Mussels/ Barnacles ☒ Insect/ Algae ☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☐ Yes ☒ No **Photo #** _____

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)	na	NH_3-N (mg/L)	na	NO_3 (mg/L)	na	Ortho-PO_4 (mg/L)	na
pH (pH units)	na	TURB (NTU)	na	NO_3-N (mg/L)	na	Ortho-PO_4 -P (mg/L)	na
COND (mS/cm)	na	MBAS (mg/L)	na	DO (mg/L)	na		

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	<1	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

LW

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☐ Field Screening ☐ Confirmation For _____ ☒ IC/ID Follow-Up For Bacteria

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	J30d-7		**Latitude**	32.86583	**Watershed**	**Hydrologic Unit**	907
Location	Small outlet under bridge, under Woodglen Vista Drive		**Longitude**	-116.97426		**Hydrologic Area**	907.1
			TB Page	1231-D2		**Hydrologic Subarea** (Optional)	907.12
Date	9/23/09	**Time** 15:20	**Observer**	JL/MD		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☒ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☒ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☐ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☐ None	☐ Insects	☐ Algae ☐ Fish	☒ Snails	☐ Mussels/ Barnacles ☒ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☐ Yes ☒ No **Photo #** _____

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)	na	NH_3-N (mg/L)	na	NO_3 (mg/L)	na	Ortho-PO_4 (mg/L)	na
pH (pH units)	na	TURB (NTU)	na	NO_3-N (mg/L)	na	Ortho-PO_4 -P (mg/L)	na
COND (mS/cm)	na	MBAS (mg/L)	na	DO (mg/L)	na		

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	<1	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

LW

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☐ Field Screening ☐ Confirmation For _____ ☒ IC/ID Follow-Up For Bacteria

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	J30d-8		**Latitude**	32.86582	**Watershed**	**Hydrologic Unit**	907
Location	Small outlet next to J30d-6. South of Woodglen Vista Drive		**Longitude**	-116.97417		**Hydrologic Area**	907.1
			TB Page	1231-D2		**Hydrologic Subarea** (Optional)	907.12
Date	9/23/09	**Time** 15:30	**Observer**	JL/MD		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☒ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☒ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☐ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☐ None	☐ Insects ☐ Algae	☐ Fish ☒ Snails	☐ Mussels/ Barnacles	☒ Insect/ Algae ☐ Insect/ Snail	☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☐ Yes ☒ No **Photo #** _____

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)	na	NH_3-N (mg/L)	na	NO_3 (mg/L)	na	Ortho-PO_4 (mg/L)	na
pH (pH units)	na	TURB (NTU)	na	NO_3-N (mg/L)	na	Ortho-PO_4 -P (mg/L)	na
COND (mS/cm)	na	MBAS (mg/L)	na	DO (mg/L)	na		

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	<1	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

LN

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☑ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☑ MS4 ☐ Receiving Water

Site ID	K1SJ2 ~~K1SJ2~~	**Latitude**	32.86596	**Watershed**	**Hydrologic Unit**	907
Location	Woodglen Vista Drive, east of Woodrose Avenue south side of the park	**Longitude**	-116.97418		**Hydrologic Area**	907.1
		TB Page	1231-D2		**Hydrologic Subarea** (Optional)	907.12
Date	9/3/09 **Time** 14:40	**Observer**	JL/MD		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☑ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☑ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☐ Outlet ☑ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☑ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☑ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☑ > 72 hours ☐ < 72 hours

Rainfall ☑ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor ☒ None ☐ Musty ☐ Rotten Eggs ☐ Chemical ☐ Sewage ☐ Other

Color ☒ None ☐ Yellow ☐ Brown ☐ White ☐ Gray ☐ Other

Clarity ☒ Clear ☐ Slightly Cloudy ☐ Opaque ☐ Other

Floatables ☒ None ☐ Trash ☐ Bubbles/Foam ☐ Sheen ☐ Fecal Matter ☐ Other

Deposits ☐ None ☐ Sediment/Gravel ☒ Fine Particulates ☐ Stains ☐ Oily Deposits ☐ Other

Vegetation ☒ None ☐ Limited ☐ Normal ☐ Excessive ☐ Other

Biology ☐ None ☐ Insects ☐ Algae ☐ Fish ☐ Snails ☐ Mussels/ Barnacles ☒ Insect/ Algae ☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 21, 22

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	29.9	NH_3-N (mg/L)	0.210	NO_3 (mg/L)	23.72	Ortho-PO_4 (mg/L)	0.115
pH (pH units)	7.7	TURB (NTU)	0.80	NO_3-N (mg/L)	5.361	Ortho-PO_4 -P (mg/L)	0.037
COND (mS/cm)	2.02	MBAS (mg/L)	0.13	DO (mg/L)	na		

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2009 Trash Assessment Form

SITE ID: ~~K15J2~~ K15;2 DATE: 9/3/09

OBSERVER: JL/MD TIME: 14:40

LOCATION: Woodglen Vista Drive, east of Woodrose Avenue, south side of park

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L x W (FT): 10x10

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☑ MS4 ☐ RECEIVING WATER ☐ BOTH	
☑ Optimal	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ Suboptimal	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ Marginal	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ Submarginal	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ Poor	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ Potential Threat to Human Health	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ Potential Threat to Aquatic Health	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

LM

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	040b		Latitude	32.84851	Watershed	Hydrologic Unit	907
Location	Abraham Way, south of San Diego River		Longitude	-116.96392		Hydrologic Area	907.1
			TB Page	1231-F5		Hydrologic Subarea (Optional)	907.12
Date	9/8/09	Time 14:15	Observer	JL/MD		Discharge Area (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☒ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☒ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☒ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing Tide Height: _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☒ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☒ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☐ None	☐ Insects ☐ Algae	☐ Fish ☐ Snails	☐ Mussels/ Barnacles	☒ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☐ Flowing ☒ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☒ Yes ☐ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 45

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	26.2	NH_3-N (mg/L)	0.430	NO_3 (mg/L)	3.125	Ortho-PO_4 (mg/L)	0.700
pH (pH units)	8.0	TURB (NTU)	1.21	NO_3-N (mg/L)	0.706	Ortho-PO_4-P (mg/L)	0.228
COND (mS/cm)	1.36	MBAS (mg/L)	0.25	DO (mg/L)	na		

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	ponded	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2009 Trash Assessment Form

SITE ID: 040b DATE: 9/8/09

OBSERVER: JL/MD TIME: 14:15

LOCATION: Abraham Way, south of San Diego River

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE):

ESTIMATED AREA OF ASSESSMENT L x W (FT): 10x10

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☐ MS4 ☐ RECEIVING WATER ☑ BOTH	
☐ Optimal	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☑ Suboptimal	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ Marginal	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ Submarginal	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ Poor	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ Potential Threat to Human Health	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ Potential Threat to Aquatic Health	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

LN

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☑ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☑ MS4 ☐ Receiving Water

Site ID	P15b	**Latitude**	32.83704	**Watershed**	**Hydrologic Unit**	907
Location	Northeast of Magnolia Avenue and Rockvill Street intersection	**Longitude**	-116.96633		**Hydrologic Area**	907.1
		TB Page	1231-E6		**Hydrologic Subarea** (Optional)	907.12
Date	9/4/09 **Time** 13:45	**Observer**	JL/MD		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☑ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☑ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor ☒ None ☐ Musty ☐ Rotten Eggs ☐ Chemical ☐ Sewage ☐ Other

Color ☒ None ☐ Yellow ☐ Brown ☐ White ☐ Gray ☐ Other

Clarity ☒ Clear ☐ Slightly Cloudy ☐ Opaque ☐ Other

Floatables ☒ None ☐ Trash ☐ Bubbles/Foam ☐ Sheen ☐ Fecal Matter ☐ Other

Deposits ☐ None ☒ Sediment/Gravel ☒ Fine Particulates ☐ Stains ☐ Oily Deposits ☐ Other

Vegetation ☒ None ☐ Limited ☐ Normal ☐ Excessive ☐ Other

Biology ☐ None ☒ Insects ☐ Algae ☐ Fish ☐ Snails ☐ Mussels/ Barnacles ☐ Insect/ Algae ☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 31, 32

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	30.5	NH_3-N (mg/L)	0.202	NO_3 (mg/L)	59.38	Ortho-PO_4 (mg/L)	0.480
pH (pH units)	7.7	TURB (NTU)	0.82	NO_3-N (mg/L)	13.42	Ortho-PO_4-P (mg/L)	0.156
COND (mS/cm)	1.60	MBAS (mg/L)	0.13	DO (mg/L)	na		

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	3	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2009 Trash Assessment Form

SITE ID: P15b DATE: 9/4/09

OBSERVER: JL/MD TIME: 13:45

LOCATION: Northeast of Magnolia Avenue and Rockwell Street intersection

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L x W (FT): 5x5

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☑ MS4 ☐ RECEIVING WATER ☐ BOTH	
☑ Optimal	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ Suboptimal	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ Marginal	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ Submarginal	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ Poor	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ Potential Threat to Human Health	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ Potential Threat to Aquatic Health	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

LN

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☐ Field Screening ☒ Confirmation For Nitrate ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	P15b		**Latitude**	32.83704	**Watershed**	**Hydrologic Unit**	907
Location	Northeast of Magnolia Avenue and Rockvill Street intersection		**Longitude**	-116.96633		**Hydrologic Area**	907.1
			TB Page	1231-E6		**Hydrologic Subarea** (Optional)	907.12
Date	9/8/09	**Time** 15:00	**Observer**	JL/MD		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☒ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☒ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor ☒ None ☐ Musty ☐ Rotten Eggs ☐ Chemical ☐ Sewage ☐ Other

Color ☒ None ☐ Yellow ☐ Brown ☐ White ☐ Gray ☐ Other

Clarity ☒ Clear ☐ Slightly Cloudy ☐ Opaque ☐ Other

Floatables ☒ None ☐ Trash ☐ Bubbles/Foam ☐ Sheen ☐ Fecal Matter ☐ Other

Deposits ☐ None ☒ Sediment/Gravel ☒ Fine Particulates ☐ Stains ☐ Oily Deposits ☐ Other

Vegetation ☒ None ☐ Limited ☐ Normal ☐ Excessive ☐ Other

Biology ☐ None ☒ Insects ☐ Algae ☐ Fish ☐ Snails ☐ Mussels/ Barnacles ☐ Insect/ Algae ☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☐ Yes ☒ No **Photo #** _____

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	27.7	NH_3-N (mg/L)	na	NO_3 (mg/L)	33.47	Ortho-PO_4 (mg/L)	na
pH (pH units)	7.4	TURB (NTU)	6.70	NO_3-N (mg/L)	7.564	Ortho-PO_4 -P (mg/L)	na
COND (mS/cm)	1.61	MBAS (mg/L)	na	DO (mg/L)	na		

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	3	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☐ Field Screening ☐ Confirmation For _____ ☒ IC/ID Follow-Up For Nitrate

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	P15b-1		**Latitude**	32.83704	**Watershed**	**Hydrologic Unit**	907
Location	South line to P15b		**Longitude**	-116.96633		**Hydrologic Area**	907.1
			TB Page	1231-E6		**Hydrologic Subarea** (Optional)	907.12
Date	9/8/09	**Time** 15:20	**Observer**	JL/MD		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☒ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☒ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather	☒ Sunny	☐ Partly Cloudy	☐ Overcast	☐ Fog		
Tide	☒ N/A	☐ Low	☐ Incoming	☐ High	☐ Outgoing	**Tide Height:** ____ ft.
Last Rain	☒ > 72 hours	☐ < 72 hours				
Rainfall	☒ None	☐ < 0.1"	☐ > 0.1"			

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☒ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☐ None	☒ Insects	☐ Algae	☐ Fish	☐ Snails	☐ Mussels/ Barnacles ☐ Insect/ Algae ☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☐ Yes ☒ No **Photo #** _____

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	na	NH_3-N (mg/L)	na	NO_3 (mg/L)	32.12	Ortho-PO_4 (mg/L)	na
pH (pH units)	na	TURB (NTU)	na	NO_3-N (mg/L)	7.259	Ortho-PO_4-P (mg/L)	na
COND (mS/cm)	na	MBAS (mg/L)	na	DO (mg/L)	na		

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	2	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☐ Field Screening ☐ Confirmation For _____ ☒ IC/ID Follow-Up For Nitrate

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	P15b-2	**Latitude**	32.83704	**Watershed**	**Hydrologic Unit**	907
Location	East line to P15b	**Longitude**	-116.96633		**Hydrologic Area**	907.1
		TB Page	1231-E6		**Hydrologic Subarea** (Optional)	907.12
Date	9/8/09 **Time** 15:40	**Observer**	JL/MD		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☒ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☒ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor ☒ None ☐ Musty ☐ Rotten Eggs ☐ Chemical ☐ Sewage ☐ Other

Color ☒ None ☐ Yellow ☐ Brown ☐ White ☐ Gray ☐ Other

Clarity ☒ Clear ☐ Slightly Cloudy ☐ Opaque ☐ Other

Floatables ☒ None ☐ Trash ☐ Bubbles/Foam ☐ Sheen ☐ Fecal Matter ☐ Other

Deposits ☐ None ☒ Sediment/Gravel ☒ Fine Particulates ☐ Stains ☐ Oily Deposits ☐ Other

Vegetation ☒ None ☐ Limited ☐ Normal ☐ Excessive ☐ Other

Biology ☐ None ☒ Insects ☐ Algae ☐ Fish ☐ Snails ☐ Mussels/ Barnacles ☐ Insect/ Algae ☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☐ Yes ☒ No **Photo #** _____

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	ng	NH_3-N (mg/L)	ng	NO_3 (mg/L)	39.49	Ortho-PO_4 (mg/L)	ng
pH (pH units)	ng	TURB (NTU)	ng	NO_3-N (mg/L)	8.925	Ortho-PO_4-P (mg/L)	ng
COND (mS/cm)	ng	MBAS (mg/L)	ng	DO (mg/L)	ng		

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

LN

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☑ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☑ MS4 ☐ Receiving Water

Site ID	P20f		**Latitude**	32.84674	**Watershed**	**Hydrologic Unit**	907
Location	Magnolia Avenue, east of Chubb Lane		**Longitude**	-116.96920		**Hydrologic Area**	907.1
			TB Page	1231-E5		**Hydrologic Subarea** (Optional)	907.12
Date	9/4/09	**Time** 10:40	**Observer**	JL/MD		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☒ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☐ Outlet ☒ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☐ None	☒ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☒ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☐ None	☐ Insects	☐ Algae	☐ Fish	☒ Snails	☐ Mussels/ Barnacles	☒ Insect/ Algae	☐ Insect/ Snail	☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☒ Yes ☐ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 27, 28

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	28.0	NH_3-N (mg/L)	0.268	NO_3 (mg/L)	25.04	Ortho-PO_4 (mg/L)	0.049
pH (pH units)	8.2	TURB (NTU)	3.50	NO_3-N (mg/L)	5.659	Ortho-PO_4 -P (mg/L)	0.016
COND (mS/cm)	1.53	MBAS (mg/L)	0.25	DO (mg/L)	na		

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	3	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2009 Trash Assessment Form

SITE ID: P20f DATE: 9/4/09

OBSERVER: JL/mD TIME: 10:40

LOCATION: Magnolia Avenue, east of Chubb Lane

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L x W (FT): 20x20

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☑ MS4 ☐ RECEIVING WATER ☐ BOTH	
☐ Optimal	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ Suboptimal	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☑ Marginal	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☑ Submarginal	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ Poor	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ Potential Threat to Human Health	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ Potential Threat to Aquatic Health	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	Q51		**Latitude**	32.83121	**Watershed**	**Hydrologic Unit**	907
Location	North side of Prospect Avenue, east of Railroad Avenue		**Longitude**	-116.97090		**Hydrologic Area**	907.1
			TB Page	1231-E7		**Hydrologic Subarea** (Optional)	907.13
Date	9/8/09	**Time** 11:20	**Observer**	JC/MD		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☒ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☒ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☒ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather	☒ Sunny	☐ Partly Cloudy	☐ Overcast	☐ Fog		
Tide	☒ N/A	☐ Low	☐ Incoming	☐ High	☐ Outgoing	**Tide Height:** ____ ft.
Last Rain	☒ > 72 hours	☐ < 72 hours				
Rainfall	☒ None	☐ < 0.1"	☐ > 0.1"			

RUNOFF CHARACTERISTICS

Odor	☐ None	☐ Musty	☒ Rotten Eggs	☐ Chemical	☐ Sewage	☒ Other Decomposing organic waste Trash
Color	☐ None	☒ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☐ Clear		☐ Slightly Cloudy	☒ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☐ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☒ None	☐ Insects ☐ Algae	☐ Fish ☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☐ Flowing ☒ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 37-42

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	25.2	NH_3-N (mg/L)	0.595	NO_3 (mg/L)	12.75	Ortho-PO_4 (mg/L)	28.66
pH (pH units)	8.0	TURB (NTU)	112	NO_3-N (mg/L)	2.882	Ortho-PO_4 -P (mg/L)	9.343
COND (mS/cm)	1.86	MBAS (mg/L)	0.75	DO (mg/L)	na		

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	Ponded	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2009 Trash Assessment Form

SITE ID: Q51 **DATE:** 9/8/09

OBSERVER: JL/MD **TIME:** 11:20

LOCATION: North side of Prospect Avenue, east of Railroad Avenue

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE):

ESTIMATED AREA OF ASSESSMENT L x W (FT): 15x15

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☑ MS4 ☐ RECEIVING WATER ☐ BOTH	
☐ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☑ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400). Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ **Potential Threat to Human Health**	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ **Potential Threat to Aquatic Health**	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

LN

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☐ Field Screening ☒ Confirmation For Phosphorus ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	Q51		**Latitude**	32.83121	**Watershed**	**Hydrologic Unit**	907
Location	North side of Prospect Avenue, east of Railroad Avenue		**Longitude**	-116.97090		**Hydrologic Area**	907.1
			TB Page	1231-E7		**Hydrologic Subarea** (Optional)	907.13
Date	9/9/09	**Time** 10:35	**Observer**	JL/MD		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☒ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☒ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☒ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather	☒ Sunny	☐ Partly Cloudy	☐ Overcast	☐ Fog	
Tide	☒ N/A	☐ Low	☐ Incoming	☐ High	☐ Outgoing **Tide Height:** _____ ft.
Last Rain	☒ > 72 hours	☐ < 72 hours			
Rainfall	☒ None	☐ < 0.1"	☐ > 0.1"		

RUNOFF CHARACTERISTICS

Odor	☐ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☒ Other Decomposing organic waste Trash
Color	☐ None	☒ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☐ Clear		☐ Slightly Cloudy	☒ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☐ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☒ None	☐ Insects	☐ Algae	☐ Fish	☐ Snails	☐ Mussels/ Barnacles ☐ Insect/ Algae ☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☒ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☐ Yes ☒ No **Photo #** _____

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	26.1	NH_3-N (mg/L)	na	NO_3 (mg/L)	na	Ortho-PO_4 (mg/L)	36.05
pH (pH units)	8.2	TURB (NTU)	148	NO_3-N (mg/L)	na	Ortho-PO_4-P (mg/L)	11.75
COND (mS/cm)	1.79	MBAS (mg/L)	na	DO (mg/L)	na		

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow ponded		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

LN

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☐ Field Screening ☐ Confirmation For _____ ☒ IC/ID Follow-Up For Phosphorus

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	Q51-1		**Latitude**	32.83211	**Watershed**	**Hydrologic Unit**	907
Location	North of Prospect Ave, between Tumbleweed Terrace and Siesta Rd, water coming out of ground near fence in Caltrans worksite		**Longitude**	-116.96727		**Hydrologic Area**	907.1
			TB Page	1231-E7		**Hydrologic Subarea** (Optional)	907.13
Date	9/9/09	**Time** 11:00	**Observer**	JC/MD		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☒ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☒ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) Other ☐ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor ☒ None ☐ Musty ☐ Rotten Eggs ☐ Chemical ☐ Sewage ☐ Other

Color ☒ None ☐ Yellow ☐ Brown ☐ White ☐ Gray ☐ Other

Clarity ☒ Clear ☐ Slightly Cloudy ☐ Opaque ☐ Other

Floatables ☒ None ☐ Trash ☐ Bubbles/Foam ☐ Sheen ☐ Fecal Matter ☐ Other

Deposits ☐ None ☒ Sediment/Gravel ☒ Fine Particulates ☐ Stains ☐ Oily Deposits ☐ Other

Vegetation ☒ None ☐ Limited ☐ Normal ☐ Excessive ☐ Other

Biology ☐ None ☐ Insects ☒ Algae ☐ Fish ☐ Snails ☐ Mussels/ Barnacles ☐ Insect/ Algae ☐ Insect/ Snail ☐ Other

Water Flow ☐ Flowing ☒ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 50-52

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	na	NH_3-N (mg/L)	na	NO_3 (mg/L)	na	Ortho-PO_4 (mg/L)	0.244
pH (pH units)	na	TURB (NTU)	na	NO_3-N (mg/L)	na	Ortho-PO_4-P (mg/L)	0.080
COND (mS/cm)	na	MBAS (mg/L)	na	DO (mg/L)	na		

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	Ponded	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

LN

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☑ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☑ MS4 ☐ Receiving Water

Site ID	RCP1		**Latitude**	32.84959	**Watershed**	**Hydrologic Unit**	907
Location	North bank of the San Diego River in the RCP Brick Factory, South of an open field with radio antennae		**Longitude**	-116.96659		**Hydrologic Area**	907.1
			TB Page	1231-E5		**Hydrologic Subarea** (Optional)	907.12
Date	9/3/09	**Time** 12:00	**Observer**	JL/MD		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☑ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☑ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☑ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☑ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☑ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☑ > 72 hours ☐ < 72 hours

Rainfall ☑ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☑ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☑ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☑ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☐ None	☑ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☑ None	☑ Sediment/Gravel	☑ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☑ Normal	☐ Excessive		☐ Other
Biology	☐ None	☐ Insects ☐ Algae ☐ Fish ☐ Snails		☐ Mussels/ Barnacles	☑ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☑ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☑ Yes ☐ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☑ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☑ Yes ☐ No **Photo #** 17, 18

Field Screening Samples Collected? ☑ Yes ☐ No

Water Temp (°C)	28.0	NH_3-N (mg/L)	0.170	NO_3 (mg/L)	44.05	Ortho-PO_4 (mg/L)	0.317
pH (pH units)	3.2	TURB (NTU)	8.50	NO_3-N (mg/L)	9.96	Ortho-PO_4 -P (mg/L)	0.103
COND (mS/cm)	1.50	MBAS (mg/L)	0.13	DO (mg/L)	na		

Analytical Lab Samples Collected? ☑ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	3	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2009 Trash Assessment Form

SITE ID: RCP1 DATE: 9/3/09

OBSERVER: JL/MD TIME: 12:00

LOCATION: North bank of SD River, inside RCP Brick Factory, south of an open field with radio antennae

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L x W (FT): 5x5

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☑ MS4 ☐ RECEIVING WATER ☐ BOTH	
☑ Optimal	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ Suboptimal	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ Marginal	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ Submarginal	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ Poor	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ Potential Threat to Human Health	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ Potential Threat to Aquatic Health	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

LW

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	RCP3		**Latitude**	32.84975	**Watershed**	**Hydrologic Unit**	907
Location	North bank of the San Diego River in the RCP Brick Factory, across from the southeast corner of the antennae field		**Longitude**	-116.96341		**Hydrologic Area**	907.1
			TB Page	1231-E5		**Hydrologic Subarea** (Optional)	907.12
Date	9/9/09	**Time** 9:45	**Observer**	JL/MD		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☒ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather	☒ Sunny	☐ Partly Cloudy	☐ Overcast	☐ Fog
Tide	☒ N/A	☐ Low	☐ Incoming	☐ High ☐ Outgoing **Tide Height:** _____ ft.
Last Rain	☒ > 72 hours	☐ < 72 hours		
Rainfall	☒ None	☐ < 0.1"	☐ > 0.1"	

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☐ None	☒ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☒ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☒ Normal	☐ Excessive		☐ Other
Biology	☐ None	☐ Insects	☐ Algae	☐ Fish ☐ Snails	☐ Mussels/ Barnacles ☒ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☒ Yes ☐ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 48, 49

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	23.6	NH_3-N (mg/L)	0.177	NO_3 (mg/L)	43.94	Ortho-PO_4 (mg/L)	0.466
pH (pH units)	8.0	TURB (NTU)	0.49	NO_3-N (mg/L)	9.93	Ortho-PO_4 -P (mg/L)	0.152
COND (mS/cm)	1.73	MBAS (mg/L)	0.25	DO (mg/L)	na		

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	3	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: [redacted] by people Inhabited

2009 Trash Assessment Form

SITE ID: RCP 3 **DATE:** 9/9/09

OBSERVER: JL/MD **TIME:** 9:45

LOCATION: North bank of SD River in RCP Brick Factory, across from southeast corner of antennae field

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE):

ESTIMATED AREA OF ASSESSMENT L x W (FT): 25x25

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☐ MS4 ☐ RECEIVING WATER ☒ BOTH	
☐ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☒ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ **Potential Threat to Human Health**	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ **Potential Threat to Aquatic Health**	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

LN

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	S15h	**Latitude**	32.84326	Watershed	**Hydrologic Unit**	907
Location	Mission Gorge Rd, Town Center Pkwy, north of Walmart, west of trail	**Longitude**	-116.98969		**Hydrologic Area**	907.1
		TB Page	1231-C6		**Hydrologic Subarea** (Optional)	907.12
Date	9/9/09 **Time** 11:20	**Observer**	JL/MD		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☒ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☒ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other	
Color	☐ None	☐ Yellow	☒ Brown	☐ White	☐ Gray	☐ Other	
Clarity	☐ Clear		☒ Slightly Cloudy	☐ Opaque		☐ Other	
Floatables	☐ None	☒ Trash	☒ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other	
Deposits	☐ None	☒ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other	
Vegetation	☐ None	☐ Limited	☒ Normal	☐ Excessive		☐ Other	
Biology	☐ None	☒ Insects	☐ Algae	☐ Fish	☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail	☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☒ Yes ☐ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other:

Photo Taken ☒ Yes ☐ No **Photo #** 53,54

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	27.1	NH_3-N (mg/L)	0.750	NO_3 (mg/L)	5.609	Ortho-PO_4 (mg/L)	2.573
pH (pH units)	7.9	TURB (NTU)	16.76	NO_3-N (mg/L)	1.268	Ortho-PO_4 -P (mg/L)	0.839
COND (mS/cm)	1.46	MBAS (mg/L)	0.75	DO (mg/L)	na		

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	<1	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

2009 Trash Assessment Form

SITE ID: S15h DATE: 9/9/09

OBSERVER: JL/MD TIME: 11:20

LOCATION: Mission Gorge Rd, Town Center Pkwy, north of Walmart, west of trail

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L x W (FT): 15x15

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☐ Optimal	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☒ Suboptimal	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ Marginal	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ Submarginal	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400). Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ Poor	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ Potential Threat to Human Health	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ Potential Threat to Aquatic Health	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

LW

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☑ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☑ MS4 ☐ Receiving Water

Site ID	~~S5E~~ S5c		**Latitude**	32.84371	**Watershed**	**Hydrologic Unit**	907
Location	Mission Gorge Rd, Town Center Pkwy, west of Michaels		**Longitude**	-116.98798		**Hydrologic Area**	907.1
			TB Page	1231-C6		**Hydrologic Subarea** (Optional)	907.12
Date	9/3/09	**Time** 16:10	**Observer**	JL/MD		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☑ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☒ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☒ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☒ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☐ None	☐ Insects ☐ Algae ☐ Fish ☐ Snails		☐ Mussels/ Barnacles	☒ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☑ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☑ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☑ Yes ☐ No **Photo #** 23, 24

Field Screening Samples Collected? ☑ Yes ☐ No

Water Temp (°C)	28.8	NH_3-N (mg/L)	0.273	NO_3 (mg/L)	5.765	Ortho-PO_4 (mg/L)	0.818
pH (pH units)	7.8	TURB (NTU)	1.60	NO_3-N (mg/L)	1.303	Ortho-PO_4 -P (mg/L)	0.267
COND (mS/cm)	2.48	MBAS (mg/L)	0.25	DO (mg/L)	ns		

Analytical Lab Samples Collected? ☐ Yes ☑ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	<1	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2009 Trash Assessment Form

SITE ID: ~~S5C~~ S5c DATE: 9/3/09

OBSERVER: JL/MD TIME: 16:10

LOCATION: Mission Gorge Rd, Town Center Parkway, west of Michaels

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L x W (FT): 10X5

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☑ MS4 ☐ RECEIVING WATER ☐ BOTH	
☑ Optimal	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ Suboptimal	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ Marginal	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ Submarginal	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ Poor	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ Potential Threat to Human Health	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ Potential Threat to Aquatic Health	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

LW

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	T5e	Latitude	32.83393	Watershed	Hydrologic Unit	907
Location	Prospect Avenue, across from Argent Street, south of Forester Creek	Longitude	-116.98956		Hydrologic Area	907.1
		TB Page	1231-C7		Hydrologic Subarea (Optional)	907.12
Date	9/8/09	Time	10:05	Observer	JL/MD	Discharge Area (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☒ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☒ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☒ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** ____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☒ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☒ Normal	☐ Excessive		☐ Other
Biology	☐ None	☒ Insects	☐ Algae	☐ Fish	☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail	☐ Other

Water Flow ☐ Flowing ☒ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☒ Yes ☐ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 35

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	23.0	NH_3-N (mg/L)	0.110	NO_3 (mg/L)	0.783	Ortho-PO_4 (mg/L)	0.175
pH (pH units)	7.5	TURB (NTU)	7.68	NO_3-N (mg/L)	0.177	Ortho-PO_4-P (mg/L)	0.057
COND (mS/cm)	1.59	MBAS (mg/L)	0.25	DO (mg/L)			

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	ponded	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2009 Trash Assessment Form

SITE ID: TSe DATE: 9/8/09

OBSERVER: JL/MD TIME: 10:05

LOCATION: Prospect Avenue, across from Argent Street, south of Forester Creek

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L x W (FT): 20x20

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☐ MS4 ☐ RECEIVING WATER ☑ BOTH	
☑ Optimal	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ Suboptimal	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ Marginal	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ Submarginal	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ Poor	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ Potential Threat to Human Health	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ Potential Threat to Aquatic Health	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☑ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☑ MS4 ☐ Receiving Water

Site ID	U10a	**Latitude**	32.83745	**Watershed**	**Hydrologic Unit**	907
Location	South bank of Forester Creek, ~200 yards south of the Mission Gorge Rd and Carlton Hill intersection	**Longitude**	-116.99586		**Hydrologic Area**	907.1
		TB Page	1231-B6		**Hydrologic Subarea** (Optional)	907.12
Date	9/8/09 **Time** ~~10:00~~ 10:50	**Observer**	JL/MD		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☒ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☒ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☒ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☐ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☒ Other	na
Color	☐ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☒ Other	na
Clarity	☐ Clear		☐ Slightly Cloudy	☐ Opaque		☒ Other	na
Floatables	☐ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☒ Other	na
Deposits	☐ None	☒ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other	
Vegetation	☐ None	☐ Limited	☒ Normal	☐ Excessive		☐ Other	
Biology	☐ None	☒ Insects	☐ Algae	☐ Fish	☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail	☐ Other

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☒ Yes ☐ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 36

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)	ns	NH_3-N (mg/L)	ns	NO_3 (mg/L)	ns	Ortho-PO_4 (mg/L)	ns
pH (pH units)	ns	TURB (NTU)	ns	NO_3-N (mg/L)	ns	Ortho-PO_4-P (mg/L)	ns
COND (mS/cm)	ns	MBAS (mg/L)	ns	DO (mg/L)	ns		

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	dry	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2009 Trash Assessment Form

SITE ID: U10a DATE: 9/8/09

OBSERVER: JL/MD TIME: 10:50

LOCATION: South Bank of Forester Creek, 200 yds south of the Mission Gorge Rd and Carlton Hill intersection

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L x W (FT): 20x20

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☐ MS4 ☐ RECEIVING WATER ☑ BOTH	
☐ Optimal	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☑ Suboptimal	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ Marginal	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ Submarginal	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ Poor	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ Potential Threat to Human Health	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ Potential Threat to Aquatic Health	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

LN

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☑ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☑ MS4 ☐ Receiving Water

Site ID	V400		**Latitude**	32.83375	**Watershed**	**Hydrologic Unit**	907
Location	Prospect Avenue, east of Fanita Drive		**Longitude**	-117.00005		**Hydrologic Area**	907.1
			TB Page	1231-B7		**Hydrologic Subarea** (Optional)	907.12
Date	9/3/09	**Time** 12:40	**Observer**	JL/MD		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☑ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☐ Outlet ☒ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☒ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☒ None	☒ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☐ None	☐ Insects ☐ Algae	☐ Fish	☒ Snails	☐ Mussels/ Barnacles ☒ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 19, 20

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	34.4	NH_3-N (mg/L)	0.177	NO_3 (mg/L)	0.374	Ortho-PO_4 (mg/L)	0.045
pH (pH units)	~~9.0~~ 9.1	TURB (NTU)	1.95	NO_3-N (mg/L)	0.085	Ortho-PO_4 -P (mg/L)	0.015
COND (mS/cm)	3.00	MBAS (mg/L)	0.25	DO (mg/L)	na		

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width	30	in
Depth	0.25	in
Velocity	10/10	ft/sec
Flow	25	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2009 Trash Assessment Form

SITE ID: ~~V40D~~ V40d DATE: 9/3/09

OBSERVER: JL/MD TIME: 12:40

LOCATION: Prospect Avenue, east of Fanita Drive

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L x W (FT): 15x15

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☑ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ Optimal	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☑ Suboptimal	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ Marginal	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ Submarginal	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ Poor	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ Potential Threat to Human Health	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ Potential Threat to Aquatic Health	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

LN

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☒ Confirmation For pH ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☑ MS4 ☐ Receiving Water

Site ID	V40D		**Latitude**	32.83375	**Watershed**	**Hydrologic Unit**	907
Location	Prospect Avenue, east of Fanita Drive		**Longitude**	-117.00005		**Hydrologic Area**	907.1
			TB Page	1231-B7		**Hydrologic Subarea** (Optional)	907.12
Date	9/4/09	**Time** 10:05	**Observer**	JL/MD		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☐ Outlet ☒ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor ☒ None ☐ Musty ☐ Rotten Eggs ☐ Chemical ☐ Sewage ☐ Other

Color ☒ None ☐ Yellow ☐ Brown ☐ White ☐ Gray ☐ Other

Clarity ☒ Clear ☐ Slightly Cloudy ☐ Opaque ☐ Other

Floatables ☒ None ☐ Trash ☐ Bubbles/Foam ☐ Sheen ☐ Fecal Matter ☐ Other

Deposits ☐ None ☒ Sediment/Gravel ☒ Fine Particulates ☐ Stains ☐ Oily Deposits ☐ Other

Vegetation ☐ None ☒ Limited ☐ Normal ☐ Excessive ☐ Other

Biology ☐ None ☐ Insects ☐ Algae ☐ Fish ☒ Snails ☐ Mussels/ Barnacles ☒ Insect/ Algae ☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☐ Yes ☒ No **Photo #** _____

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	27.4	NH_3-N (mg/L)	na	NO_3 (mg/L)	na	Ortho-PO_4 (mg/L)	na
pH (pH units)	8.0	TURB (NTU)	na	NO_3-N (mg/L)	na	Ortho-PO_4 -P (mg/L)	na
COND (mS/cm)	3.62	MBAS (mg/L)	na	DO (mg/L)	na		

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width	40	in
Depth	0.25	in
Velocity	10/10	ft/sec
Flow	31	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	V45k	**Latitude**	32.83878	**Watershed**	**Hydrologic Unit**	907
Location	North of Mission Gorge Rd, east of Freeway 125	**Longitude**	-117.00268		**Hydrologic Area**	907.1
		TB Page	1231-A6		**Hydrologic Subarea** (Optional)	907.12
Date	9/9/09 **Time** 12:30	**Observer**	JL/MD		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☒ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☒ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☒ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☒ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☒ Normal	☐ Excessive		☐ Other
Biology	☐ None	☐ Insects	☐ Algae	☒ Fish	☐ Snails	☐ Mussels/ Barnacles	☒ Insect/ Algae	☐ Insect/ Snail	☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☒ Yes ☐ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 55-59

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	26.1	NH_3-N (mg/L)	0.271	NO_3 (mg/L)	0.528	Ortho-PO_4 (mg/L)	0.197
pH (pH units)	7.7	TURB (NTU)	3.70	NO_3-N (mg/L)	0.119	Ortho-PO_4-P (mg/L)	0.064
COND (mS/cm)	2.60	MBAS (mg/L)	0.25	DO (mg/L)	na		

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	5	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2009 Trash Assessment Form

SITE ID: V45K DATE: 9/9/09

OBSERVER: JL/MD TIME: 12:30

LOCATION: North of Mission Gorge Rd, east of Freeway 125

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L x W (FT): 15x15

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ Optimal	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ Suboptimal	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ Marginal	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ Submarginal	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400). Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ Poor	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ Potential Threat to Human Health	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ Potential Threat to Aquatic Health	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	Y15e	**Latitude**	32.83670	**Watershed**	**Hydrologic Unit**	907
Location	West of Big Rock Road, across from a shopping center	**Longitude**	-117.02158		**Hydrologic Area**	907.1
		TB Page	1230-H7		**Hydrologic Subarea** (Optional)	907.12
Date	9/8/09 **Time** 9:35	**Observer**	JL/MD		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☒ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☒ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☒ Other na
Color	☐ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☒ Other na
Clarity	☐ Clear		☐ Slightly Cloudy	☐ Opaque		☒ Other na
Floatables	☐ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☒ Other na
Deposits	☐ None	☒ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☒ Normal	☐ Excessive		☐ Other
Biology	☐ None	☒ Insects	☐ Algae	☐ Fish	☐ Snails	☐ Mussels/ Barnacles ☐ Insect/ Algae ☐ Insect/ Snail ☐ Other

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 34

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)	ns	NH_3-N (mg/L)	ns	NO_3 (mg/L)	ns	Ortho-PO_4 (mg/L)	ns
pH (pH units)	ns	TURB (NTU)	ns	NO_3-N (mg/L)	ns	Ortho-PO_4 -P (mg/L)	ns
COND (mS/cm)	ns	MBAS (mg/L)	ns	DO (mg/L)	ns		

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	dry	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2009 Trash Assessment Form

SITE ID: Y15e DATE: 9/8/09

OBSERVER: JL/MD TIME: 9:35

LOCATION: West of Big Rock Road, across from a shopping center

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L x W (FT): 15x15

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☑ MS4 ☐ RECEIVING WATER ☐ BOTH	
☐ Optimal	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☑ Suboptimal	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ Marginal	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ Submarginal	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ Poor	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ Potential Threat to Human Health	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ Potential Threat to Aquatic Health	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

LN

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☑ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☑ MS4 ☐ Receiving Water

Site ID	~~Z15B~~ Z15b	**Latitude**	32.83770	**Watershed**	**Hydrologic Unit**	907
Location	North of Mission Gorge Rd, east of Father Junipero Serra Trail	**Longitude**	-117.02997		**Hydrologic Area**	907.1
		TB Page	1230-G7		**Hydrologic Subarea** (Optional)	907.12
Date	9/4/09 **Time** 9:20	**Observer**	JL/MD		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☒ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor ☒ None ☐ Musty ☐ Rotten Eggs ☐ Chemical ☐ Sewage ☐ Other

Color ☐ None ☐ Yellow ☒ Brown ☐ White ☐ Gray ☐ Other

Clarity ☒ Clear ☐ Slightly Cloudy ☐ Opaque ☐ Other

Floatables ☒ None ☐ Trash ☐ Bubbles/Foam ☐ Sheen ☐ Fecal Matter ☐ Other

Deposits ☐ None ☒ Sediment/Gravel ☒ Fine Particulates ☐ Stains ☐ Oily Deposits ☐ Other

Vegetation ☐ None ☐ Limited ☒ Normal ☐ Excessive ☐ Other

Biology ☐ None ☒ Insects ☐ Algae ☐ Fish ☐ Snails ☐ Mussels/ Barnacles ☐ Insect/ Algae ☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 25, 26

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	25.9	NH_3-N (mg/L)	0.256	NO_3 (mg/L)	2.654	Ortho-PO_4 (mg/L)	0.499
pH (pH units)	7.6	TURB (NTU)	7.79	NO_3-N (mg/L)	0.600	Ortho-PO_4 -P (mg/L)	0.163
COND (mS/cm)	2.35	MBAS (mg/L)	0.50	DO (mg/L)	na		

Analytical Lab Samples Collected? ☒ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	<1	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2009 Trash Assessment Form

SITE ID: ~~Z15B~~ Z15b **DATE:** 9/4/09

OBSERVER: JL/MD **TIME:** 9:20

LOCATION: North of Mission Gorge Rd, east of Father Junipero Serra Trail

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE):

ESTIMATED AREA OF ASSESSMENT L x W (FT): 10x10

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☑ **MS4** ☐ **RECEIVING WATER** ☐ **BOTH**	
☑ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☑ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
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☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

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Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ **Potential Threat to Human Health**	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ **Potential Threat to Aquatic Health**	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

CITY OF SANTEE



Jurisdictional Urban Runoff Management Program

Annual Report 2009-2010

CERTIFICATION STATEMENT

Date: September 2010

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Pedro Orso Delgado, P.E.
Deputy City Manager/Director of Development Services

TABLE OF CONTENTS

EXECUTIVE SUMMARY ……ES-1

1.0 INTRODUCTION……1-1

1.1 Background……..1-1

1.1.1 Regulatory Background……1-1

1.1.2 City Setting……...1-1

1.2 Purpose and Objectives……1-5

1.3 Report Organization……1-5

2.0 DEVELOPMENT PLANNING COMPONENT……2-1

2.1 Introduction…….……..2-1

2.1.1 Summary of Notable Accomplishments…….……..2-1

2.2 Land Use Planning……2-2

2.2.1 Background……...2-2

2.2.2 Source Characterization……2-2

2.2.3 Best Management Practice Requirements……2-2

2.2.4 Program Implementation……..2-2

2.3 Environmental Review Process……2-2

2.4 Development Project Approval and Verification Process……2-3

2.4.1 Background……...2-3

2.4.2 Source Characterization……2-3

2.4.3 Best Management Practice Requirements……2-3

2.4.4 Program Implementation……..2-3

2.4.4.1 Outreach and Staff Training……...2-3

2.4.4.2 Urban Runoff Approval Process for Development Projects……..2-4

2.4.4.3 Treatment Control BMP Inspection and Maintenance Verification Program……..2-6

2.5 Development Planning Component Effectiveness Assessment…….2-10

2.6 Program Review and Modification…….2-10

3.0 CONSTRUCTION……3-1
3.1 Introduction……3-1
3.1.1 Summary of Notable Accomplishments……3-1
3.2 Source Characterization……..3-2
3.3 Updates to Ordinances and Approval Processes……3-2
3.4 Best Management Practice Requirements……..3-2
3.5 Program Implementation……3-2
3.5.1 Education and Staff Training……..3-3
3.5.2 Construction and Grading Approval Process……3-3
3.5.3 Inspection of Construction Sites……3-3
3.5.4 Enforcement Measures……..3-4
3.6 Construction Activities Effectiveness Assessment……...3-5
3.7 Program Review and Modification…….....3.5
4.0 MUNICIPAL COMPONENT……...4-1
4.1 Introduction……....4-1
4.1.1 Summary of Notable Accomplishments……....4-1
4.2 Fixed Facilities…….....4-1
4.2.1 Background……....4-1
4.2.2 Source Characterization……....4-2
4.2.3 Best Management Practice Requirements……..4-2
4.2.4 Program Implementation……...4-2
4.3 Roads, Street, Highways, and Parking Facilities……..4-3
4.3.1 Background……4-3
4.3.2 Source Characterization……4-4
4.3.3 Best Management Practices……...4-4
4.3.4 Program Implementation……4-4
4.4 MS4……4-5
4.4.1 Background……4-5
4.4.2 Source Characterization……..4-5
4.4.3 Best Management Practices……4-5
4.4.4 Program Implementation……4-6

4.5 Sanitary Sewer System……..4-7
4.5.1 Background……4-7
4.5.2 Source Characterization……4-6
4.5.3 Best Management Practices……...4-6
4.5.4 Program Implementation……4-7
4.6 Mobile Municipal Activities……..4-8
4.6.1 Background……4-8
4.6.2 Source Characterization……4-8
4.6.3 Best Management Practices……...4-8
4.6.4 Program Implementation……4-8
4.7 Special Events……4-9
4.7.1 Background……4-9
4.7.2 Source Characterization…….…….4-9
4.7.3 Best Management Practices……....4-9
4.7.4 Program Implementation……....4-9
4.8 Education and Outreach…….4-10
4.9 Spill Reporting, Response and Prevention…….....4-10
4.10 Public Reporting of Illicit Discharges and Connections…….....4-10
4.11 Municipal component Effectiveness Assessment…….....4-11
4.12 Program Modification and Review……4-11
5.0 INDUSTRIAL AND COMMERCIAL……..5-1
5.1 Introduction……..5-1
5.1.1 Summary of Notable Accomplishments……5-1
5.2 Stationary Industrial and Commercial Site/Sources Element…….….5-1
5.2.1 Background……5-1
5.2.2 Source Characterization……5-2
5.2.3 Best Management Practice Requirements……5-2
5.2.4 Program Implementation……...5-2
5.3 Mobile Sources……5-5
5.3.1 Background……5-5
5.3.2 Source Characterization……5-6

5.3.3 Best Management Practice Requirements……5-6
5.3.4 Program Implementation……...5-6
5.4 Industrial and Commercial Component Effectiveness Assessment……5-7
5.5 Program Review and Modification……...5-7
6.0 RESIDENTIAL……...6-1
6.1 Introduction……..6-1
6.1.1 Summary of Notable Accomplishments……...6-1
6.2 Source Characterization……6-1
6.3 Best Management Practice Requirements……6-2
6.4 Program Implementation……..6-2
6.4.1 Outreach and Education……6-2
6.4.2 Used Oil and Waste Collection Services……...6-5
6.4.3 Hotlines and Websites……...6-5
6.4.4 Complaint Investigation……6-5
6.4.5 Enforcement……..6-7
6.4.6 Regional Residential Education Program…….…….6-7
6.4.7 Methods Evaluation…….……..6-7
6.5 Effectiveness Assessment……6-8
6.6 Program Review and Modification……..6-8
7.0 ILLICIT DISCHARGE DETECTION AND ELIMINATION……..7-1
7.1 Introduction……7-1
8.0 EDUCATION COMPONENT……8-1
8.1 Introduction……..8-1
8.1.1 Summary of Notable Accomplishments……8-1
8.2 Staff Training Element……8-1
8.3 Educational Outreach Element……8-4
8.3.1 Industrial and Commercial Businesses……..8-4
8.3.1.1 Mobile Businesses……...8-5
8.3.2 Construction Site Owners and Developers……...8-5
8.3.3 Residential Areas……...8-6
8.3.4 Underserved Communities……8-7

8.3.5 Complaint Investigations……...8-8
8.3.6 Education Material Distributed……8-8
8.4 Outreach Component Effectiveness Assessment……....8-9
8.5 Program Review and Modification…….……8-9
9.0 PUBLIC PARTICIPATION…….…...9-1
9.1 Introduction…….…....9-1
9.1.1 Summary of Notable Accomplishments…….…..9-1
9.2 Events and Programs…….…..9-1
9.3 Public Participation Component Effectiveness Assessment……...9-3
9.4 Program Review and Modification……..……...9-3
10.0 FISCAL ANALYSIS……10-1
11.0 EFFECTIVENESS ASSESSMENT…….11-1
11.1 Introduction…….11-1
11.2 Effectiveness Assessment Result……11-1
11.2.1 Outcome Level Assessments…….11-2
11.2.2 Overall Component Assessments……..11-3
11.3 Program Review and Modification……..11-5
12.0 SPECIAL INVESTIGATIONS……..12-1
13.0 NON-EMERGENCY FIRE FIGHTING…….13-1
14.0 JURMP REVISIONS……14-1
15.0 CONCLUSIONS AND RECOMMENDATIONS……15-0
16.0 REFERENCES……...16-0

TABLES

Table 1-1 City of Santee Land Use Breakdown
Table 2-1 Development Projects Subject to SUSMP Requirements During 2009/2010
Table 2-2 Assessment of Compliance with Required Inspection Frequencies
Table 2-3 Summary of Treatment Control BMP Inspection Results
Table 3-1 Total Number of Enforcement Actions Taken
Table 4-1 Street Sweeping Prioritization and Frequency
Table 5-1 Violations of the General Industrial Permit
Table 5-2 Industrial and Commercial Sites Inspected During the Reporting Period
Table 6-1 Summary of Outreach and Education Activities
Table 8-1 Outside Staff Training Opportunities Fiscal Year 2009-2010

Table 8-2 Educational Material Distributed
Table 9-1 Summary of Clean-up Events
Table 10-1 Expenditure Summary
Table 10-2 Fund Summary
Table 10-3 Watershed Urban Runoff Management Program (WURMP) Expenses
Table 10-4 Regional Urban Runoff Management Program (RURMP) Expenses
Table 11-1 Development Planning Component Assessment Measures
Table 11-2 Construction Component Assessment Measures
Table 11-3 Municipal Component Assessment Measures
Table 11-4 Industrial and Commercial Component Assessment Measures
Table 11-5 Residential Component Assessment Measures
Table 11-6 Illicit Discharge Detection and Elimination Component Assessment Measures
Table 11-7 Education Component Assessment Measures
Table 11-8 Public Participation Component Assessment Measures

Figures

Figure 1-1 City of Santee Land Use and Drainage Basins
Figure 11-1 Dry Weather Monitoring Historical Exceedance Summary: Field Screening Tests
Figure 11-2 Dry Weather Monitoring Historical Exceedance Summary: Laboratory Analytical Tests
Figure 11-3 Additional Study Data: pH
Figure 11-4 Additional Study Data: Fecal Coliform in Forester Creek
Figure 11-5 Additional Study Data: Fecal Coliform in the San Diego River
Figure 11-6 Additional Study Data: Fecal Coliform in Sycamore Creek

Appendices

A Inventories
- A.1 Permanent Treatment Control BMP Inventory
- A.2 Construction Inventory
- A.3 Municipal Inventory
- A.4 Industrial/Commercial Inventory

B Summary of Documented Complaints
C JURMP Annual Report Requirements Checklist

Attachments

Attachment 3.1 Addendum to Rainy Season Letter
Attachment 4.1 Santee Factsheet Series
Attachment 4.1 JURMP Update to Pesticide, Herbicide and Fertilizer Handling
Attachment 6.1 Study on Pet Waste Management by Residents
Attachment 8.1 Santee Review Articles
Attachment 12.1 Additional Study

EXECUTIVE SUMMARY

The City of Santee (City) has been actively developing and implementing storm water pollution prevention measures since 1990. The City's Jurisdictional Urban Runoff Management Program (JURMP) was updated and submitted to the San Diego Regional Water Quality Control Board (RWQCB) in March 2008. The JURMP update was required by the re-issued storm water permit, RWQCB Order No. R9-2007-0001 (Municipal Permit). The Municipal Permit was jointly issued to 18 municipalities in San Diego County, including the City; the County of San Diego; the San Diego County Regional Airport Authority; and the San Diego Unified Port District (collectively referred to as "Copermittees").

The City's JURMP includes Best Management Practices (BMP) standards for businesses, construction and development projects, residents, and the City's own activities. The JURMP also includes programs for water quality monitoring and educational outreach.

This JURMP Annual Report presents the City's activities to implement its JURMP during the 2009/2010 fiscal year (Reporting Period), which began on July 1, 2009 and ended on June 30, 2010. Each section of this JURMP Annual Report discusses how the City's efforts during the Reporting Period met the requirements of the Municipal Permit. Key actions taken for the major components of the City's storm water program are summarized in the table below.

Component	Key Actions
Development Planning	• Stormwater Program Manager reviewed grading permit applications to determine applicable storm water requirements, to ensure the appropriate submittals were made prior to permit issue. • Inspected 24 sites with treatment control BMPs installed and required annual verification letters to be completed for at least a year. • Prompt notification of responsible parties for newly-complete projects of the BMP treatment control maintenance and verification program. • Followed up with responsible parties at inspected site and saw resulting improvements in BMP maintenance. • City was active in the development, review and approval process for the model Standard Urban Runoff Mitigation Plan (SUSMP) and hydromodification plan. • The City's SUSMP was updated and is available with related

Component	Key Actions
	forms on the City's website.
Construction	• The City conducted plan checks of erosion control plans to ensure construction projects proposed appropriate BMPs that met the City's minimum requirements. • Active construction sites were inspected to assess BMP implementation during the Reporting Period; a total of 275 construction inspections were completed at 23 sites. • The City continued its program of inspecting sites prior to predicted rain events and during rain events, when appropriate, to foster BMP implementation when the highest potential for pollutant discharge is present. • The City participated in the regional Construction subworkgroup.
Municipal	• The City inspected all high threat to water quality municipal fixed facilities and continued its street sweeping and storm drain (MS4) maintenance programs. • A total of 675 tons of trash and debris was removed from street sweeping activities. • 559 tons of debris was removed from standard MS4 maintenance. • City personnel and contractors were trained regarding storm water pollution prevention concepts and practices.
Industrial and Commercial	• During the Reporting Period the City inspected 291 businesses, which exceeded the Municipal Permit requirement to inspect at least 25 percent of the inventoried stationary industrial and commercial business. • During the inspections, the City notified industrial and commercial businesses of the City's new BMP requirements and provided applicable outreach materials. • Each facility's compliance with the State of California General Industrial Permit (Industrial Permit) was also assessed during inspections. • City personnel participated in regional workgroups relating to industrial and commercial activities.
Residential	• During the Reporting Period the City hosted a variety of waste disposal and clean-up events and encouraged residents to participate in these events.

Component	Key Actions
	• The City also responded to 46 complaints made to the City storm water hotline regarding residential areas. The complaint investigations were used as opportunities to enforce BMP requirements and to educate residents. • The City's *Santee Review* newsletter, which included storm water-related articles, was made available to all residents during the Reporting Period. • City personnel participated in regional workgroups relating to residential activities.
Illicit Discharge Detection and Elimination	• To comply with Addendum No. 2 of the Municipal Permit, the full section will not be submitted until after September 30, 2010, the City did still implement its IDDE program component during the Reporting Period. • During this period, the City responded to and resolved 68 complaints made to its storm water hotline and to the City website, as well as referrals from City staff. • The City completed its 2009 Dry Weather Field Screening and Analytical Monitoring Program (Dry Weather Monitoring Program). The recommendations in the final report for the Dry Weather Monitoring Program were addressed during the Reporting Period.
Education	• The City continued to conduct various education and outreach activities throughout the Reporting Period as a means to raise storm water awareness in various communities in the City. • The City continued to circulate the *Santee Review* newsletter, which included storm water-related articles aimed at both residents and businesses in the City. • The City finalized its updated stormwater pages to better inform the public of relevant stormwater requirements. • The City continued to distribute activity-specific fact sheets during industrial and commercial inspections as well as during residential complaint investigations; • Over 2,142 copies of various educational materials were distributed during the Reporting Period. • City personnel participated in regional workgroups relating to education and outreach activities.
Public	• During the Reporting Period, the City provided a variety of

Component	Key Actions
Participation	opportunities for individuals in the City to participate in the City's storm water program. • The City hosted clean-up events along Forester Creek and the San Diego River; volunteers removed approximately 24,840 pounds of trash and debris. • Individuals were also encouraged to participate in activities such as storm drain stenciling.
Fiscal Analysis	• Itemized expenditures for the Reporting Period are presented in this section.
Effectiveness Assessment	• The City has identified significant activities within each program component and metrics to assess each one. Standard tables to report this information have been created and included in Section 11 of this JURMP Annual Report.
Special Investigations	• The City conducted ambient water quality monitoring in the San Diego River, Forester Creek, and Sycamore Creek as part of an additional study conducted concurrently with the Dry Weather Monitoring Program.

Conclusions and Recommendations

The results of our additional study of the receiving waters in Santee demonstrate that water quality in both Forester Creek and the San Diego River tend to improve as these flow through Santee and an assessment of water quality trends also shows improvement. These observations demonstrate that the stormwater program has been effective.

The City will continue to implement the new and updated programs in its JURMP during the 2010/2011 Fiscal Year; it is anticipated that some program refinements will be made as implementation progresses. The City will also collaborate with the other Copermittees to improve the efficiency of its program and to develop updated methods of assessing program effectiveness.

1.0 INTRODUCTION

1.1 BACKGROUND

This Jurisdictional Urban Runoff Management Plan (JURMP) Annual Report presents a summary of the activities of the City of Santee (City) during the 2009/2010 fiscal year (Reporting Period). Preparation and submittal of the JURMP Annual Report is required by San Diego Regional Water Quality Control Board (RWQCB) Order No. R9-2007-0001 (Municipal Permit).

1.1.1 REGULATORY BACKGROUND

The 1987 amendments to the Federal Water Pollution Control Act (also known as the Clean Water Act, or CWA) established a framework for regulating MS4 discharges under the National Pollutant Discharge Elimination System (NPDES). The RWQCB issued the first regional National Pollutant Discharge Elimination System (NPDES) permit for municipalities in the San Diego Region in 1990, followed by a revised permit in 2001. The revised permit, RWQCB Order No. 2001-01 was replaced by the current Municipal Permit R9-2007-0001, in 2007.

Like all the other municipalities in the San Diego region regulated by R9-2007-0001, collectively referred to as Copermittees, the City developed and submitted a JURMP to the RWQCB in 2002. As required by the Municipal Permit, the City submitted an updated JURMP in March 2008. The JURMP includes management measures for a variety of different sectors and activity types such as municipal, industrial, commercial, construction, and significant development and re-development activities.

Annual reports on the implementation of the JURMP are required to be submitted to the RWQCB on September 30 of each year. This JURMP Annual Report presents information for the 2009/2010 fiscal year (July 1, 2009 to June 30, 2010).

1.1.2 CITY SETTING

The City of Santee is located in central San Diego County and is bordered by the City of San Diego to the west, the City of El Cajon to the south, and unincorporated portions of San Diego County. The City itself includes approximately 16 square miles and an estimated population of 58,000. Land use within the City is mainly residential; other land uses in the City include municipal facilities, industrial and commercial facilities, streets, highways, and undeveloped open spaces. Land use categories with the corresponding acreage percentage of the total area are included in Table 1-1, below.

Table 1-1
City of Santee Land Use Breakdown

Land Use	Total Area (Acres)	Percentage
Vacant	4,478	42%
Single Family Residential	2,328	22%
Transportation	1,152	11%
Open	542	5%
Public Facilities and Utilities	380	4%
Commercial	373	4%
Other Residential	322	3%
Industrial	315	3%
Parks	279	3%
Multi-Family Residential	234	2%
Water	111	1%
Office	21	<1%
Recreation	20	<1%
Construction	13	<1%
Agriculture	5	<1%
Total	**10,574**	**100%**

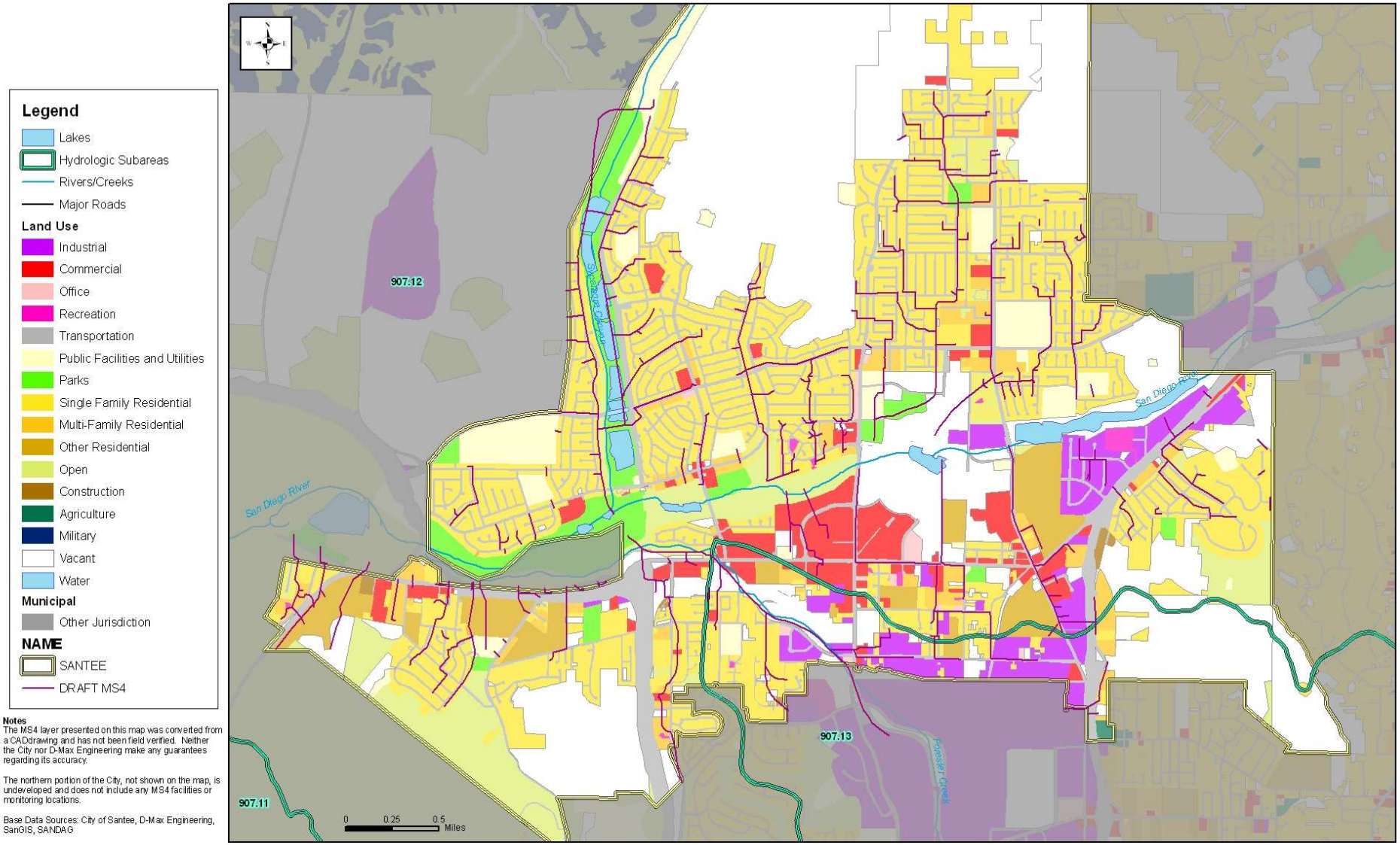
Source: 2007 SANDAG land use data

The City of Santee is located entirely in the San Diego River Watershed, Hydrologic Unit (HU) 907. Specifically, the entire City of Santee is located within the Lower San Diego River Hydrologic Area (HA), 907.1. While a significant portion of the City drains directly to San Diego River (which flows from east to west across the City), some sections of the City drain first to other receiving waterbodies within the City that then ultimately discharge into San Diego River. Forester Creek enters the City of Santee from the southeast, eventually merging with San Diego River west of Carlton Hills Boulevard. Sycamore Creek enters the City from the north, flows south, eventually merging with the San Diego River west of Santee Recreation Lakes (Santee Lakes). Refer to Figure 1-1 for information on land use and drainage basins in the City.

Both Forester Creek and the San Diego River are listed as impaired waterbodies on the 2006 Clean Water Act (CWA) 303(d) list. The portion of Forester Creek within the City of Santee is impaired for fecal coliform, low dissolved oxygen, phosphorus, and total dissolved solids (TDS). The upper three miles of Forester Creek, which are upstream of the City, are also listed for a pH impairment. The last six miles of the San Diego River is impaired for fecal coliform. The lower San Diego River, including the portion that flows through Santee, is listed as being impaired for low dissolved oxygen, phosphorus, and

TDS. Sycamore Creek is listed as having a RARE beneficial use. Rare beneficial use is defined as water that support habitats necessary, at least in part, for the survival and successful maintenance of plant or animal species established under state or federal law as rare, threatened or endangered. Additional impairments are proposed in the draft 2010 Integrated Report. These impairments will be included in future annual reports when they have been approved by the Office of Administrative Law.

Figure 1-1
City of Santee Land Use and Drainage Basins



1.2 PURPOSE AND OBJECTIVES

The City's JURMP presents a strategy to reduce the discharge of pollutants from the MS4 to the maximum extent practicable (MEP). The JURMP includes a variety of programs intended to minimize or eliminate the potential effects of urban runoff from the City on receiving water bodies. This JURMP Annual Report has been prepared to document the City's implementation of its JURMP during the 2009/2010 reporting period.

1.3 REPORT ORGANIZATION

This report follows the standard reporting outline jointly developed by the Copermittees and submitted to the RWQCB in July 2007. The following sections are included in the JURMP Annual Report.

Section 1 **Introduction**
Section 2 **Development Planning Component**
Section 3 **Construction Component**
Section 4 **Municipal Component**
Section 5 **Industrial and Commercial Component**
Section 6 **Residential Component**
Section 7 **Illicit Discharge Detection and Elimination Component**
Section 8 **Education Component**
Section 9 **Public Participation Component**
Section 10 **Fiscal Analysis Component**
Section 11 **Effectiveness Assessment Component**
Section 12 **Special Investigations**
Section 13 **Non-Emergency Fire Fighting**
Section 14 **JURMP Revisions**
Section 15 **Conclusions and Recommendations**
Section 16 **References**

Each section includes all the elements required by the standard JURMP Annual Report format. In some cases, additional subsections within the standardized sections have been added to provide a clearer explanation of the City's activities during the reporting period. For example, in this introduction section, the standard reporting format only includes subsections 1.1 and 1.2. Subsection 1.1, Background, has been divided into subsections 1.1.1, Regulatory Background, and 1.1.2, City Setting, for the sake of clarity.

2.0 DEVELOPMENT PLANNING COMPONENT

2.1 INTRODUCTION

The development planning component of the City's JURMP aims to improve overall storm water quality by reducing the discharge of pollutants from development projects to the MEP and managing potential increases in runoff from development projects that have the potential to negatively affect downstream water bodies. During the Reporting Period, the City accomplished these goals through implementation of its JURMP document.

The City implemented new Municipal Permit requirements for development planning throughout this Reporting Period. The City's SUSMP (Standard Urban Stormwater Mitigation Plan) requirements were updated to incorporate the March 2009 Model SUSMP.

City staff participated in development and review of this Model SUSMP and the regional Hydromodification Plan (HMP) that was approved on July 14, 2010.

2.1.1 SUMMARY OF NOTABLE ACCOMPLISHMENTS

Some notable achievements for the development planning component during the Reporting Period are presented in the following bulleted list. The following subsections of this section provide more details on how the City complied with the Municipal Permit during the Reporting Period.

- The City revised development review processes to incorporate the updated Model SUSMP. Additionally, the updated SUSMP and development review forms were uploaded to the City's website to facilitate the incorporation of these changes in development design.
- Conducted maintenance inspections of treatment control BMPs at 24 completed development projects throughout the City.
- Provided information about the annual maintenance verification program, including an example certification letter, on the City's website.
- Conducted trainings for City staff regarding new SUSMP requirements.

2.2 LAND USE PLANNING

2.2.1 BACKGROUND

The City's General Plan was last updated in 2003 and contains water quality and watershed protection principles in the plan's Conservation Element. The comprehensive principles established in 2003 provide an ample framework for implementing the

requirements of the Municipal Permit, and no changes to these policies were necessary during the reporting period.

2.2.2 SOURCE CHARACTERIZATION

The City's General Plan contains established restrictions on the types of new development projects based on the planned land uses to ensure public safety and limit negative impacts to the surrounding environment. No changes to development restrictions in the City's General Plan for storm water purposes were necessary during the reporting period. However there has been a revision to require new trash enclosure areas to be covered with a roof.

2.2.3 BEST MANAGEMENT PRACTICE REQUIREMENTS

Please refer to the City's updated JURMP document for a list of the water protection policies included in the City's General Plan. These policies remained the same throughout the reporting period.

2.2.4 PROGRAM IMPLEMENTATION

The City implemented its water protection related land-use policies during the reporting period mainly through the City's Municipal Code. Complete copies of these documents, can be found in the City's updated JURMP. Details on how the City implemented its established water protection policies through its environmental review process and its development project approval and verification processes during the reporting period are provided in Sections 2.3 and 2.4 of this JURMP Annual Report document.

The City's Municipal Code is written to incorporate the most current Model SUSMP as a requirement for development and re-development subject to SUSMP requirements; therefore, it was not necessary for the City to update its Municipal Code to include the newly adopted updated Model SUSMP. The City SUSMP was revised and adopted prior to the March 25, 2010 deadline.

2.3 ENVIRONMENTAL REVIEW PROCESS

Stormwater requirements for a project are reviewed during the pre-application stage. As described in the JURMP, the project proponent is required to complete the updated Project Applicability, LID and Source Control Checklist so that these requirements can be evaluated. Preliminary designs are required to incorporate the placement and description of BMPs to be used, so that an assessment can be made to determine whether it is feasible for the project to comply with applicable stormwater requirements. The project approval document incorporates the conditions needed to comply with these applicable stormwater requirements (for example, filing an NOI to comply with the State Construction Permit, development of a SWPPP, development of a SWMP, use of treatment control BMPs which have medium removal efficiency for applicable pollutants, execution of a BMP maintenance agreement, etc.). No modifications to the

City's environmental review process have been made since the submittal of the updated JURMP.

2.4 Development Project Approval and Verification Process

2.4.1 Background

During the Reporting Period, the City implemented the watershed protection principles in the City's General Plan through various aspects of the City's development project approval and verification process, as detailed below. BMP selection and verification followed the process described in the City's JURMP.

2.4.2 Source Characterization

The different priority pollutants, sources, and activities associated with development projects within the City are addressed through the implementation of the City's SUSMP requirements.

2.4.3 Best Management Practice Requirements

The City's BMP requirements mirror those in the regionally-developed Model SUSMP. The City is encouraging the incorporation of BMPs within landscape features (such as bioretention facilities and bioswales) over proprietary products that are typically installed in catch basins or at the end of a pipe. The bioswales and bioretention facilities are more likely to remove priority pollutants in the City at the required efficiency ensuring Municipal Permit compliance and need less intensive maintenance by the property owner. These features can also provide an aesthetic benefit to the property.

2.4.4 Program Implementation

During the Reporting Period, the City required implementation of its BMPs for development projects through education, a comprehensive development project approval process, and the treatment control BMP inspection and maintenance verification program.

2.4.4.1 Outreach and Staff Training

The City regularly trains staff involved in the planning and review of development projects within the City and works closely with the development community to communicate its development requirements throughout the entire approval process. During the Reporting Period, staff and industry training was focused on changes being made to the City's SUSMP requirements. Details on trainings conducted and educational materials developed and distributed related to the new development during the reporting period can be found in Section 8 of this JURMP Annual Report. Additionally, distribution of maintenance verification letters to parties responsible for

maintenance of treatment control BMPs at completed projects continues to increase the level of knowledge of regulated parties.

2.4.4.2 URBAN RUNOFF APPROVAL PROCESS FOR DEVELOPMENT PROJECTS

All development projects that met the SUSMP definition for high priority projects were required to complete the City's urban runoff approval process as detailed in the City's JURMP. Forms and reports completed by project applicants are kept with the project's file at the City for future reference. The City thoroughly examines all development applications to determine what documents related to storm water compliance are required. Development projects determined to be Priority Projects after completing the Project Applicability, LID and Source Control Checklist are required to prepare a Storm Water Management Plan (SWMP). The City completed updating its model SWMP and development review forms to aid Priority Projects in meeting these new requirements during the 2009/2010 fiscal year. The completed documents have been uploaded to the City's website for easy reference. The City will continue to work closely with development proponents to ensure compliance with the City's SUSMP requirements.

Table 2-1 lists the Priority Projects subject to the City's SUSMP requirements during the Reporting Period, the number of document reviews for each project, and the date each was approved.

Table 2-1
Development Projects Subject to SUSMP Requirements During 2009/2010

#	Project Name	Location	Number of Reviews	Approval date
1	Santee Affordable	APN 386-192-36, -37, -39, 42	4	12/14/09
2	AT&T Storage Yard	APN 384-190-54	2	3/22/10
3	Lunar Lane Industrial Building	APN 384-091-38, -39	4	3/24/10
4	Cabins at Lake 7	APN 376-010-07, 378-020-49	3	6/15/10

One example of how a project was conditioned to meet SUSMP requirements is the development of Santee Affordable Apartments. The proposed project was a multi-family affordable housing development. The initial submittal demonstrated some confusion between Site Design LID BMPs and treatment control BMPs, did not include an analysis of the primary pollutants of concern, and referred to documents associated with other jurisdictions.

The City educated the design engineer on how to incorporate Site Design LID BMPs into the proposed design. This resulted in the direction of roof drains into landscaped areas and the raising of catch basins above grade in landscaped areas to allow water to be retained.

The design engineer was directed to use a treatment control BMP that would treat the primary pollutants of concern to at least medium removal efficiency. This resulted in the bioswale initially proposed being substituted with a more effective bioretention facility. The City reviewers worked closely with the design engineer to ensure that an adequate area was incorporated into the biorentention facility. The design engineer was also required to justify why various BMP options were not used in the design. Four design reviews were required before the proposed design was accepted.

The City will continue to monitor the review process and provide ways to educate project proponents as needed. Not only have example inspection and maintenance documents been provided to project proponents, but the revised SUSMP includes an attachment describing what is required in a design submittal.

The City SUSMP adopted during March 2010 requires the implementation of LID strategies to treat discrete drainage management areas (DMAs). These strategies include self treatment, self retention, infiltration, pervious pavement, bioretention, flow-through planters, dry wells and cisterns. This is a move away from using low, medium or high removal efficiencies.

During the reporting period, no projects received a SUSMP waiver for implementation of treatment control BMPs. The City has never issued a SUSMP waiver in the past, and at this time the City has no plans to develop a SUSMP waiver mitigation program.

Hydromodification Management Plan

During the Reporting Period the Copermittee hydromodification management workgroup met regularly to discuss key HMP development issues and provide updates on the status of consultant work products. The City regularly participated in the Land Development Workgroup, which was responsible for the development of the Hydromodification Management Plan (HMP) during the Reporting Period. The City's current SWMP guidance document contains detailed Interim Hydromodification Criteria (IHC), which the City will continue to implement until the HMP is finalized. None of the development projects undergoing the City's review process during the reporting period were subject to the IHC. The City's next large scale development project, Fanita Ranch, had its vested tentative map and agreement approved by the City Council prior to the City's interim hydromodification criteria going into effect, and is therefore not subject to the City's hydromodification requirements. Additionally, this project received a separate individual permit from the Regional Board.

The final HMP was approved by the Regional Board on July 14, 2010, and the City will incorporate the HMP requirements into the City's SUSMP within 180 days of approval, as specified in the Municipal Permit. This will be reported on in the Annual Report for the 2010-2011 fiscal year.

BMP Installation Verification

Three Priority Projects under construction during the 2009/2010 fiscal year were completed prior to the end of the Reporting Period. Verification that the BMPs proposed in the project's SWMPs were installed in accordance with approved

documents was performed during the final project inspection prior to occupancy of the site. Project engineers conducting these checks are aware that checks for permanent storm water BMPs should be performed during the final inspection. Responsible parties are promptly notified of the requirements to maintain the BMPs after occupancy, and newly installed BMPs are typically inspected during the first summer after occupancy, whether or not they are prioritized as high priority.

The RWQCB conducted an audit of three Priority Projects, Walgreens 2, Sonic Restaurant and Toyota, on October 30, 2009 and March 17, 2010. The audit comprised of a review of the SWMP for each project (October 2009) and a site visit to assess how the BMPs were implemented (March 2010). The review of all the SWMPs and site visits to Walgreens 2 and Sonic restaurant concluded that these SWMPs and BMP installations were in compliance with the City's SUSMP requirements.

Based on the site visit to Toyota it was agreed that the installation of the Site Design LIDs (the landscaped areas where the runoff from the parking lots would initially drain) could be improved. These swales were improved by removing soil in the center of these areas, producing a gentle u-shape across the planter. The area around catch basins in these drainage areas was graded so that water would be retained in these areas, rather than draining straight into the catch basin. These areas were then replanted. Based on an initial review by the RWQCB, these adjustments are considered to be satisfactory, subject to confirmation during rain events (i.e., verifying that the runoff drains as planned).

All completed Priority Projects have been assigned TTWQ priorities using the prioritization flow chart presented in the City's JURMP, and the projects have been added to the City's treatment control BMP inventory included as Attachment A.1 of this document. Projects completed during the Reporting Period have been noted with an asterisk.

2.4.4.3 TREATMENT CONTROL BMP INSPECTION AND MAINTENANCE VERIFICATION PROGRAM

The City uses information included in the City's treatment control BMP database to determine what BMPs should be present at the individual project sites. Each BMP was visually inspected, and the inspector documented the findings for each site visited. Table 2-2 summarizes how inspections conducted corresponded with the relevant Municipal Permit requirements.

Table 2-2
Assessment of Compliance with Required Inspection Frequencies

Class	Number of Sites	Inspections	Percent Inspected	Permit Requirement	Requirement Met
All Inventoried Sites	29	24	83%	20%	**Yes**

Class	Number of Sites	Inspections	Percent Inspected	Permit Requirement	Requirement Met
Sites with Drainage Inserts	20	18	90%	50%	**Yes**
High TTWQ Sites	9	9	100%	100%	**Yes**

Treatment control inspections were conducted during May and June 2010. Based on these inspections, notices regarding maintenance requirements were sent and follow up inspections conducted. Table 2-3 provides more detailed information about the inspections. The table includes the development projects inspected, the BMPs installed at each site, the BMPs inspected, brief descriptions of inspection findings, and a discussion of how any issues noted were resolved. Public Priority Projects are marked as Capital Improvement Projects (CIP) in the table.

Table 2-3
Summary of Treatment Control BMP Inspection Results

#	Project Name	BMP(s)	Inspection Notes
1	Altair	Hydrodynamic separator, drainage inserts (7)	Inspected on 12/22/09. Drainage inserts missing and hydrodynamic separator needs maintenance. Reinspected on 1/6/10 and BMPs acceptable.
2	Aubrey Glen	Hydrodynamic Separator	Inspected on 6/1/10, BMPs need maintenance. Contacted HOA who provided certification (invoice for maintenance) that this was completed.
3	Autowerks	Grassy swale, drainage inserts (2)	Inspected on 6/1/10, BMPs need maintenance. Owner has conducted maintenance and has scheduled reinspection with City.
4	Blackhorse Estates (CIP)*	Detention basin, drainage filters (7)	Inspected 06/01/10, basin needs cleaning and four inserts need cleaning. City crews have scheduled maintenance to be completed at beginning of October.
5	Cameron II	Grassy Swale, drainage insert (1)	Inspected 09/22/09, BMPs in acceptable condition.
6	Cuyamaca Town Commons*	Drainage inserts (4)	Inspected 6/1/10, two filters need maintenance. Certification of maintenance has been provided (including manifests provided by contractor).
7	Express Performance	Drainage inserts (2) and media filter	Inspected 6/3/10, filters need maintenance. Spoke to owner who had filters maintained. Reinspected 6/7/10 filters maintained and in an acceptable condition.
8	Farrington Court	Drainage insert (1)	Inspected 9/16/09, BMPs in acceptable condition. Reinspected 6/1/10, BMPs in acceptable condition.
9	Fred's Fences	Swales, drainage insert (1)	Inspected 09/21/09 channel needs cleaning. Spoke to owner who had filters maintained. Reinspected 10/11/10, channel cleaned, BMPs in acceptable condition.

#	Project Name	BMP(s)	Inspection Notes
10	Hartford Insurance*	Vegetated swale, rocky swale, and drainage inserts (3)	Inspected 6/1/10, BMPs in acceptable condition.
11	Marketplace	Infiltration trench, grass swale, water quality inlet (4), and drainage insert (2).	Inspected 9/16/09, BMPs did not need maintenance. . Inspected 6/10/10 BMPs need maintenance, sent letter and copy of inspection form to owner. Sent notice to comply to owner requiring verification of maintenance.
12	Michael Stoff Property	Grass swale	Inspected on 06/2/10, BMPs in acceptable condition.
13	Morningside	Hydrodynamic Separator (1)	Inspected 09/22/09, BMPs in acceptable condition.
14	Padre Dam Service Center*	Drainage Inserts (6)	Inspected 06/2/10, maintenance needed, verification of maintenance provided stating BMPs were maintained during August 2010.
15	Prospect Glen*	Drainage Inserts (3)	Inspected 6/2/10, BMPs in acceptable condition.
16	Rayo Wholesale*, Rayo II	Grass swale, grassy detention basin with sand cone filter (1)	Inspected 6/2/10, BMPs acceptable.
17	Sonic Car Wash	Vegetated swale, drainage inserts (3)	Inspected 09/17/10, BMPs acceptable.
18	Sonic Restaurant	Grass swale	Inspected 09/16/10, NOV issued for not maintaining BMP per City direction. Reinspected 10/21/09, maintenance completed, BMP in acceptable condition. Inspected during RWQCB audit on 3/17/10, BMPs in acceptable condition. Inspected 6/2/10 BMPs in acceptable condition.
19	Toyota	Extended detention basin, bioretention facilities and drainage inserts (7)	Inspected on January 13, 2010 and March 17, 2010. Based on RWQCB audit the bioretention facilities were recontoured. This was re-inspected on May 18, 2010 and the bioretention facility was deemed acceptable. This will be confirmed during a future rain event.
20	Treviso	Hydrodynamic separator (1), drainage inserts (2)	Inspected 06/3/10, BMPs require maintenance sent letter and copy of inspection form to property manager. Sent notice to comply to property manager requiring verification of maintenance.
21	Santee Trolley Square*	Drainage inserts (12)	Inspected 7/14/09 BMPs in acceptable condition. Inspected 6/3/10, maintenance required. Received certification of maintenance (service log from contractor was attached stating that BMPs had been maintained during August 2010). Reinspected during September 2010, evidence that BMPs were being maintained, although some material had been collected during the intervening month.
22	Vista Este*	Drainage inserts (2)	Inspected 06/3/10, BMPs acceptable acceptable condition.

#	Project Name	BMP(s)	Inspection Notes
23	Walgreens 1	Media filter	Inspected 6/3/10 BMPs need maintenance.
24	Walgreens 2	Bioswale and media filter	Inspected 6/3/10 BMPs in acceptable condition.

Notes

* Project approved prior to development of the City's SUSMP requirements

- Boys and Girls Club, and Ciraolo Family were inspected just prior to the beginning of 2008/2009 and found to have BMPs in acceptable condition; American Sheet Metal, Sky Business Park and Autumnwood II were inspected prior to 2009/10 and were also in acceptable condition. These four facilities were therefore not inspected in 2009/2010.

Certifications, usually accompanied with an invoice, manifest or other information from a contractor are generally accepted as evidence that BMPs that needed maintenance, were serviced.

Eight of the development sites inspected during the Reporting Period were approved prior to development of the City's SUSMP which requires installation of treatment control BMPs. These sites are marked with an asterisk both in the table above and in the City's Treatment Control BMP Inventory in Appendix A.1. While the City is aware that treatment control BMPs exist on these project sites, no maintenance agreements or SWMPs were required for these sites when they were approved. Consequently, the City does not have a mechanism to require maintenance and annual maintenance certification for the treatment control BMPs at these locations. The City still conducted inspections of the treatment control BMPs at these sites during the Reporting Period to educate the sites on proper inspection and maintenance of their treatment control BMPs. The City will continue to periodically monitor the status of treatment control BMPs at these locations.

Follow-up letters will be sent to the responsible party for all projects needing maintenance prior to 10/1/10 and the City will conduct follow-up inspections and enforcement as necessary. Issues for other properties were discussed in person with the property owner. City follow-up actions and the resolutions for these cases are described above in Table 2-3. During the reporting period, none of the inspected sites were observed to present a significant threat to human health or the environment during inspections; therefore none were reported to the RWQCB.

In addition to City-conducted maintenance inspections, the Municipal Permit requires annual verification of operation and maintenance of treatment control BMPs installed within the City's jurisdiction. Annual verification must be provided by the party responsible for treatment control BMP maintenance and must be returned to the City prior to the start of the rainy season (October 1st). The City notified operators of the facilities within the inventory of the need to provide annual BMP maintenance verifications for the 2009/2010 fiscal year. Annual verification of maintenance was received for all applicable properties during 2009/2010 fiscal year.

Of those required to provide annual verification, many provided annual verification prior to October 1st. Others (Ciraolo Industrial Building, Cuyamaca Town Commons, Fred's Fences, and Prospect Glen) provided annual verification during October and

early November in response to telephone calls and notices of violation issued by the City.

The City has developed procedures for development projects which should lead to timely submittal of maintenance certifications:

- A BMP Maintenance Agreement that is signed by the developer and recorded with the property.
- Procedures to notify responsible parties of their obligations as a project is completed have been developed to allow property owners to budget for maintenance.
- Standard forms and letters have been developed to routinely notify and remind property owners of their responsibility to maintain and submit certifications.
- Information on treatment control BMP maintenance and verification on the City's website, including an example annual verification letter that can be downloaded.

Protecting water quality is the overall objective of ensuring the maintenance of treatment control BMPs. Through the BMP Maintenance Agreement that the City uses on Priority Projects, the City has the right to maintain treatment control BMPs on private property and to recoup the costs from the responsible party. The City will use this tool when appropriate and feasible.

Enforcement Summary
The City took action to resolve issues observed during both field inspections and the maintenance verification program, as described above. A total of five notices of violation were issued during the reporting period. The City's approach was effective at bringing about compliance with its requirements, as shown in the more detailed discussions included earlier in this section.

2.5 DEVELOPMENT PLANNING COMPONENT EFFECTIVENESS ASSESSMENT

Please refer to Section 11 of this JURMP Annual Report for the assessment of program effectiveness.

2.6 PROGRAM REVIEW AND MODIFICATION

The City's JURMP was recently updated in March 2008. No changes to the City's development planning component have been made since that time.

3.0 CONSTRUCTION

3.1 INTRODUCTION

The City's construction program has been designed to prevent illicit discharges from construction sites. Projects subject to the General Construction Permit are not issued permits until they have demonstrated that they have filed a notice of intent and developed a SWPPP. The City has developed a database and procedures to ensure that construction sites are prioritized and inspected at the frequencies required by the Municipal Permit. In addition, the City is an active participant in the Land Development Workgroup, which addresses developments in project design and construction.

All staff associated with construction projects are aware of the stormwater requirements and take appropriate follow-up action when potential violations are observed. This allows the City to leverage the staff currently working on construction projects to ensure that compliance is consistently achieved. Stormwater program staff ensure that the requirements of the municipal permit are met and assist in ensuring that compliance is achieved at each site.

3.1.1 SUMMARY OF NOTABLE ACCOMPLISHMENTS

Some notable achievements for the construction component during the Reporting Period are presented in the following bulleted list. The following subsections of this section provide more details on how the City complied with the Municipal Permit during the reporting period.

- Prepared individual rainy season notification letters which identified what individual BMP improvements are needed at each construction site prior to the rainy season, in addition to summarizing the requirements for all construction sites. The information in these letters was used as a cross-reference during pre - and early rainy season inspections.
- Developers were required to submit a form describing how they intended to manage site runoff and BMPs during the upcoming rainy season. The rainy season form also included a section for the developer to provide contact information to be used during rain events. (Attachment 3-1).
- Conducted plan checks of erosion control plans and SWPPPs to ensure construction projects planned to comply with the City's minimum BMP requirements.
- Conducted training for applicable City staff regarding the construction requirements in the City's JURMP.
- Conducted 275 construction inspections at 23 sites per the frequencies set forth in

the JURMP. During the wet season, high TTWQ sites were inspected bi-weekly, medium TTWQ sites monthly, and at least one inspection was conducted at low TTWQ sites with grading activity.

- Conducted 24 follow-up inspections, issued 9 written warnings, 15 NOVs, and 1 administrative citation to construction sites in response to violations of the City's minimum BMP requirements.

3.2 SOURCE CHARACTERIZATION

An inventory of active construction projects during the reporting period is presented in Appendix A of this JURMP Annual Report document. The City's inventory was maintained throughout the reporting period. New construction projects were added to the inventory at the start of construction, and projects were removed from the inventory after construction was completed. Since construction projects were continually being added and removed throughout the fiscal year, inventory updates were usually performed more frequently than the minimum once per month.

3.3 UPDATES TO ORDINANCES AND APPROVAL PROCESSES

The City updated its Grading and Storm Water Management and Discharge Control ordinances during the previous reporting period as part of the City's JURMP update in 2008. Details on these revisions can be found in Section 5 of the City's JURMP. Details of any changes to the City's approval process during the reporting period are discussed in Section 3.5 of this document.

3.4 BEST MANAGEMENT PRACTICE REQUIREMENTS

The City's construction and grading project requirements are described in the City's BMP Manual, which was included as Appendix C of the City's updated JURMP document. These BMP requirements were implemented starting in March 2008.

Note that in response to a letter from the RWQCB to the City dated February 27, 2009 the maximum disturbed area for hillside developments (as defined on the City of Santee Landuse Map) will be limited to 17 acres. Hillside sites as defined by the City's Land Use Map, which originates from the General Plan, that are in compliance with applicable storm water regulations and have adequate control practices implemented to prevent storm water pollution may expand their maximum grading area on the approval of the City Engineer to allow a balanced cut-and-fill approach. The 50-acre maximum grading area will still apply to non-hillside developments.

3.5 PROGRAM IMPLEMENTATION

The City implemented the construction component of its JURMP throughout the reporting period through:

- Education and staff training;

- A comprehensive construction and grading approval process; and
- A construction inspection program.

This program is described below.

3.5.1 EDUCATION AND STAFF TRAINING

Education and staff training implemented during the 2009/2010 fiscal year focused on the new State General Construction Permit and on communicating the City's construction requirements to both City staff and the construction community. Please see Section 8 of this JURMP Annual Report document for details on training performed and educational materials distributed related to construction and grading activities.

3.5.2 CONSTRUCTION AND GRADING APPROVAL PROCESS

During the reporting period, City personnel verified that all construction projects planned to implement BMPs to meet the City's minimum requirements prior to issuing any building or grading permits. The City's grading approval process is described thoroughly in Section 5 of the City's updated JURMP. While some of the City's minimum BMP requirements have been updated, the overall approval process remained similar to that of previous years.

No projects in Santee that began construction after October 1, 2007 were larger than 50 acres. Note that while none of the City's construction sites were subject to the 50 acre grading limitation, all construction sites were still required to limit exposed cleared or graded areas to the amount of area that could be protected prior to a rain event, as prescribed in the City's seasonal BMP requirements. Also note that a smaller maximum disturbed area limit of 17 acres will be applied to hillside projects, however no projects to date have met this criterion.

The City also began implementing advanced treatment requirements during the Reporting Period. Criteria for determining when advanced treatment is required are detailed in the City's BMP Manual (Appendix C of the JURMP). During the Reporting Period, the City's minimum BMP requirements were generally adequate at controlling sediment discharges at all of the active construction sites within the City's jurisdiction. During this reporting period advanced treatment methods were not required at any construction sites.

3.5.3 INSPECTION OF CONSTRUCTION SITES

Appendix A.2 of this JURMP Annual Report contains a list of construction projects that were active during the reporting period, along with their assigned TTWQ priorities, the number of weeks the site was active within the rainy season, the numbers of inspections conducted during the wet and dry seasons, the number of follow-up and complaint inspections, and the total number of inspections for each site. In total, 275 construction inspections were performed for 23 construction sites.

Construction inspections conducted during the reporting period were performed as described in the City's JURMP. Key components of the inspections include checks for coverage under the General Construction Permit during the initial inspection and assessments of compliance with the City's BMP and discharge requirements during all inspections. Responsible parties at the sites are educated as needed during inspections. Copies of the inspection forms are kept on file at the City. The City conducts inspections at high TTWQ construction sites bi-weekly during the wet season and monthly for medium TTWQ sites. While the Municipal Permit only requires construction inspections at low TTWQ sites on an "as needed" basis year round, the City conducts at least one inspection at active low TTWQ construction projects with grading activities during the wet season. The number of weeks each site was open during the wet season and the number of inspections completed at each site are presented in Appendix A.2.

When any violations were noted during routine or follow-up inspections, these violations were documented on the project's inspection form, and the sites were given a list of corrective actions necessary to address the observed violation. When necessary, a written notice was issued for the violation, and the City inspector followed up with the site until compliance was achieved. In most cases, violations were corrected while the inspector was still at the site, and follow-up visits were not necessary. Details on the enforcement actions taken for construction sites during the implementation period are described below.

3.5.4 ENFORCEMENT MEASURES

During inspections, violations of the City's BMP requirements were noted. In such instances, City inspectors took enforcement actions as necessary to bring about compliance. Table 3-1 presents the number of enforcement actions taken during the reporting period in response to violations of the City's minimum construction BMP requirements. Enforcement actions are administered in an escalating manner as described in the City's updated JURMP.

Table 3-1
Total Number of Enforcement Actions Taken

Written Warnings	Follow-Up Inspections	Administrative Citations	NOVs	Stop Work Orders
9	24	1	15	0

On December 7, 2009 the City issued an NOV to the developer of Sky Ranch based on observations made during a rain event. A newly-graded trail on the north side of the development had not been properly stabilized, resulting in a discharge of sediment-bearing water. The RWQCB were notified of the discharge, however, the developer immediately responded to the situation by cleaning up the discharge and stabilizing it

prior to the next rain (forecast within 72 hours).

On December 17, 2009 the City issued an administrative citation to the developer of Altair for repeated observations of similar violations (discharges from cleaning activities to the storm drain system). The RWQCB was notified of this higher level of enforcement.

Other than the incidents above, none of the violations observed at construction sites during the Reporting Period were found to endanger human health or the environment. The City was able to address these violations through the City's established enforcement process.

3.6 CONSTRUCTION ACTIVITIES EFFECTIVENESS ASSESSMENT

Please refer to Section 11 of this JURMP Annual Report for the assessment of program effectiveness.

3.7 PROGRAM REVIEW AND MODIFICATION

The City's JURMP was recently updated in March 2008. With the exception of the change in maximum grading area for hillside development, no changes to the City's construction component have been made since that time.

4.0 MUNICIPAL COMPONENT

4.1 INTRODUCTION

Throughout the Reporting Period, the City of Santee continued to manage municipal areas and activities to reduce the potential for municipal discharges of pollutants to the MS4 to the MEP. As discussed in detail in the City's JURMP, the City owns and operates a variety of municipal facilities and activities. Public parks and recreation facilities, administrative buildings, fire stations, and public works facilities make up the bulk of the municipal areas in the City. Municipal activities conducted by the City include but are not limited to graffiti removal, building maintenance, landscaping activities, street sweeping, street and sidewalk repair, and MS4 maintenance. Note that the City is not responsible for water supply or wastewater conveyance and treatment. These activities are the responsibility of Padre Dam Municipal Water District (PDMWD).

4.1.1 SUMMARY OF NOTABLE ACCOMPLISHMENTS

Some notable achievements for the municipal component during the 2009/2010 Reporting Period are presented in the following bulleted list. Additional details about the City's implementation of the municipal component and of its storm water program during the reporting period are provided in the remainder of Section 4.

- The City inspected all high TTWQ fixed municipal facilities.
- The City provided in-house training sessions for 33 municipal staff members.
- The City removed a total of 675 tons of debris from street sweeping activities.
- The City removed a total of 559 tons of debris from MS4 cleaning activities.
- City personnel continued to restock the pet waste bag dispensers in City parks, a total of 240,000 pet waste bags were used during 2009/2010.
- The City continued its sustainability program, complementing current environmental programs, such as stormwater, with additional programs to reduce consumption of energy from non-renewable resources, promoting the development of green buildings, and reducing consumption of water and energy.

4.2 FIXED FACILITIES

4.2.1 BACKGROUND

The City owns and operates a variety of municipal fixed facilities. As mentioned in the City's JURMP, municipal fixed facilities have been grouped under one category, fixed facilities, because these facilities receive routine inspections as part of the City's municipal program, making program implementation generally similar. For the

purposes of organization, municipal fixed facilities are divided into the following categories: Parks and Recreational Facilities, Public Works Facilities, Fire Stations, and Other Fixed Facilities, which includes fixed facilities that could not be placed into another category.

4.2.2 SOURCE CHARACTERIZATION

All fixed facilities are included on the City's municipal inventory, which was revised during the JURMP update in early 2008. The JURMP includes detailed descriptions of each of the categories mentioned in the previous subsection and a discussion of activities beyond what is suggested by the facility's category or facility name. There were no changes to the City's municipal inventory nor were there any updates to the discussions of any fixed facilities on the City's inventory. The City's inventory is included as Appendix A.3.

4.2.3 BEST MANAGEMENT PRACTICE REQUIREMENTS

The City continues to implement and assess the effectiveness of BMPs at all fixed municipal facilities. As mentioned in the City's JURMP, the City uses the CASQA Municipal BMP Handbook to establish appropriate BMPs for fixed municipal facilities. Table 6-2 in the City's JURMP describes the CASQA fact sheets that are used for specific facility types.

The City continues to implement strict minimum BMP requirements for the use and management of pesticides, herbicides, and fertilizers, as described in the City's JURMP. BMP implementation for parks and recreational facilities, as described in the City's JURMP, have been updated to reflect the appropriate use of certain herbicides and is presented in Attachment 4-1.

City public works employees, fire station employees, and employees at other fixed facilities in the City continue to implement BMPs appropriate to the facility type, as described in the City's JURMP. City fire response personnel continue to be trained in implementing BMPs for non-emergency fire fighting activities as described in Section 3 of the City's JURMP. There have been no changes in BMP requirements for public works facilities, fire stations, and other fixed facilities.

4.2.4 PROGRAM IMPLEMENTATION

As mentioned above, with the exception of the updated herbicide BMPs, the City's BMP requirements have not changed since the development of the revised JURMP. Some notable examples of implementation of those BMPs are provided below.

Parks and Recreational Facilities

During 2009/2010, City parks personnel continued to maintain pet waste bag dispensers throughout six City parks. Additional pet waste dispensers have been installed at Woodglen Vista Park (2 dispensers), Big Rock Park (1 dispenser), Mast Park (4 dispensers), West Hills Park (1 dispenser) and on the intersection of Princess JoAnn and

Magnolia Avenue. The bag dispensers are made available to park patrons to encourage them to pick up after their pets. A total of 240,000 pet waste bags were used during 2009/2010.

Public Works Facilities, Fire Stations, Other Fixed Facilities
As previously mentioned, City personnel continued to implement appropriate BMPs for municipal fixed facilities as described in the City's JURMP. BMPs are also implemented during regular maintenance (i.e. landscaping, building maintenance, etc.) as necessary. Parking facilities associated with fixed municipal facilities are maintained as part of the regular maintenance activities and are swept every month during the Reporting Period.

Municipal Inspections
All 12 high TTWQ fixed municipal facilities received an annual routine inspection during the Reporting Period. The City's inspection approach, as described in the JURMP, was implemented for all municipal inspections conducted during the Reporting Period.

Recommended corrective actions at fixed municipal facilities were generally minor, and applicable facility personnel were notified of any deficiencies. Violations were noted at the Public Works Operation Center and at Shadow Hill Park. It was observed that the valve for the strip drain in the vehicle washing area was incorrectly turned to discharge to the storm drain system, instead of the sanitary sewer. Public works management were informed and directed to cease discharges to the MS4 and to clean the MS4. This was done. Public works staff members were trained to ensure that the valve is properly turned to direct drainage to the sanitary sewer prior to using the vehicle wash facility.

Also, City Staff observed and stopped illegal powerwashing of the parking lot by the City Contractor (Steven Smith Landscaping). Public works personnel were immediately notified and they mobilized to the scene where they directed the contractor to remove the residue of the discharge and explained why this activity was not acceptable.

In addition, stormwater program staff has contacted Public Works staff regarding chemical application on landscaping. Based on ensuing discussions, BMPs for chemical application and use have been revised and are presented in Attachment 4-1.

4.3 ROADS, STREETS, HIGHWAYS, AND PARKING FACILITIES

4.3.1 BACKGROUND

Roads, streets, highways, and parking facilities are often one of the first components of the City's MS4 to collect and convey runoff. These areas can collect a variety of pollutants due to routine vehicle use and use of the surrounding areas. The City conducts regular maintenance of roads, streets, highways, and parking facilities in the City to control pollutants such as sediment, metals, and litter and debris that may accumulate and then be discharged with runoff.

4.3.2 SOURCE CHARACTERIZATION

The City maintains roads streets, and public parking lots within the City limits; roads and streets are included as one entity on the City's municipal inventory, which is included in Appendix A.3.

4.3.3 BEST MANAGEMENT PRACTICES

The City's primary BMP for roads, streets and parking facilities is street sweeping. Other BMPs are chosen as needed based on the CASQA Municipal Handbook. The City's sweeping frequency is outlined in the JURMP and an updated frequency was presented in the 2007/2008 Annual Report. The frequency for sweeping municipal parking lot facilities has been changed from twice per month to once per month. There were no other changes to the BMPs implemented for roads, streets, and parking facilities during the Reporting Period.

4.3.4 PROGRAM IMPLEMENTATION

During the Reporting Period, the City swept a total of 10,212 curb miles, removing approximately 648 tons of debris. Table 4-1, on the following page, describes the areas assigned high, medium, and low sweeping priorities, and the associated sweeping frequency for each. The City met the sweeping frequency requirements of the high, medium, and low priority streets as described in Table 4-1, on the following page.

As a means to address priority pollutants in the San Diego River Watershed, the City conducted additional sweepings of some City streets. Designated residential areas that are low priority and some medium priority streets were swept twice per month during the Reporting Period.

Table 4-1
Street Sweeping Prioritization and Frequency

Category	Description	Approximate Mileage Swept (Cumulative)	Minimum Sweeping Frequency	Sweeping Frequency July 2009 through June 2010
High	Carlton Hills Boulevard, Carlton Oaks Drive (West of Carlton Hills Boulevard), Civic Center Drive Cuyamaca Street, Magnolia Avenue Mast Boulevard (Between Magnolia Avenue and Carlton Hills Boulevard), Mission Gorge Road (Between West Hills Parkway and Big Rock Road, and between Carlton Hills Boulevard and Magnolia Drive), Prospect Avenue (East of Fanita Drive), Town Center Parkway	1,500	Twice per month	Twice per month
Medium	Select other streets in the City	8,652	Monthly	Twice per month
Low	Select other streets in the City	60	As needed	Twice per month
Fixed Facilities	Parking lots associated with municipal fixed facilities	N/A**	Once per month	Twice per month

* Mileage data is not available for the swept area of parking facilities associated with municipal facilities. Mileage accrued while sweeping these facilities is included in the total mileage.

In addition, the City has been developing projects to reduce water use within landscape maintenance districts (LMDs). For example, a pilot project has been developed to change some medians on Mission Gorge to low water-use plants. The objective of this project was to demonstrate that low water-use plants could be used in medians; reducing the amount of water used to maintain the medians while ensuring that they remained attractive. A second project included a study of the various LMDs around the City, how they could be replanted to reduce water consumption and to estimate the resulting water and cost savings.

4.4 MS4

4.4.1 BACKGROUND

The City's extensive storm water conveyance system is designed to collect and convey surface runoff to receiving waters to prevent flooding during a rain event. The City's MS4 consists of 21 segments of natural or concrete channels, and approximately 820 curb inlets and catch basins. A Capital Improvements Project to prepare a GIS layer of the MS4 has been completed.

4.4.2 SOURCE CHARACTERIZATION

The City's MS4 as one complete entity is included on the City's high TTWQ municipal inventory.

4.4.3 BEST MANAGEMENT PRACTICES

The City maintains a strict MS4 maintenance and cleaning schedule. Maintenance and cleaning are conducted to keep the MS4 in good operating condition and remove any trash or debris that may otherwise be carried to receiving waters. As described in the City's JURMP, BMPs for MS4 maintenance activities are chosen based on the CASQA Municipal Handbook and have not changed during the Reporting Period.

4.4.4 PROGRAM IMPLEMENTATION

During the Reporting Period, the City continued to implement an MS4 inspection and cleaning schedule, removing approximately 559 tons of debris from the City's MS4. The actual weight of the material was not recorded, but it was estimated based on the number of cubic yards and the composition of the material removed. The approximate weight of the material removed is based on City maintenance staff's estimate that each cubic yard removed weighed about one ton.

City personnel inspected 100% MS4 facilities between May 1 and September 30. A total of 33,106 linear feet of open channels in the City were inspected and found that 31,230 feet required some degree of cleaning, which was done by City personnel. Additionally, City personnel inspected all 820 catch basins and found that 43 required some degree of cleaning. No structures were observed at least 33% of capacity during the reporting period. However, the City cleans out any structures, including self-cleaning structures, in which trash and debris is observed at the time of inspection.

The City's Stormwater Program Manager has worked closely with City personnel responsible for MS4 maintenance to improve the reporting and tracking of cleaning activities for the 2009/2010 reporting period. These procedures are being further refined based on verbal feedback from the RWQCB and a letter from the RWQCB dated February 27, 2009. In addition to improvements made to the program, the City has developed a GIS system so that the locations of all facilities are known to ensure that all MS4 inspection and cleaning requirements are met.

In addition to routine maintenance activities, City staff conducted the following:

- Replaced 27 linear feet of corrugated metal pipe (CMP) on Fanita Parkway.
- Replaced 41 linear feet of CMP with high density polyethylene (HDPE) on South Woodside Avenue near Shadow Hill Drive and replaced 25 linear feet of CMP with HDPE on Prospect Avenue at Placid View Drive.

City staff also cleaned up after a garage fire on Flora Verde Court. The resident had accumulated an excessive amount of possessions, including hazardous materials such as

paints. The fire had resulted in the discharge of material into the storm drain system and eventually Woodglen Vista Creek. Public works staff mobilized to promptly remove this material and charged the resident for the costs of this clean-up.

4.5 SANITARY SEWER SYSTEM

4.5.1 BACKGROUND

As described in the City's JURMP, Padre Dam Municipal Water District (MWD) is responsible for wastewater operations within the City. The City and Padre Dam MWD collaboratively respond to sanitary sewer overflows to reduce or eliminate the amount of untreated sewage that reaches the MS4.

Based on the reported response to a lateral sewer pipe leak at 8450 Fanita Drive (see Appendix B for further details), City staff met with a Padre Dam official to discuss their policy on responding to blocked sewer lateral pipes. According to the Padre Dam official they unblock the facility located on private property, but require that the property owner subsequently clean-up.

In response to this, the City has developed a factsheet providing information for property owners on the requirements for property owners when cleaning up a sewer spill. These factsheets will be provided to Public Works staff to provide to residents when they respond to an incident involving a blocked sewer lateral pipe. These factsheets will also be made available to Padre Dam MWD to use when they respond to these types of incidents.

4.5.2 SOURCE CHARACTERIZATION

Padre Dam MWD is responsible for the sanitary sewer system within the City of Santee.

4.5.3 BEST MANAGEMENT PRACTICES

As discussed in the City's JURMP, the City coordinates with Padre Dam MWD to implement pollution prevention techniques and BMPs to reduce or eliminate the amount of pollutants generated from sanitary sewer maintenance activities. The City coordinates with Padre Dam MWD to ensure all applicable CASQA BMPs are implemented. There have been no changes to these BMPs during the Reporting Period.

4.5.4 PROGRAM IMPLEMENTATION

Padre Dam MWD continues to clean-out or repair the sanitary sewer system as necessary to prevent seepage from the sanitary sewer system to the MS4. City personnel also notified Padre Dam MWD whenever it received information that a certain segment of the sanitary sewer system may need maintenance.

Padre Dam MWD has also worked to develop a Fats, Oils, and Grease (FOG) program that targets grease-producing facilities, such as eating establishments. The goal of the

program is to reduce grease buildup in the sanitary sewer system, which can cause or contribute to sanitary sewer overflows (SSO). In case of an SSO, the City works with Padre Dam MWD to respond appropriately to the overflow. In addition, the City collaborates when appropriate with FOG program staff, to ensure that facilities with grease traps or clarifiers are maintained.

The City was notified of two sanitary sewer overflows during the Reporting Period. One spill occurred during the evening of 09/09/09 on Woodpecker near Big Rock Road. Approximately 20 gallons of sewage leaked due to grease and rag build-up in the pipe (it had been previously inspected during March 2009). Sand bags were used to slow the flow of water, the water was vacuumed up and the area was disinfected. Approximately 220 gallons of water (including the discharged sewage) were generated during the clean-up. A discharge to a storm drain inlet was prevented due to prompt mobilization and control of the situation.

The second incident occurred at 9203 Bird Street on 01/05/10. The spill was promptly reported by the resident resulting in the spill being contained to within 10 feet of the sewer manhole. Approximately 30 gallons of spill and clean-up water was generated in response to this incident. None of the spill entered a storm drain inlet.

4.6 MOBILE MUNICIPAL ACTIVITIES

4.6.1 BACKGROUND

The City conducts a variety of different mobile municipal activities, typically involving infrastructure maintenance, landscape maintenance, and graffiti removal. The City does not conduct power washing as part of any municipal activities.

4.6.2 SOURCE CHARACTERIZATION

Graffiti removal, infrastructure maintenance, and landscaping are listed on the City's high TTWQ municipal inventory.

4.6.3 BEST MANAGEMENT PRACTICES

The City implements BMPs for mobile activities as described in the City's JURMP and as applicable to the activity. City personnel are trained to implement BMPs for the specific activity in which they are involved. For example, City personnel conducting graffiti removal are trained to store and handle any chemicals properly. A more detailed discussion of BMPs for specific mobile activities is included in the City's JURMP; these BMPs did not change during the Reporting Period.

4.6.4 PROGRAM IMPLEMENTATION

The City hires several contractors to conduct mobile activities in the City. Contractors are frequently reminded of the level of BMP implementation expected by the City. With

the exception of the previously-noted incident in Shadow Hill Park, there were no complaints received by the City's storm water hotline or any other indication that City personnel and City contractors conducting any mobile activities were not properly implementing the appropriate BMPs.

During the Reporting Period, the City's Stormwater Program Manager observed City maintenance activities at West Hills Park. Personnel were observed cleaning up large debris in hard-to-access areas to allow the street sweeper to remove the material. No BMP deficiencies were observed during these activities.

4.7 Special Events

4.7.1 Background

As detailed in the City's JURMP, a variety of different special events are hosted within the City. Special events range from summer concerts and the Santreefest to the 4th of July celebration.

4.7.2 Source Characterization

As required by the Municipal Permit, special events are included on the City's high TTWQ municipal inventory.

4.7.3 Best Management Practices

As detailed in the City's JURMP, the City has selected BMPs for special events hosted in the City. In general, the goal of the City's special event BMPs are to properly manage trash and litter generated by the event, keep catch basins and other nearby MS4 facilities free of litter/debris from the event, and raise storm water awareness among the vendors and patrons of the event, as applicable.

4.7.4 Program Implementation

The City hosted a number of special events during the Reporting Period. During each event, the City implemented the following BMPs:

- Trash/recycling bins were used.
- Spill kits were accessible.
- Street sweeping and parking lot sweeping was conducted following the event.

In addition, the Santee Farmers' Market organized by a private citizen, continued on the former Santee Elementary School site; and the second Santee Street Fair on Riverview Parkway was organized by the Santee Chamber of Commerce.

Both of these events was subject to a temporary use permit and comprehensive conditions, based on the standard special events conditions and the specific location and activities associated with the event. The operators of these events were required to

document that appropriate BMPs were implemented during the events using a City-provided checklist and to inspect after the event to ensure that all corrective action (including removal of trash and debris, and cleaning of storm drain inlets as appropriate). City staff inspected these events as appropriate during the Reporting Period and confirmed that BMPs were being implemented appropriately.

4.8 EDUCATION AND OUTREACH

During the Reporting Period, the City continued to educate municipal personnel regarding proper BMP implementation and other storm water and watershed concepts. A total of 33 municipal personnel and contractors were provided formal in-house storm water training during the Reporting Period. A detailed discussion of the City's education and outreach activities is included in Section 8 of this Annual Report.

4.9 SPILL REPORTING, RESPONSE, AND PREVENTION

As detailed in the City's JURMP, the City's sanitary sewer system is managed and maintained by the Padre Dam MWD. Padre Dam MWD has documented procedures for preventing and responding to sanitary SSOs. The City provides assistance during SSO response when necessary. The City responds to all other spills in the City as needed.

The City uses the City's storm water hotline as the main mechanism for being notified of spills; spills may also be discovered during routine inspections or other complaint investigations. Individuals in the City are encouraged to report any spills, including SSOs and any spills from private sewer laterals or septic systems, to the City's storm water hotline. The City notifies Padre Dam MWD regarding any calls made to the hotline regarding SSOs.

During the Reporting Period, there were two SSOs, which were described earlier in this section. There were no other spills during the Reporting Period.

4.10 PUBLIC REPORTING OF ILLICIT DISCHARGES AND CONNECTIONS

Reporting and Response

Public and municipal involvement are crucial to preventing and eliminating illicit connections and illegal discharges (IC/IDs) from the storm water conveyance system. The Storm Water Hotline provides an effective means for individuals in the City to report suspected IC/IDs. The hotline number is provided on the City's website, in distributed storm water educational material, and in storm water articles in *Santee Review*. All complaints received through the hotline are logged for documentation and tracking. Each logged complaint is investigated by City personnel to determine if an IC/ID is present. Responsible parties for any confirmed IC/ID are sought out and

educated and/or cited as necessary and required to stop or clean up any and all illegal discharges.

Complaints received by the City during the Reporting Period and the City's response to each are listed in Appendix B. Sixty-eight complaints were documented and responded to this year.

Enforcement
As previously stated, complaints received via the storm water hotline are included in a table in Appendix B. The table also includes a description of how each complaint was resolved during the reporting period. Resolutions to investigated complaints included clean-up, providing educational material and discussing storm water concepts with individuals involved in the complaint. In some cases courtesy notices and notices of violation (NOV) were issued. The City issued 26 courtesy notices and seven NOVs in response to complaints received by the City's storm water hotline.

4.11 MUNICIPAL COMPONENT EFFECTIVENESS ASSESSMENT

Please refer to Section 11 of this JURMP Annual Report for the assessment of program effectiveness.

4.12 PROGRAM MODIFICATION AND REVIEW

The City's JURMP was updated in March 2008, and the street sweeping and special events requirements were updated as reported in the 2007/2008 Annual Report. During 2008/2009, Public Works Staff developed procedures to document in more detail MS4 cleaning observations. With the exception of refining the BMPs for herbicide applications and the change in the frequency of sweeping of municipal parking lots, no other changes to the City's municipal component have been made.

5.0 INDUSTRIAL AND COMMERCIAL

5.1 INTRODUCTION

During the Reporting Period, the City continued to implement a program to mitigate urban runoff pollution from the areas and activities of industrial and commercial businesses. The City aims to reduce the amount of pollutants discharged from these industrial and commercial facilities through the implementation of this program component.

5.1.1 SUMMARY OF NOTABLE ACCOMPLISHMENTS

Some notable achievements for the industrial and commercial component during the Reporting Period are presented in the following bulleted list. Additional details about the City's implementation of the industrial and commercial component and of its storm water program during the reporting period are provided in the remainder of Section 5.

- The City met the Municipal Permit requirement of inspecting at least 25 percent of its stationary industrial and commercial inventory
- The City inspected 100 percent of the inventoried high TTWQ stationary industrial and commercial facilities
- Based on inspection findings and complaints made to the hotline, the City issued eight written courtesy notices informing businesses of BMP deficiencies and 16 NOVs to stationary industrial and commercial businesses.
- The City sent notices to inspected industrial businesses that had not filed Notices of Intent (NOI) or submitted Notice of Non-Applicability/No Exposure Certification (NONA/NEC) paperwork in connection with the State of California General Industrial Permit (Industrial Permit), as appropriate.
- One courtesy notice and five NOVs were issued to mobile businesses within the City

5.2 STATIONARY INDUSTRIAL AND COMMERCIAL SITES / SOURCES ELEMENT

5.2.1 BACKGROUND

The City's industrial and commercial inventory, which can be found in Appendix A, includes all stationary facilities known to be operating in the City that are required to be included on the City's inventories. Stationary facilities in the City include, but are not limited to, manufacturing facilities, auto repair shops, restaurants, wholesalers, and contractors. As discussed in the following subsections, the City requires industrial and

commercial businesses to implement pollution prevention measures and designated minimum BMPs to mitigate the impacts of business activities on water quality.

5.2.2 SOURCE CHARACTERIZATION

As previously mentioned, the City's industrial and commercial inventories are included in Appendix A. The inventories include both stationary and mobile businesses, as required by the Municipal Permit. The inventories were continuously updated throughout the Reporting Period using field observations and information gathered from the City's business licensing process.

Information on how the City prioritizes the industrial and commercial inventories based on TTWQ is discussed in detail in the City's JURMP. The City considers factors including those listed below when prioritizing the inventories:

- Coverage under the Industrial Permit
- Consideration of downstream waterbody and whether the business is likely to discharge pollutants for which the waterbody is impaired
- Results from previous inspections and institutional knowledge
- Proximity to the receiving waterbody

The City's updated inventory includes 897 stationary industrial and commercial facilities.

5.2.3 BEST MANAGEMENT PRACTICE REQUIREMENTS

Industrial and commercial businesses in the City are required to implement pollution prevention methods and other BMPs to reduce or potentially eliminate the generation of pollutants from business areas/activities. The City has established a set of minimum BMPs based on the CASQA Industrial and Commercial Handbook. The requirements include BMPs applicable to all facilities as well as activity-specific BMPs. The City's BMP requirements are described in more detail in the City's BMP Manual, which is an attachment to the City's JURMP. BMP requirements for stationary industrial and commercial businesses did not change during the Reporting Period.

5.2.4 PROGRAM IMPLEMENTATION

Industrial and Commercial Inspections

During the Reporting Period, the City conducted storm water compliance inspections at selected stationary industrial and commercial facilities. The purpose of the inspections is to confirm that the City's minimum BMPs are being implemented at stationary industrial and commercial facilities. The City inspected 100 percent of the inventoried stationary high TTWQ sites, which is a Municipal Permit requirement. The City also met the Municipal Permit requirement that 25 percent of the total number of stationary facilities on the City's inventory be inspected.

Facility inspections were conducted in accordance with the protocol set forth in the City's JURMP. Inspections involved a thorough examination of the facility and all

outdoor activities. BMP deficiencies and corrective actions were recorded on the City's industrial and commercial inspection form and discussed with facility personnel present during the inspection. During the inspection process, the City checked Industrial Permit compliance status, and reviewed storm water pollution prevention plans (SWPPP) and monitoring results, when applicable. Businesses observed to be in violation of the Industrial Permit are included in Table 5-1. A list of facilities visited as part of the City's routine inspection program during the Reporting Period is provided at the end of this section in Table 5-2. Table 5-2 also includes the results of follow-up results, where applicable.

The City selected sites for inspection based on the industrial and commercial inventory of 1,131 stationary industrial and commercial businesses (as of July 1, 2009). The City conducted full inspections of a total of 291 stationary industrial and commercial facilities, which is more than 25 percent of the City's industrial and commercial inventory. Businesses were selected for inspection using the following criteria:

- High priority sites
- New businesses that might have the potential for illicit discharges
- New businesses that may require coverage by the Industrial Permit
- Medium priority businesses that had no previous inspection record
- Businesses that had previously resolved compliance issues and not been inspected recently

During the Reporting Period, the City continued to update its industrial and commercial inventory, many businesses were found to be closed. When this was observed, the inspector verified that there were no outstanding issues relating to stormwater (such as storage of materials outside without BMPs) and made a note of the new occupant, if any. The current stationary industrial and commercial inventory (as of September 17, 2010, after an extensive review and update during the summer of 2010) includes 897 facilities (down from 1,139 facilities). Note that as the inventory is continuously updated, and for practical budgeting reasons, the City will continue to determine the number of inspections necessary based on the inventory it has at the beginning of each fiscal year.

The City did not rely on third party inspections to satisfy its industrial and commercial inspection requirements during the reporting period. The City does not presently maintain a third party inspection program.

Inspection Findings

Most BMP-related deficiencies observed during the inspection process were minor. Some of the more common issues include uncontained litter, debris, and sediment around the site and in the parking lot and dumpster area. Another common BMP deficiency was open dumpster lids. Additionally, many industrial and commercial facilities could not provide any sort of documentation that storm water training had been provided to appropriate personnel. Written notices and other forms of enforcement were used when more significant BMP deficiencies were observed during

the inspections; a discussion of industrial and commercial enforcement actions is included later in this subsection.

General Industrial Permit

Industrial Permit compliance status was evaluated during the industrial and commercial inspection process. If the business was new and had not previously been inspected, or if the business had recently changed activities, the inspector gathered information about the business activities that occur on site and assigned or reassigned the business' standard industrial classification (SIC) code(s). The inspector then determined subjectivity to the Industrial Permit based on SIC code. Violations of any aspect of Industrial Permit requirements were recorded on the standard industrial and commercial inspection form and are presented in Table 5-1 at the end of this section. The table also includes facilities that could potentially gain exemption from Industrial Permit requirements by completing Notice of Non-Applicability/No Exposure Certification (NONA/NEC) paperwork.

Each business was notified of any Industrial Permit-related non-compliance by the inspector and through written correspondence to the business. During the Reporting Period, the City's Stormwater Program Manager maintained correspondence with businesses in violation of any aspect of the Industrial Permit, notifying them of the steps that need to be taken to ensure compliance with Industrial Permit requirements.

In addition, the City coordinated industrial permit compliance with Mr. Dat Quach of the RWQCB. Activities included:

- Copying the RWQCB on Industrial Permit-related notices to comply, or notices of violation sent to businesses.
- Providing local knowledge on facilities filing NONA/NEC paperwork.

Education and Outreach

In addition to checking for compliance with the City's requirements and the Industrial Permit, inspections provide a venue to provide site-specific one-on-one education regarding storm water concepts and BMPs. Before industrial and commercial inspections began, the City sent businesses selected for inspection a letter notifying them of the upcoming inspection as well as a fact sheet with BMPs for industrial and commercial businesses. The City has 18 different storm water-related fact sheets, which are included in Attachment 4.1. During the inspections, inspectors used a variety of educational material to provide watershed concepts and activity-specific BMP recommendations, which were provided to industrial and commercial businesses as appropriate. Inspected facilities were also informed of the City's new BMP requirements, as applicable. More information about the types of educational material used by the City is provided in Section 9 of this Annual Report.

The City worked with Leslie's Pools, a pool and spa supply store, to distribute pool and spa maintenance fact sheets to its customers at the Santee store. This fact sheet is included in Attachment 4.1.

Enforcement

Some industrial and commercial facilities were observed to be out of compliance with the City's municipal storm water ordinance and/or the Industrial Permit during inspections conducted in 2009/2010. The City followed-up with these facilities as necessary through follow-up site visits and mail and telephone correspondence to bring about compliance with applicable requirements. Follow-up inspections, including resolution status, are included in Table 5-2 at the end of this section, some issues (three out of 291 facilities inspected) are ongoing, but are expected to be resolved through our established enforcement process. Enforcement actions were taken as necessary; numbers of enforcement actions taken are presented in the bulleted list later in this subsection.

During the course of the Reporting Period, the City received complaints through the City's storm water hotline regarding stationary industrial and commercial facilities. Based on the results of the complaint investigations the City took enforcement action as necessary. Details of the industrial and commercial complaint investigations are included in Appendix B of this Annual Report.

In response to both the findings of the industrial and commercial inspection program and complaint investigations at stationary industrial and commercial facilities, the City issued the following enforcement actions:

- Eight courtesy notices/onsite conversations with discharger
- Thirteen NOVs
- Notices were sent to each business that had not filed to comply with the Industrial Permit

Overall, the City's enforcement actions were effective in bringing about compliance with the City's requirements. Although issues at one percent of the facilities inspected are ongoing and are expected to be resolved through our established enforcement process. There were no instances of noncompliance at stationary businesses found to present a significant threat to human health or the environment observed during the Reporting Period, so none were reported to the RWQCB.

5.3 MOBILE SOURCES

5.3.1 BACKGROUND

Due to the nature of activities of most mobile businesses, a major area of concern tends to be illegal discharges. In general, mobile businesses can be hard to identify, as many may not have City business licenses. Additionally, because many mobile businesses may be home-based and activities do not occur in one fixed location, inspections of such facilities are impractical.

5.3.2 SOURCE CHARACTERIZATION

Known mobile industrial and commercial businesses, as described in the City's JURMP, are included on the City's inventory and are marked as mobile. As of September 17, 2010, a total of 53 mobile businesses are included on the City's industrial and commercial inventory.

5.3.3 BEST MANAGEMENT PRACTICE REQUIREMENTS

BMPs for stationary industrial and commercial facilities, as discussed earlier in this section, are required to be implemented for mobile activities. BMPs for mobile businesses, including key principles, such as proper collection and disposal of any discharge, are discussed in the City's JURMP. There have been no updates to the BMP requirements as described in the City's JURMP.

5.3.4 PROGRAM IMPLEMENTATION

Throughout the course of the Reporting Period, the City responded to two calls to the City's storm water hotline regarding mobile businesses. In each case the City responded to investigate and verify the complaint. Enforcement action was taken and educational material was distributed as applicable. More detail about the complaints made to the City's storm water hotline regarding mobile businesses is included later in this subsection.

In addition, City staff are aware of mobile business operations, specifically automotive detailing operations in industrial areas, and verify that appropriate BMPs are being implemented when these operations are observed.

Education and Outreach and Enforcement

During the Reporting Period, the City took proactive steps to identify and educate mobile businesses in the City by seeking out such businesses. In addition to the educational information provided by the Finance Department during business license processing, the City sent a notice to new business licensees who operate activities that are typically associated with illicit discharges in Santee. These Information Notices were sent to seven carpet cleaning, two automotive detailing, three handyman/landscaping/ property maintenance, and one pool service company that received new business licenses in Santee during the Reporting Period.

As previously mentioned, City personnel drove by areas known to be frequented by mobile businesses, specifically mobile car detailers. If any mobile businesses were observed, City personnel stopped to provide educational material and ensure that no discharges were occurring. Operators who are not implementing BMPs are required to stop, and remove the discharge. Typically a notice is sent to the mobile business owner if such an incident occurs. During the Reporting Period, a total of three NOVs were issued to mobile businesses as a result of these drive-by inspections. Details about the City's education program for mobile businesses are included in Section 9 of this Annual

Report. The City did not receive any complaints to the storm water hotline regarding mobile businesses.

There were no instances of noncompliance of mobile businesses that were believed to present potential threats to human health or the environment observed during the Reporting Period, so none were reported to the RWQCB.

5.4 INDUSTRIAL AND COMMERCIAL COMPONENT EFFECTIVENESS ASSESSMENT

Please refer to Section 11 of this JURMP Annual Report for the assessment of program effectiveness.

5.5 PROGRAM REVIEW AND MODIFICATION

The City's JURMP was recently updated in March 2008. No changes to the City's industrial and commercial component have been made since that time.

Table 5-1
Violations of the General Industrial Permit

#	Business Name	Street Address	SIC	Subjectivity	Principal Activity/Comments	Action to Correct Violation				
						File NOI	Develop SWPPP	Develop / Implement Storm Water Monitoring	Complete NONA/ NEC	Other/Comments
1	Artistic Marble & Granite	9323 Stevens Road	3281	Mandatory	Marble countertop manufacturing					Facility had developed SWPPP, but still had challenges with achieving compliance, specifically relating to monitoring and reporting.
2	Marjan Stone Company	9746 Prospect	3281	Mandatory	Granite and marble countertop fabrication					Lack of BMPs during rain event observed. City sent notice to business owner to advise of deficiencies.
3	Specialty Metals	11222 Woodside Ave.	3444	Conditional	Sheet metal work, no outdoor exposure	✓	✓	✓	✓	Based on most recent inspection of site, facility should file NOI, not NONA/NEC.
4	Westline Woodcraft	9435 Wheatlands Ct. #F	2511	Conditional	Custom wood kitchen cabinet manufacturing, no outdoor exposure				✓	

Table 5-2
Industrial and Commercial Sites Inspected During the Reporting Period

#	Business	Address	Recommended for Follow-Up	Description of Follow-Up Actions	Resolution Status
1	7-Eleven	9111 Mission Gorge Road			
2	7-Eleven	9251 Carlton Hills Boulevard	✓	Provided additional training materials per operator request	Resolved
3	7-Eleven	9750 Cuyamaca Street			
4	8-5 Corp./Artisan's Gallery	10928 Wheatlands Avenue # A			
5	A I M Plastics Inc.	9326 Abraham Way			
6	A Woodpecker Fence	10338 Carreta Court			
7	A&I Services	8665 Argent Street # A			
8	AA Budget Transmissions	8637 Cuyamaca Street # B			
9	Advanced Automotive	7945 Mission Gorge Road			
10	Advanced Electromagnetics	9311 Stevens Road			
11	Affordable Auto Wholesale	10764 2nd Street			
12	Al Max Sanitation	10023 Prospect Avenue			
13	Alberto's Mexican Food	9535 Mission Gorge Road # A & B			
14	Albertsons	9870 Magnolia Avenue			
15	Aloha Pet Grooming	8011 Mission Gorge Road # G			
16	Alumi Craft Inc.	10815 Wheatlands Avenue # I			
17	American Fence Company	9944 Prospect Avenue			
18	Anderson Distributing	9730 Cuyamaca Street # A			
19	Angus Asphalt Inc.	9959 Prospect Avenue			
20	Antonios Mexican Food	235 Town Center Parkway # H			
21	Artistic Marble & Granite Inc	9323 Stevens Road	✓	Met with operator to review new SWPPP and discuss strategy for compliance. Observed site during rain event, and followed up with notice.	Resolved

Table 5-2 (Continued)
Industrial and Commercial Sites Inspected During the Reporting Period

#	Business	Address	Recommended for Follow-Up	Description of Follow-Up Actions	Resolution Status
22	Ascend Manufacturing	10217 Buena Vista Avenue # G			
23	Auto Perfect	9937 Prospect Avenue # 11			
24	Automobile Lube & Service	10806 Prospect Avenue # 1			
25	A-Z Patio	8055 Linen Drive			
26	B & A Wire	8402 Magnolia Avenue			
27	Banny's Auto Repair	7945 Mission Gorge Road # 111			
28	Ban's Auto Repair	8871 Fanita Drive			
29	Ban's Auto Repair II	8625 Cuyamaca Street	✓	Followed up within specified timeframe to ensure that trash had been removed.	Resolved
30	Bennett's Transmissions	9220 Ruffin Road			
31	Bilcan Inc. DBA El Camino Rental	8795 Cuyamaca Street			
32	Blue Moon Pools	8606 Argent Street # H			
33	BMC Mobile Welding	10801 Woodside Avenue # 181			
34	BMW MC Service of San Diego Inc.	7945 Mission Gorge Road # 109			
35	BNB Flooring and Granite	9344 Wheatlands Road	✓	Observed facility during rain event and followed up with notice to operator. Facility closing down, followed up to verify that no materials stored outside had been removed.	Resolved
36	Bob's Trans Shop	10223 Mast Boulevard			
37	Bow & Lever	8622 Argent Street # G			
38	BP West Coast Prod.	9009 Carlton Hills Boulevard			

Table 5-2 (Continued)
Industrial and Commercial Sites Inspected During the Reporting Period

#	Business	Address	Recommended for Follow-Up	Description of Follow-Up Actions	Resolution Status
39	BP West Coast Prod. DBA Arco #9567	9811 Mission Gorge Road	✓	Returned after a prescribed amount of time to verify that trash in dumpster enclosure had been removed.	Resolved
40	Bradshaw Engineering Corp.	8645 Argent Street # B			
41	Brake Depot	10438 Mission Gorge Road			
42	Bright Tech Auto Service	10438 Mission Gorge Road # 8			
43	Buggy World	10350 Mission Gorge Road			
44	Builders Fence Company	10641 Prospect Avenue			
45	Burger King	9714 Mission Gorge Road			
46	Busecks Mobile Auto Repair	9937 Jeremy Street			
47	C & H Auto Body	10996 Woodside Avenue			
48	Cabral Metal Fab & Fence, Inc.	10020 Prospect Avenue # B18			
49	Cactus Grill Mexican Food	9725 Mission Gorge Road			
50	Cal Waterjet	10139 Prospect Avenue			
51	California Stone Works	9440 Wheatlands Court # 14			
52	Carl's Jr. # 385	10009 Mission Gorge Road			
53	Carlton Oaks Country Club	9200 Inwood Drive	✓	Met with facility operator to discuss requirements from June 2009 inspection. Verified which items had been addressed. Contacted City of San Diego (property owner) regarding issues at the facility.	In progress
54	Carter Collision Service	8835 Cuyamaca Street			
55	Cazadores Mexican Food	9331Mission Gorge Road # 111			
56	CCM Enterprises	10848 Wheatlands Avenue			

Table 5-2 (Continued)
Industrial and Commercial Sites Inspected During the Reporting Period

#	Business	Address	Recommended for Follow-Up	Description of Follow-Up Actions	Resolution Status
57	CCM Enterprises	9366 Abraham Way			
58	Centennial Batteries	9465 Mission Park Place			
59	ChiTown Pizza Co.	8528 North Magnolia Avenue			
60	Chuck Wilson Construction	9731 Abbeyfield Road			
61	Cinda's Toffee	9320 Praful Court			
62	Circle K	10219 Mast Boulevard			
63	Cohen's Knishes	9730 Cuyamaca Street # A			
64	Collision Repair Specialists	10806 Prospect Avenue			
65	Coltrane Fire Protection	8620 Big Rock Road			
66	Computer Integrated Machining Inc	10960 Wheatlands Avenue			
67	Conn's Machining	10207 Buena Vista Avenue # B			
68	Costco Wholesale	101 Town Center Parkway			
69	Cotijas	9121 Mission Gorge Road			
70	Country Time Food Market	9613 Carlton Hills Boulevard	✓	Returned after prescribed timeframe to verify that trash had been removed.	Resolved
71	Crossman Landscaping	8617 Cuyamaca Street			
72	Cura Pharm	10054 Prospect Avenue # F			
73	Custom Craft Construction	8546 Graham Terrace # 18			
74	Cuyamaca Animal Hospital	8802 Cuyamaca Street # B			
75	D & R Automotive	10517 Prospect Avenue			
76	D S Fibertech Corp.	11015 Mission Park Place			
77	Dairy Queen	70 Town Center Parkway # A			
78	Dale's Custom Woodworking	10407 Santana Street			
79	Dan Krivitz Landscape Architect	8265 Prospect Avenue			

Table 5-2 (Continued)
Industrial and Commercial Sites Inspected During the Reporting Period

#	Business	Address	Recommended for Follow-Up	Description of Follow-Up Actions	Resolution Status
80	Dan Wheeler Trucking	9437 Willowgrove Avenue			
81	Dan's Hauling Service	7735 Mission Gorge Road # 46			
82	Daves Auto Tech	8615 Mission Gorge Road			
83	Day & Night Restoration Inc.	10728 Prospect Avenue # G			
84	DCXcavation	8614 Siesta Road			
85	DeCrescente's Drywall & Texture	8748 Wahl Street			
86	DeCrescente's Landscaping	8748 Wahl Street			
87	Dion And Sons, Inc.	11427 Woodside Avenue			
88	Discount Tire Co.	9750 Mission Gorge Road			
89	DJ's Auto Service	10147 Mission Gorge Road			
90	Doggie Station	8951 Carlton Hills Boulevard			
91	Domo Sushi	9625 Mission Gorge Road			
92	Don A Vee Jeep	8835 Cuyamaca Street # A			
93	Don Lucio Taco Shop	9740 Mission Gorge Road # D			
94	Dons Automotive Center	10227 Prospect Avenue # A			
95	Dooley's Carburetors	10147 Mission Gorge Road # B2			
96	Double Double Fine Burger	9862 Mission Gorge Road			
97	E.C. Cabinets	8402 Magnolia Avenue # H			
98	East County Lube Center	7945 Mission Gorge Road # 161			
99	East County Transmissions	10227 Prospect Avenue # B	✓	Provided additional training materials per operator request.	Resolved
100	EcoGreen Recycling	9540 Pathway Street # 105			
101	EDM Business	9539 Maureen Court			
102	El Sombrero Cookie Co.	8301 Mission Gorge Road # 169			

Table 5-2 (Continued)
Industrial and Commercial Sites Inspected During the Reporting Period

#	Business	Address	Recommended for Follow-Up	Description of Follow-Up Actions	Resolution Status
103	Electra Motorsports	10928 Wheatlands Avenue # A			
104	Eliminator Motorsports	11418 Woodside Avenue			
105	Elliott's Woods	9576 Rawlins Place			
106	Enterprise Rent-A-Car	10330 Mission Gorge Road	✓	Conducted follow-up to verify that improvements had been made per our NOV. Discussed stormwater requirements with manager.	Resolved
107	Essential Grooming	9225 Carlton Hills Boulevard # 7			
108	Estradas	9630 Carlton Hills Boulevard			
109	Estradas	9292 Carlton Hills Boulevard # B			
110	Estradas	8528 Magnolia Avenue # 107			
111	European Company	10051 Prospect Avenue			
112	Express Automotive Enterprise	8711 Magnolia Avenue # 300			
113	Express Tire	9535 Mission Gorge Road			
114	Fanita Liquor & Market	8663 Fanita Drive			
115	Fiberwerx	8400 Magnolia Avenue # H			
116	Firestone Tire & Service	9763 Mission Gorge Road			
117	Flaming Wok Restaurant	9888 Magnolia Avenue			
118	Four Wheel Direct	10731 Woodside Avenue			
119	Frontier CNC	10728 Prospect Avenue # C & D			
120	Frontier Motors	10335 Julio Place			
121	Furry Friends Resort	8802 Cuyamaca Street # A			
122	Future Green Recycling	11459 Woodside Avenue			
123	Garvin Industries	8404 Magnolia Avenue			
124	Giant New York Pizza	8933 Carlton Hills Bouelvard			

Table 5-2 (Continued)
Industrial and Commercial Sites Inspected During the Reporting Period

#	Business	Address	Recommended for Follow-Up	Description of Follow-Up Actions	Resolution Status
125	Giles Construction	10131 Ashdale Lane			
126	Gillespie Rental Equipment	10414 Prospect Avenue			
127	GTM Discount Store	8967 Carlton Hills Boulevard # A & B			
128	Gumball Graphics	9419 Carlton Oaks Drive	✓		
129	Haf Industries Inc.	10221 Buena Vista Avenue # D			
130	Harrison Trucking Inc.	8801 Olive Lane			
131	HCM Customs	11421 Woodside Avenue			
132	Helton Cabinets & Construction	9221 Security Way			
133	Hilbertos	9805 Prospect Avenue # F			
134	Horsman Automotive	8891 Railroad Avenue			
135	HP Automotive	8663 Magnolia Avenue			
136	Import Auto Service	7945 Mission Gorge Road # 111			
137	Industrial Metal Processing	10145 Prospect Avenue			
138	Institutional Cabinets & Millwork Inc.	10770 Rockvill Street # B			
139	Interstate Striping of California	8511 Ablette Road # B			
140	Italia Pizza	8918 Carlton Hills Boulevard	✓	Verified that large trash accumulation in dumpster area had been removed.	Resolved
141	J & J Cabinets	30 Town Center Parkway # C			
142	J & K Automotive	10027 Prospect Avenue # D			
143	J D Motorsports	10659 Prospect Avenue # B			

Table 5-2 (Continued)
Industrial and Commercial Sites Inspected During the Reporting Period

#	Business	Address	Recommended for Follow-Up	Description of Follow-Up Actions	Resolution Status
144	J P Design	11421 Woodside Avenue # C			
145	Jack in the Box # 20	9337 Mission Gorge Road	✓	Verified that accumulation of trash and grease in dumpster area had been removed.	Resolved
146	Jack in the Box # 3007	10330 Mast Boulevard	✓	Verified that accumulation of trash and grease in dumpster area had been removed.	Resolved
147	Jack Randalls Automotive	10845 Wheatlands Avenue # F			
148	Jack Williams Auto Body & Paint	10223 Mast Boulevard			
149	Jamba Juice	9828 Mission Gorge Road			
150	Janet's Café & Deli	9225 Carlton Hills Boulevard # 20			
151	JCMS Landscape	10638 Prospect Avenue			
152	Jerames Tool & Manufacturing	9424 Abraham Way			
153	JG Auto Repair	10468 Mission Gorge Road			
154	Jimmy's Family Restaurant	9635 Mission Gorge Road			
155	JT Diesel Truck Service	9851 Prospect Avenue # E			
156	Kaylien Inc.	8520 Railroad Avenue			
157	KC's Truck & Trailer Parts	10441 Cadwell Road			
158	Ke-Burgmann	10035 Prospect Avenue # 202			
159	Kirin Sushi	8790 Cuyamaca Street	✓	Verified that grease trap had been maintained and discharge removed.	Resolved

Table 5-2 (Continued)
Industrial and Commercial Sites Inspected During the Reporting Period

#	Business	Address	Recommended for Follow-Up	Description of Follow-Up Actions	Resolution Status
160	Kleinsmith Stair & Trim Inc.	9435 Wheatlands Court # H			
161	KW Cages Advanced Design	9565 Pathway Street # B			
162	L and P Auto Repair	8630 Railroad Avenue			
163	La Salsa	9828 Mission Gorge Road			
164	Langer Datsun Repair	10468 Mission Gorge Road			
165	Lloyd's Collision Care	9936 Buena Vista Avenue			
166	M & J Restoration	10223 Mast Boulevard			
167	Maaco Collision Repair	8745 Magnolia Avenue			
168	Manzanita Brewing Company	9962 Prospect Avenue # E			
169	Marietas	8915 Carlton Hills Boulevard			
170	Marjan Stone Company	9746 Prospect Avenue	✓	Checked that sweeping of the facility had improved. Observed BMP implementation during rain event and sent NOV to operator. Followed up with a reinspection during December. Inspected again during June to discuss BMP requirements, monitoring data and state reporting requirements.	Resolved
171	Mary's Donuts	9031 Mission Gorge Road			
172	Mathy Machine	9315 Wheatlands Road			
173	Maxima Racing Oils	9266 Abraham Way			
174	Mayan Trade Inc.	9437 Wheatlands Avenue # H			
175	McDonalds (in Walmart)	170 Town Center Parkway			
176	McKay Roofing Co Inc.	10622 Kenney Street	✓	Provided additional materials for staff training.	Resolved

Table 5-2 (Continued)
Industrial and Commercial Sites Inspected During the Reporting Period

#	Business	Address	Recommended for Follow-Up	Description of Follow-Up Actions	Resolution Status
177	Meineke	9551 Magnolia Avenue # B			
178	Metrix Autobody	10438 Mission Gorge Road # C			
179	Metro Steel	10520 Kenney Street # A			
180	MGY Auto Sale & Body	9937 Prospect Avenue # 5			
181	Mike's Recycling	11459 Woodside Avenue			
182	Mirage Racing Products	10806 Prospect Avenue # 1			
183	Mission Carlton Vet Hospital	9302 Carlton Hills Boulevard			
184	Mission Gorge Automotive	10332 Mission Gorge Road			
185	Mission Gorge Market	7757 Mission Gorge Road			
186	Mobil Oil Corp.	9750 Magnolia Avenue	✓	Verified that drums from groundwater monitoring have been removed.	Resolved
187	Montgomery Landscaping, SN	11366 Woodside Avenue # B			
188	Most Truck Sales	8017 Mission Gorge Road			
189	Nam Long Restaurants	9828 Magnolia Avenue			
190	National Spring	8745 Magnolia Avenue # A			
191	Oggi's Pizza & Brewing Company	9828 Mission Gorge Road			
192	Oishii Japanese - Thai Restaurant	10251 Mast Boulevard			
193	Okawa Steak House and Sushi	9720 Mission Gorge Road # A			
194	Omelette Factory	7941 Mission Gorge Road			
195	One Stop Auto Tech	9605 Carlton Hills Boulevard			
196	Opportunity Transmissions DBA Factory Transmissions	10806 Prospect Avenue	✓	Verified that spill prevention/cleanup materials have been purchased and are available onsite.	Resolved

Table 5-2 (Continued)
Industrial and Commercial Sites Inspected During the Reporting Period

#	Business	Address	Recommended for Follow-Up	Description of Follow-Up Actions	Resolution Status
197	Original Roadhouse Grill	9816 Mission Gorge Road			
198	P P Wynns Auto Repair	10659 Prospect Avenue # A			
199	Pacific Tire & Brake	10806 Prospect Avenue # 1			
200	Padre Dam Water Recycling Facility	9300 Fanita Parkway			
201	Penguin Yogurt Factory	9621 Mission Gorge Road # A			
202	Pep Boys Manny Moe & Jack	10041 Mission Gorge Road			
203	Phantastic Auto Repair	10223 Mast Boulevard			
204	Philip Thearle's Autowerks	8809 Mission Gorge Road			
205	Pinnacle Peak Steak House	7927 Mission Gorge Road	✓	Verified that pest repellent had been removed from external areas.	Resolved
206	Pizza Hut	9420 Cuyamaca Street # 100			
207	P-M Machining Inc.	8630 Argent Street			
208	Pool Covers Unlimited	8606 Argent Street # E			
209	Precision Water Jetting Inc.	10031 Prospect Avenue # B & C			
210	Prime Time Concrete Pumping	9451 Hornbuckle Drive			
211	Pure-Flo	7737 Mission Gorge Road			
212	Quality Foreign Auto	10806 Prospect Avenue # 1			
213	Qwik Korner	9035 Mission Gorge Road			
214	R C Automotive	10735 Woodside Avenue # A			
215	Rafael Gardening	8843 Cottonwood Avenue			
216	Ranch House Restaurant	11510 Woodside Avenue # F			
217	RCI Reinforcing Steel Contractor	9409 Abraham Way			
218	RCP Block and Brick Inc	9631 Magnolia Avenue			
219	Reed Sport Buggies	9745 Airport Vista Road			

Table 5-2 (Continued)
Industrial and Commercial Sites Inspected During the Reporting Period

#	Business	Address	Recommended for Follow-Up	Description of Follow-Up Actions	Resolution Status
220	Renaissance Mechanical	9819 Pebble Beach Drive			
221	Retro Truck Parts	9518 Cecilwood Drive			
222	Richardson Cabinets	9201 Isaac Street			
223	Ricks Machine Shop	11448 Woodside Avenue	✓	Verified that BMPs were being implemented in vehicle washing area. Further improvements could still be made.	In progress
224	RJA Masonry	10057 Pebble Beach Drive			
225	Rush Motorsport	10148 Mission Gorge Road			
226	Russo's Auto Body Inc.	10410 Mission Gorge Road			
227					
228	San Diego Classic Volkswagen	9440 Wheatlands Court # 7			
229	San Diego Floodbusters	9943 Prospect Avenue			
230	San Diego Hot Rods	9851 Prospect Avenue # A			
231	San Diego Subs & Salads	9713 Mission Gorge Road			
232	Sands Automotive	9219 Mission Gorge Road			
233	Santee Market	11007 Woodside Avenue	✓	Verified that cigarette butts had been removed from around dumpster within prescribed timeframe.	Resolved
234	Santee Pet Hospital	8936 Carlton Hills Boulevard			
235	Santee Roofing Company	8035 Smokewood Drive			
236	Santee Transmission	10806 Prospect Avenue # 7			
237	Satin Stone Manufacturing	9937 Prospect Avenue			
238	Scantibodies Clinical	9336 Abraham Way			
239	Scantibodies Shipping & Receiving	9343 Wheatlands Court			

Table 5-2 (Continued)
Industrial and Commercial Sites Inspected During the Reporting Period

#	Business	Address	Recommended for Follow-Up	Description of Follow-Up Actions	Resolution Status
240	ScooterBug	9260 Issac Street # C			
241	Select Cabinets	9937 Prospect Avenue			
242	Senor Pancho Mexican Grill	10320 Mission Gorge Road			
243	Smog Center of CA	8665 Mission Gorge Road # A-3			
244	Smoking Joe's Intl. BarBQue	205 Town Center Parkway # A	✓	Issues with outside cooking arrangements. Visit to facility with fire and planning staff focused solely on this and outside storage. Future inspections will address all issues typically covered during an inspection	Resolved
245	Socal Concrete Pumping	10216 Peaceful Court			
246	Solid Surface Sollutions	10704 Prospect Avenue			
247	Sonic Burger	10515 Mission Gorge Road			
248	Sparks Auto Care	8663 Magnolia Avenue # C-D			
249	Sparks Computerized Car Care	10735 Woodside Avenue			
250	Sparky's Transmission	10410 Mission Gorge Road			
251	Specialty Metals Fabrication	11222 Woodside Avenue	✓	Provided information on complying with State Industrial Permit.	In progress
252	Speedee Mart	8011 Mission Gorge Road # A	✓	Conducted follow-up inspections until dumpster enclosure had been cleared of trash.	Resolved
253	Speedo Shop, The	10027 Prospect Avenue # E			
254	Spivey Auto Enterprises	10555 Prospect Avenue			
255	Steagall's Custom Cabinets	10911 Wheatlands Avenue # H			

Table 5-2 (Continued)
Industrial and Commercial Sites Inspected During the Reporting Period

#	Business	Address	Recommended for Follow-Up	Description of Follow-Up Actions	Resolution Status
256	Subway	7757 Mission Gorge Road			
257	Subway	50 Town Center Parkway # D			
258	Subway	9890 Magnolia Avenue			
259	Subway	10538 Mission Gorge Road	✓	Conducted follow-up inspection to verify that grease trap had been maintained and cigarette butts had been removed from around back entrance.	Resolved
260	Sunset Roofing Company Inc.	8721 Magnolia Avenue # C			
261	Superframe MFG Co.	10308 Mission Gorge Road			
262	Taco Loco	8667 Fanita Drive			
263	TC Construction Co Inc	10540 Prospect Avenue			
264	Terry Allens Auto Body	8665 Mission Gorge Road			
265	The Dyno Shop	10042 Prospect Avenue			
266	The Home Depot	255 Town Center Parkway			
267	Total Performance Machine	10133 Prospect Avenue			
268	Toyotalift Inc	11446 Woodside Avenue			
269	Toyota Certified of Santee	9135 Mission Gorge Road	✓	Observed storage of drums and maintenance-related material during a post-construction BMP inspection, notified owner. Verified that material had been removed.	Resolved
270	Truly Nolen	8400 Magnolia Avenue # M & N			
271	Valley Auto Detailing	7945 Mission Gorge Road # 107			

Table 5-2 (Continued)
Industrial and Commercial Sites Inspected During the Reporting Period

#	Business	Address	Recommended for Follow-Up	Description of Follow-Up Actions	Resolution Status
272	Valley Box Co.	8544 Tumbleweed Drive			
273	Valley Tractor	11478 Woodside Avenue			
274	VDAB Corp. dba East County Tire & Brake	7945 Mission Gorge Road # 102			
275	Vee-Tech	9851 Prospect Avenue			
276	VGCC Management dba Volkers	7953 Mission Gorge Road			
277	Viking Battery	10759 Woodside Avenue # B			
278	Vons Companies	9643 Mission Gorge Road	✓	Reinspected to verify that sump in dock and dock area were cleaned prior to seasonal rain.	Resolved
279	Wal-Mart Stores # 1917	170 Town Center Parkway	✓	Provided Spanish and English outreach information to assist with training requirement.	Resolved
280	WC's Wagon Wheel	8861 Magnolia Avenue			
281	Western Construction Components Inc.	9484 Mission Park Place			
282	Westline Woodcraft	9435 Wheatlands Court # F-G	✓	Provided facility operator with information to complete NONA/NEC	Resolved
283	Whaley Enterprises	9565 Pathway Street # B			
284	Wheels on Wheels LLC	9225 Carlton Hills Boulevard # 28			
285	Wienerschnitzel	9650 Mission Gorge Road			
286	Wildside Custom Cycles	7949 Mission Gorge Road			
287	Woodmaster Windows	10965 Hartley Road # Q			

Table 5-2 (Continued)
Industrial and Commercial Sites Inspected During the Reporting Period

#	Business	Address	Recommended for Follow-Up	Description of Follow-Up Actions	Resolution Status
288	Woody's Auto Repair	10965 Hartley Road # M			
289	Wright Automotive	8625 Cuyamaca Street			
290	Ye Village Inn	8929 Carlton Hills Boulevard			
291	Yogurt World	9331 Mission Gorge Road # 110			

*Follow-ups were also conducted at the IHOP restaurant and Panda Garden Buffet based on Reporting Period 08-09 inspections, concentrating on outside storage areas. These were conducted as a watershed activity and will be described in more detail in the FY09-10 San Diego River WURMP report.

** A follow-up was conducted at Suncraft Shutters to observe how BMPs were implemented during a rain event. Based on observations made during the rain event a notice was sent to the business operator. This facility will be reinspected again during future rain events.

6.0 RESIDENTIAL

6.1 INTRODUCTION

Residential land use comprises a significant portion of the City, so residential activities can have a considerable effect on the water quality of receiving waters. The City has developed an extensive program that aims to reduce pollutant runoff from residential areas and activities to the MEP.

6.1.1 SUMMARY OF NOTABLE ACCOMPLISHMENTS

Some notable achievements for the residential component during the Reporting Period are presented in the following bulleted list. Additional details about the City's implementation of the residential component and of its storm water program during the reporting period are provided in the remainder of Section 6.

- On 5/1/2010 Santreefest was held at Town Center Community Park and attended by 500 volunteers. Participants removed 100 pounds of trash from around the river, planted trees and received education on environmental issues.
- Completion of study on pet waste management behavior.
- Presentation to approximately 60 children attending a City of Santee summer camp.
- Presentation to Sky Ranch Homeowners Association.

6.2 SOURCE CHARACTERIZATION

The City has designated one high TTWQ residential area within the City and has also designated a number of high TTWQ residential activities. Based on discussions with the RWQCB during November 2008 and their letter dated February 27, 2009, the high TTWQ residential areas can be adapted based on the most current information available. For example, education and BMP implementation can focus on a specific area based on data, observations, and complaints regarding that area. When these focused activities have been completed, then a different area can be designated as high TTWQ and be subject to similar efforts.

Based on this understanding, the City updated its high TTWQ area during the Reporting Period. The area identified as a high TTWQ area is listed below.

- The area surrounding Cecilwood Drive, east of Halberns Boulevard

This area was selected based on the number and types of complaints recently received in this area. Based on dry weather findings, the area around Woodglen Vista Channel will be a high TTWQ area during the 2010-2011 Reporting Period.

High TTWQ residential activities include:

- Home and Garden Care Activities and Product Use; Including Disposal
- Disposal of Trash and Pet Waste
- Automobile Repair, Maintenance, Washing, and Parking

6.3 BEST MANAGEMENT PRACTICE REQUIREMENTS

The City continues to encourage the implementation of pollution prevention measures and encourage or require the implementation of BMPs for residential areas and activities, whether or not the residential area or activity has been designated as being high TTWQ. If particular BMPs are not feasible for any specific site or source, the City requires implementation of other equivalent BMPs. Designated BMPs or their equivalent were implemented or were required to be implemented for residential areas and activities.

Education and outreach aimed at residents helps to facilitate the implementation of BMPs, including pollution prevention methods. Residents are encouraged, and in some cases required, to implement BMPs and pollution prevention techniques when performing the high TTWQ activities listed in the previous subsection. Residential BMPs are listed in the BMP Manual, Appendix C of the JURMP. These BMPs did not change during 2009/2010.

6.4 PROGRAM IMPLEMENTATION

The residential program is implemented through outreach and education, operation of a complaint hotline, and complaint investigation and enforcement procedures as discussed in the following subsections.

6.4.1 OUTREACH AND EDUCATION

Outreach was implemented through the preparation and dissemination of outreach materials including the fact sheet series discussed in Section 9 of this Annual Report. A summary of specific Outreach and Education events for residents is presented in the following table:

Table 6-1
Summary of Outreach and Education Activities

Date	Activity Description	Description of Outreach and Education Component
07/30/09	Presentation of stormwater concepts to approximately 60 children at a City Summer Camp.	The City presented a model of the storm drain system and San Diego River which allowed the children to experiment with the impact of various types of pollutant. Representatives from the San Diego River Park Foundation brought samples of benthic macroinvertebrates from Forester Creek for the children to observe.
9/14/09	Presentation on stormwater ordinance compliance for residents at a Sky Ranch Homeowners Association Meeting (HOA).	Presentation to 15 homeowners on BMPs that might be applicable when moving into a new home, prior to the rainy season and in daily life. Provided factsheets relevant to residential uses. Answered questions on stormwater compliance from homeowners.
December 2010	Dissemination of Stormwater Calendars Providing Information on Residential BMPs.	Copies of calendars left at the City library, at City buildings serving residents, provided to City staff and at Santee School District. The remainder were distributed at subsequent outreach events. Approximately 500 calendars were distributed by the City.
January 2010	Development of Outreach Information on Stormwater.	Photographs and text provided for the development of information boards that were to be placed by Woodglen Vista Creek in the Town Center Community Park development. Information covered included stormwater impacts on water quality and the water quality benefits of creek restoration.
02/20/10	Provision of outreach information at public participation event near the Old Edgemore Site.	City representative present during the event to provide outreach to residents participating in the event.
04/26/10	Provision of outreach information to residents participating in a trash clean-up event at Forester Creek.	Factsheets relating to residential activities were made available to participants.
05/01/10	Santreefest event in Town Center Community Park.	City staff provided outreach information on residential activities and Integrated Pest Management (IPM) information at the City booth.
05/16/10	River Days Event in Mission Trails Park (just outside of City limits).	Provided outreach information on residential activities and IPM at the City booth at this event.
05/27/10	Petco Presentation	One of two scheduled presentations to attendees at a class at the Petco store on pet waste management. Attendees completed a pre- and post-presentation survey. Another event was scheduled, but not completed as the class had been cancelled.

Table 6-1
Summary of Outreach and Education Activities

Date	Activity Description	Description of Outreach and Education Component
05/29/10	Residential survey and outreach at Santee Street Fair.	Surveys of residential understanding of stormwater issues were conducted at the City booth. Outreach on residential activities and IPM were also provided.
06/19/10	Regional Outreach at San Diego County Fair.	The City of Santee provided staff to provide outreach at the regional educational booth at the San Diego Fair. A residential survey was completed and educational information for residents was disseminated.
Throughout 2009/2010	Provide swimming pool maintenance information to Leslie's pools to provide to their customers.	Leslie's Pools is a swimming pool maintenance supplier in Santee. A total of 50 copies of factsheet 9 were provided to patrons of this business.
June 2010	Residential education postcards	Residential education postcards mailed to the high TTWQ area.

The City worked with an intern during Reporting Period 2008-2009 to review how community-based social marketing techniques can be better incorporated into the outreach and education program. The report on this review was prepared during Reporting Period 2009-2010 and is presented in Attachment 6.1. The scope of this work was examining the demographics of the City, conducting observations and surveys to assess current behavior and to identify potential barriers to behavior change. The findings of this study were:

- Respondents to the survey most commonly responded that pet waste dissolves and fertilizes the ground.
- Middle-aged males were the group that most commonly left pet waste on the ground.
- Owners of unleashed pets, and those who walked their dogs in perimeter areas or where there was a fair amount of undergrowth were less likely to pick up after their pets.
- Solo walkers were less likely to pick up after the pets. Those who walked their dogs less frequently were also less likely to pick up after their pets.
- Pet waste was more commonly observed at Woodglen Vista Park.

Based on these findings the following conclusions can be made: outreach should emphasize that pet waste is polluting, not a fertilizer; it could be beneficial to install pet waste dispensers in the peripheral areas of parks. Opportunities to reach out to middle-aged males should be used, where available. Woodglen Vista Park should be selected for future pilot studies or outreach.

During the Fiscal Year 2008-2009 (after data had been collected for the study) dog park facilities were made available in response to requests from residents. These facilities are located in Woodglen Vista Park and Mast Park at specific times of day. Signs advising residents of the rules for use of the dog park facility, including picking up pet waste have been posted. Additional pet waste bag dispensers were also installed.

It is possible that peer pressure from other dog park users will encourage owners to pick up after their pets. Future surveys of pet waste at these facilities will be compared with the baseline information collected by in this study to assess if the installation of these dog parks has affected the level of pet waste observed at these locations.

6.4.2 USED OIL AND WASTE COLLECTION SERVICES

The City provides free used oil disposal facilities to residents. Approximately 309 gallons of waste oil were disposed of through City-provided facilities. The City also contracts with two Household Hazardous Waste (HHW) facilities for the disposal of other HHW (leftover paints, automobile fluids, drain opener and any unused products containing toxic chemicals for home or automobile maintenance). Based on the available data, approximately 31,168 pounds of paint, 605 pounds of batteries, and 211 pounds of fluorescent tubes were collected through City-provided facilities.

6.4.3 HOTLINES AND WEBSITES

The City continues to operate its stormwater hotline in accordance with the requirements of the Municipal Permit. The stormwater pages of the City of Santee's website were redesigned to make them more user-friendly and additional factsheets were added. Separate pages were being developed for each type of user group, for example, there was one page for residents. Reference documents and links to other sources of information are provided on the different pages. The redesign was uploaded to the website during the Reporting Period.

6.4.4 COMPLAINT INVESTIGATION

As previously mentioned, complaints are received by the City's stormwater hotline regarding discharges in various areas of the City, including residential properties. During the Reporting Period, the City received a total of 46 complaints regarding residential areas and activities in the City. A summary of all complaint investigations, including residential complaint investigations, is included as Appendix B to this Annual Report.

A stormwater fact sheet, which is included in Attachment 4.1, relating to construction activities has been prepared and is distributed whenever any request for building permit application information is made. In addition it is provided online and in the stormwater information center at the City. Disseminating information on the controls for the most basic of projects should make project proponents aware of and plan for the storm water controls needed for any storm water activity. Other avenues for outreach (such as the

Santee Review Newsletter) will continue to be used to educate homeowners about their responsibilities when undertaking minor construction work at their properties.

During the Reporting Period complaints were received regarding fire abatement activities that had resulted in discharges of sediment during the more intense storms of Winter 2009/2010. A factsheet was developed in response to these observations to allow residents to implement appropriate fire prevention measures on their property without exposing their property to erosion. This factsheet was developed in conjunction with code compliance and fire safety staff. In addition, storm water program staff met with the contractor responsible for fire abatement activities in the City to discuss how the two entities could collaborate to prevent discharges of sediment from properties that had been subject to fire abatement.

As discussed in Section 4.0 of this Annual Report, during the Reporting Period a complaint was received regarding the handling of discharges from sewer lateral pipes. City staff met with a representative from Padre Dam to discuss how they handle the response to these incidents. Padre Dam unblocks the pipe, but any work subsequent to that (such as clean-up) is the responsibility of the homeowner. Padre Dam staff may inform the resident of their responsibilities relating to the clean-up, but there is no verification that this is done. The City has developed a factsheet for residents to be provided during an incident. This factsheet describes the responsibilities of the property owner and describes the types of BMPs that will be required. This factsheet is presented in Attachment 4.1.

During the Reporting Period, City staff working on the Abandoned Vehicle Abatement Program (AVA) opened 221 cases, which relate to at least one car each, and issued 10 administrative citations. The activities of this program reduce the likelihood of these vehicles generating stormwater violations in the future.

Violations relating to sediment discharges were responsible for approximately nine of the complaints received by the City about residential areas and activities. Approximately nine complaints related to powerwashing or hosing down and nine related to construction activity. Landscaping maintenance activities were responsible for approximately five complaints and four complaints relating to pool maintenance were received.

Based on the summary above, outreach and education efforts should continue to focus on the following topics:

- Power washing or hosing down (including automotive detailing)
- Maintenance of swimming pools and spas
- BMPs for landscaping, including sediment control
- Residential maintenance activities

6.4.5 ENFORCEMENT

In response to the complaints received by the City's stormwater hotline regarding residential areas and activities, the City took the following enforcement actions:

- 23 courtesy notices/onsite conversations with discharger
- Seven notices of violation

One notable case related to Greenbrier Mobile Home Park for which two complaints were received via the County Hotline. The first complaint was received in December 2009 and related to construction activities on the property for which insufficient BMPs were being deployed. This construction (construction of retaining walls), being on property under the jurisdiction of the State, did not require City permits, therefore it had not been subject to City inspection. The City visited the location, confirmed that insufficient BMPs were being deployed and there was a discharge to the curb and gutter. The City representative provided the property manager with a courtesy notice directing them to remove the discharge and to implement better BMPs. The City confirmed that this was done.

Another complaint about Greenbrier Mobile Home Park was received during April 2010. The City visited the site, confirmed the complaint and prepared a notice of violation to the Property Manager for the continued violations. The Property Manager responded promptly and thoroughly to the notice, providing documentation on training of his staff and assuring the City that this would not be allowed to reoccur. A follow-up inspection indicated that the construction debris observed in the gutter had been removed and adequate BMPs had been implemented.

6.4.6 REGIONAL RESIDENTIAL EDUCATION PROGRAM

The City continues to contribute to the Regional Residential Education Program. The City anticipates using the regional materials, such as branding templates, in the jurisdictional program as they become available.

6.4.7 METHODS EVALUATION

As described in the City's JURMP, the City uses a number of methods to maintain oversight for residential activities and areas, including the following:

- Complaint referrals
- Observations of City staff during routine activities
- Dry weather monitoring and upstream investigations

These methods provide effective oversight of residential activities within the City. The City promptly responds to complaint referrals, and any discharges observed during routine or monitoring activities using an escalating enforcement mechanism. These incidents are monitored, and if a pattern of behavior is observed in a certain area of the

City or associated with a particular type of activity, then additional education efforts will be made to reduce the likelihood of this reoccurring within the community. Repeated violations associated with an address or person result in a higher level of enforcement response, as these individuals have now been educated regarding storm water requirements.

Padre Dam MWD passed a drought ordinance on June 24, 2008 prohibiting certain activities that are consistent with the objectives of the storm water program. In particular, over-irrigation and hosing down of driveways, except when required by sanitary or safety conditions, have been prohibited. Although the City will continue to enforce its ordinances, there is an emphasis on data-sharing with Padre Dam MWD to encourage water conservation and to improve water quality through the reduction of nuisance flows.

6.5 EFFECTIVENESS ASSESSMENT

The effectiveness of the residential component is assessed in Section 11 of this Annual Report.

6.6 PROGRAM REVIEW AND MODIFICATION

The City's JURMP was updated in March 2008. With the exception of the reassignment of the high TTWQ area for the 2009/1010 Reporting Period, no changes to the City's residential component have been made since that time.

7.0 ILLICIT DISCHARGE DETECTION AND ELIMINATION

7.1 INTRODUCTION

In accordance with the September 10, 2008 RWQCB adoption of Addendum No. 2 to Order No. R9-2007-0001, the City will submit the 2009/2010 illicit discharge detection and elimination section and attachments to the RWQCB no later than December 15, 2010.

8.0 EDUCATION COMPONENT

8.1 INTRODUCTION

During the Reporting Period, the City continued to provide education and outreach to a variety of audiences within the City. The City's education program targets municipal personnel, industrial and commercial businesses, construction site owners and operators, residents, and audiences that may generally be underserved. The City aims to reduce storm water pollution by increasing awareness about storm water and promoting the implementation of pollution prevention measures and BMPs. Through education and outreach, the City works to foster change in both the attitude and behaviors of the regulated community.

8.1.1 SUMMARY OF NOTABLE ACCOMPLISHMENTS

Some notable achievements for the education component during the Reporting Period are presented in the following bulleted list. The following subsections of this section provide more details on how the City complied with the Municipal Permit during the Reporting Period.

- During the Reporting Period, the City's community newsletter, the *Santee Review*, featured articles highlighting storm water topics aimed at City businesses and residents.
- Various educational materials were made available to project proponents, industrial and commercial facility personnel, and City staff through the City's storm water information center, interactions and training with Stormwater Program Staff, the City Website, facility inspections and project reviews.
- The City completed redevelopment of the stormwater website pages.
- The City used its website to remind property owners how to prepare properties for the rainy season and notify citizens of the availability of free sandbags during an intense storm period.
- The City was proactive in notifying construction project proponents within Santee of regional stormwater training opportunities. A City representative made a presentation at an Association of General Contractors' construction stormwater training event.
- The City provided educational materials in English and Spanish to provide outreach to a wider audience.

8.2 STAFF TRAINING ELEMENT

The City has provided extensive training and educational outreach to its municipal personnel. Many municipal personnel are out in the field on a daily basis, so it is

important that they understand the importance of implementing BMPs. Municipal personnel are encouraged to report any IC/IDs observed to the appropriate City staff and to educate other municipal personnel and the general public about storm water pollution prevention. During the Reporting Period, the City provided the following in-house training/educational outreach events aimed at municipal personnel:

- Nine public works staff, the Deputy City Manager and Safety Officer attended a training where the video "After the Storm" was presented. Afterwards there was a discussion of pertinent items relating to the City of Santee.
- Code compliance staff were trained on how to recognize and respond to illegal discharges.
- The building inspector was trained on how to ensure stormwater requirements are being implemented properly during construction activities.
- Eight members of DDS attended training on construction site inspection and complaint response procedures.
- Ten members of DDS attended a comprehensive internal training on stormwater requirements relating to the design and construction of new development and redevelopment.
- A stormwater inspector was trained to conduct business inspections. This comprehensive training was conducted over a period of three months.

In addition to the in-house training opportunities, outside training opportunities, focusing on areas of the stormwater program that were evolving were made available to staff. See Table 8.1, on the following page, for details about these training events.

Table 8.1 Outside Staff Training Opportunities FY 2009-2010

Date	Training	Description
9/10/2009	CASQA webcast training on the new Construction Permit.	Three members of the Department of Development Services (DDS) attended.
9/24/2009	Bacteria TMDL seminar presented by Weston Solutions.	Stormwater Program Manager attended.
9/30/2009	Online EPA course on Illicit Discharge and Elimination.	Stormwater Program Manager attended.
11/02/09 – 11/05/09	CASQA Annual Conference	Stormwater Program Manager attended.
03/03/10	APWA SUSMP Training	Eleven members of DDS (engineers, planners, and stormwater program staff) attended a regional training on the new SUSMP requirements.
3/11 and 3/12/10	Sustainable Urban Landscape Conference at Cuyamaca College	Parks and Landscape Coordinator attended.
3/23/10	CAL-EPA Enforcement Training	Stormwater Program Manager attended training.
5/4/2010	State Training on Construction Permit	Two members of DDS attended this training at the RWQCB's offices.
6/23/2010	CASQA webcast training on the Construction BMP portal.	Five members of DDS viewed this training.

In addition to the formal training sessions conducted for City personnel presented in Table 8.1; the JURMP reporting process and interactions with colleagues during daily activities provided the City's Stormwater Program Manager with a forum to discuss the City's storm water program with various City personnel involved in implementing the City's JURMP.

8.3 EDUCATIONAL OUTREACH ELEMENT

In addition to municipal staff, the City has continued to provide education and outreach to industrial and commercial businesses, construction site owners and developers, residential areas, and underserved audiences. These efforts promote storm water awareness and BMP implementation.

8.3.1 INDUSTRIAL AND COMMERCIAL BUSINESSES

As required by the Municipal Permit, the City inspects its inventoried businesses to evaluate compliance with the City's BMP requirements and provides site-specific education outreach to business owners and operators. Violations of the City's BMP requirements are corrected through enforcement actions as necessary. Facility inspectors provided site-specific discussions on necessary BMPs at all inspected facilities. These discussions help facility personnel gain a better understanding of the storm drain system and activities that pose a high threat to water quality.

In addition to site-specific discussions, industrial and commercial facility owners and operators were provided a variety of fact sheets and other educational materials. The City distributed the following general and activity-specific fact sheets during industrial and commercial inspections and during complaint investigations, as applicable. The fact sheets are included in Attachment 4.1.

- Fact Sheet 1: What is Stormwater?
- Fact Sheet 2: Water Quality Impacts
- Fact Sheet 3: Wet Weather Checklist
- Fact Sheet 4: Restaurants
- Fact Sheet 5: Automotive
- Fact Sheet 6: Mobile Auto Detailing
- Fact Sheet 7: Power Washing
- Fact Sheet 8: Industrial/Commercial
- Fact Sheet 9: Pool Maintenance
- Fact Sheet 10: Residents
- Fact Sheet 11: Demolition/Construction
- Fact Sheet 12: Special Events
- Fact Sheet 13: Carpet Cleaning
- Fact Sheet 14: Community Organizations
- Fact Sheet 15: Site Design LID BMPs
- Fact Sheet 16: Yard and Garden Maintenance

- Fact Sheet 17: Fire Prevention & Erosion
- Fact Sheet 18: Responding to Sewage Spills

A letter and Fact Sheet 8, the Industrial/Commercial fact sheet, was mailed to businesses selected for inspections during the Reporting Period. During the inspection process, the City also distributed the "Green Wrench Guide" and the "What's Cookin'" brochure, both in English and Spanish, to auto shops and restaurants, as applicable.

In addition to educational materials provided during license applications, inspections and complaint investigations, the City's newsletter, the *Santee Review*, is available by email to industrial and commercial addresses in the City. The newsletter often contains storm water articles and relevant information on public participation opportunities. The storm water-related articles published during the reporting period are included as Attachment 8.1. Note that the *Santee Review* was not issued on a quarterly basis, as has been typical in previous years. Instead issues were prepared during the Summer and Fall of 2009 only.

8.3.1.1 MOBILE BUSINESSES

Mobile businesses, specifically mobile car detailers or power washers, are considered a high threat to water quality due to the nature of the business activities and the likelihood of prohibited non-storm water discharges. Mobile businesses are not confined to a single area, and many do not have City business licenses, making them difficult to identify. Individuals applying for businesses licenses for mobile car washing activities meet with the City's Stormwater Program Manager to discuss BMPs before a business license is issued. In addition, businesses applying for licenses to operate carpet cleaning, landscaping, or pool maintenance services received factsheets on these subjects. The City takes proactive steps in identifying and educating mobile businesses in the City during the Reporting Period, namely conducting drive-by investigations of areas known to be frequented by mobile businesses and providing applicable educational material and/or enforcement actions.

Additionally, the City continues to provide copies of the carpet cleaning factsheet to a facility that maintains machinery used for carpet cleaning (A & I). The facility owner distributes these factsheets to their clients.

8.3.2 CONSTRUCTION SITE OWNERS AND DEVELOPERS

Construction sites have the potential to discharge sediment and other pollutants to receiving waters if not managed properly. Construction site owners, contractors, and developers visit the City's Engineering Division to apply for necessary permits. The review process raises storm water awareness through the grading permit approval, development review, environmental review, SUSMP review, and/or other meetings prior to the issue of permits. In addition to these interactions with City staff, information on the General Construction Stormwater Permit (where applicable), the City's Website, brochures, and construction-specific materials are provided for all

construction affiliates. Anyone applying for a building permit is provided Fact Sheet 11, which includes BMPs for construction and demolition activities. Education is also provided after permits have been obtained during the City's site inspections.

A City representative made a presentation at an Association of General Contractors (AGC) construction stormwater training event. The presentation focused on the requirements of the municipal permit for construction sites.

The City has also continued its requirement for contractors and developers to watch "Hold Onto Your Dirt," an informational video on construction BMPs, at meetings prior to obtaining grading permits.

8.3.3 RESIDENTIAL AREAS

Due to the potential threat to water quality posed by residential activities, the City understands the importance of reaching this particular audience through educational outreach programs. The City continued to send the *Santee Review* Community Newsletter (Attachment 8.1) to residents in the City. Several storm water articles were included in the newsletters distributed during the Reporting Period. The following is an outline of storm water related articles and announcements published in the newsletter during the Reporting Period:

- "Volunteers Assist with Creek Clean Up" describes how volunteers from the San Diego River Park Foundation worked with City crews to remove trash washed down to Forester Creek. It provided contact information for the River Park Foundation.
- "Debris Recycled into Construction Material" described how sediment washed into Forester Creek from the upstream lined channel was removed and used in the Town Center Community Park project.
- "Kids, Water and Bugs" described outreach to children at a City of Santee camp. There a simplified model of the storm drain system and river were used to demonstrate how pollution discharged onto our streets affects the San Diego River. Afterwards the children had an opportunity to examine some of the benthic macroinvertebrates that live in Forester Creek. This event was conducted in collaboration with the San Diego River Park Foundation.

Copies of Factsheet 09 (Swimming Pool and Spa Maintenance) were provided to Leslie Pools, a vendor of home pool and spa supplies to distribute to their customers, most of which are residents. The City website, www.ci.santee.ca.us, is another way in which City residents can become familiar with the design and intended use of the storm drain system, household hazardous waste (HHW) disposal, information regarding volunteer opportunities, information on how to report pollution, stormwater factsheets for various activities, Stormwater Program documents and applicable City contact information.

On September 14, 2009 City staff conducted a presentation on stormwater compliance for residents at the Sky Ranch Homeowners' Association meeting. Outreach materials were provided directly to the residents and additional copies were left for distribution to other residents.

An article was uploaded to the City's website prior to the first rain to advise residents on how they can prepare their properties for the rainy season to minimize discharges of pollutants. During a period of intense storms the City also had a notice on its website advising residents where they can get free sandbags.

During the Reporting Period a redesign of the stormwater web pages was launched. The business section provides links to information on the State Industrial Permit; the residential section provides links to information on residential BMPs; the section for developers provides links to the City's SUSMP, and various project screening forms. It is anticipated that this will help streamline compliance for website users, and will also help leverage existing resources on the internet.

During the 2010/2011 Reporting Period, a selection of one line statements providing information on stormwater issues (such as the need to sweep up, not hose down patios and driveways) will be developed for use on the City's Facebook page.

8.3.4 UNDERSERVED COMMUNITIES

As discussed in the JURMP, the City has defined underserved communities, as required by the Municipal Permit, as residents who engage in certain high-risk to water quality behaviors. This behavior is not restricted to any particular demographic group within the City. High-risk to water quality behaviors include incorrect use and disposal of home and garden care products, incorrect disposal of vehicle fluids, use and maintenance of off-road recreational vehicles, and incorrect disposal of pet waste, over-application of chemicals, over-irrigation, trash accumulation, oil spills, and home improvement projects. To generate educational outreach to those who may engage in high risk to water quality behaviors, the City has continued to maintain a HHW and used oil collection program as well as providing educational material regarding HHW and used oil. Pet waste bags are available in City parks and at popular dog walking areas in the City. The City website also includes information on BMPs for chemical management and vehicle washing. The City plans to continue outreach to those who may engage in high risk to water quality behaviors through its education program.

If high-risk behaviors are observed to be prevalent in any particular demographic group, then the education program will be adjusted to provide more focused outreach to the group. During the Reporting Period a report was prepared regarding the knowledge and attitudes of pet owners relating to pet waste management.

Major trends observed during the study included the following:

- An expectation that pet waste will fertilize the ground.
- Middle-aged males were the least likely to pick up after their pets.

- Those who walk their dogs less frequently were less likely to pick up after their pets.
- It was less likely that the waste would be picked up if dogs defecated when they were off-leash.

These trends will be used to tailor outreach activities and materials to improve the rate at which pet waste is removed by owners.

8.3.5 COMPLAINT INVESTIGATIONS

To further aid the process of identifying illicit discharges, the City encourages the public and City staff to report IC/IDs. If a representative for the business, residential area, or construction site is present, the inspector will provide site-specific information regarding storm water issues including applicable educational materials. Educational material was distributed as necessary during complaint investigations. In addition to the City's storm water hotline, Public Works also receives complaints regarding issues with MS4 maintenance. These complaints are followed up by Public Works personnel and mainly involve drainage system maintenance, but storm water staff is notified when necessary.

8.3.6 EDUCATIONAL MATERIAL DISTRIBUTED

Table 8-1, below, describes the approximate number of educational material distributed during the Reporting Period.

Table 8-2
Educational Material Distributed

Educational Material	Approximate Number Distributed
Ind/Com Inspection Notification Letter	300
Fact sheet 1: What is Stormwater?	104
Fact sheet 2: Water Quality Impacts	5
Fact sheet 3: Carpet Cleaning	22
Fact sheet 4: Restaurants	34
Fact sheet 5: Automotive	31
Fact sheet 6: Mobile Auto Detailing	23
Fact sheet 7: Power Washing	27
Fact sheet 8: Industrial/Commercial	336
Fact sheet 9: Pool Maintenance	174
Fact sheet 10: Residences	82
Fact sheet 11: Construction	28
Fact sheet 12: Special Events	13
Fact sheet 13: Carpet Cleaning	14
Fact sheet 14: Community Organizations	5
Fact sheet 15: Site Design LID BMPs	20

Educational Material	Approximate Number Distributed
Fact sheet 16: Yard and Garden	45
Fact sheet 17: Fire Prevention	138
IPM Cards: English	109
IPM Cards: Spanish	15
Knowledge Assessment Surveys	75
What's Cookin' - English	17
What's Cookin' - Spanish	13
Green Wrench Guide - English	1
Green Wrench Guide - Spanish	2
Volunteer Activities Outreach	26
Regional Calendars	450
Training Info/Sign-in	29
CASQA BMPs for Landscape Maintenance, Outdoor Container Storage and Erosion Control Related.	1
CASQA BMPs for Food Service Facilities and Mobile Cleaning – Food Service Related.	3

8.4 OUTREACH COMPONENT EFFECTIVENESS ASSESSMENT

Please refer to Section 11 of this JURMP Annual Report for the effectiveness assessment for this program component.

8.5 PROGRAM REVIEW AND MODIFICATION

The City's JURMP was updated in March 2008. No changes to the City's education component have been made since that time.

9.0 PUBLIC PARTICIPATION

9.1 INTRODUCTION

The City continues to explore ways to encourage public participation in the City's storm water program. Collaboration between the City and the community should help foster a sense of shared responsibility in protecting water quality both locally and regionally.

9.1.1 SUMMARY OF NOTABLE ACCOMPLISHMENTS

Some notable achievements for the public participation component during the Reporting Period includes the collection of over 12.4 tons of trash and debris during eleven cleanup events held for the San Diego River, Forester Creek, Mast Park, Town Center Park and other locations throughout the City. The following subsections of this section provide more details on how the City complied with the Municipal Permit during the reporting period.

9.2 EVENTS AND PROGRAMS

California Clean-Up Day

The City collaborated with the San Diego River Park Foundation to provide a location for the annual California Clean-up day. The Santee location was along the San Diego River to the east of Cuyamaca Street (meeting at Town Center Park**).** Approximately 372 volunteer hours were spent collecting 3,000 lbs of trash prior to the rainy season.

Santree Fest

The City hosted the Santree Fest at the newly-developed Town Center Park. This was attended by approximately 500 volunteers who participated in a number of activities to enhance Town Center Park including the removal of 100 pounds of trash and debris, as described in Table 9-1. In addition to the trash removal activities, trees were planted in the area. The event provided an opportunity for educational outreach to the participants of the event. Various educational outreach materials, including IPM cards in both English and Spanish, storm water fact sheets, residential fact sheets, and waste management information were provided. City personnel discussed pollution prevention techniques with event attendees who visited the City Booth.

Creek and Waterway Cleanups

The City actively collaborates with the San Diego River Park Foundation to organize public participation events to raise awareness and appreciation of the San Diego River. The City also collaborates with other community groups to facilitate trash removal activities. Cleanup events are described in Table 9-1, on the following page.

Table 9-1
Summary of Cleanup Events

Date	Amount of Trash Removed (lbs)	Description
09/12/09	3,500	56 volunteers participated in an event organized with the San Diego River Park Foundation at Mast Park.
09/19/09	3,000	California Clean Up Day event attended by 124 volunteers.
09/26/09	3,500	144 volunteers participated in an event organized with the San Diego River Park Foundation at Mast Park.
12/12/09	2,000	18 volunteers participated in an event organized with the San Diego River Park Foundation at Forester Creek.
01/29/10	100	Two volunteers associated with the San Diego River Park Foundation conducted a clean-up at Mast Park West (location of future trailhead, west of Carlton Hills Boulevard).
02/05/10	300	Four volunteers associated with the San Diego River Park Foundation conducted a clean-up at the river at Big Rock Road.
02/20/10	7,700	Event organized by the County of San Diego Department of Watershed Protection and attended by City Staff. Trash was removed from property along the river owned by the County. City Department of Public Works assisted in the removal of larger items retrieved during the event.
03/10/10	540	Seven volunteers associated with San Diego River Park Foundation removed material from along Forester Creek.
4/24/10	1,600	Creek to Bay Clean-Up organized by City consultant D-Max Engineering with assistance from the San Diego River Park Foundation and City staff. Approximately 93 people participated in the removal of trash along Forester Creek.
04/30/10	2,500	Thirty-six volunteers associated with the San Diego River Park Foundation removed debris from the river at Big Rock Road.
05/01/10	100	Santreefest event where the San Diego River Park Foundation organized volunteers to remove trash from the river near Cuyamaca Street.

Public Reporting

The City encourages citizens to report any observed illicit connections, illegal discharges or other activity that contributes pollutants to the City's MS4 through the City's Storm Water Hotline. The number for this hotline is presented in all outreach materials, on the website and in each edition of the Santee Review.

Roadside Pride

This ongoing program, where community youth separate recyclable materials from collected debris, was promoted in the Fall 2008 edition of the Santee Review.

Storm Drain Stenciling Program
This ongoing program provides opportunities for members of the community to stencil storm drains to remind the public not to discharge materials to the storm drain system. No stenciling projects were conducted during the Reporting Period; however, the City continues to offer this program to youth groups and other volunteer organizations as a way to participate in improving water quality.

Hazardous Waste Collection and Used Oil Recycling
Citizens are required to properly dispose of household hazardous waste, used oil, bulk items and electronic waste. Residents are informed of the services available to them through outreach at community events, information provided through the storm water program (such as the Residential Fact Sheet), information at various City departments, and the City's website. The amount of used oil and other HHW collected during 2009/2010 is reported in Section 6.4.2 of this Annual Report.

Encourage Responsible Cleanup
Citizens using municipal facilities are encouraged to keep their community clean by properly disposing of all waste. Trash and recycling bins are provided at City parks. Pet waste bags are available at City parks and along popular dog-walking routes. Additional pet waste bag dispensers are being installed as part of an on-going program.

Responsible cleanup procedures are encouraged at special events within the City. A Special Event fact sheet is provided to applicants for relevant permits which require specific BMPs at all special events. Detailed conditions are used for special events in Santee.

In addition to the activities listed above, the City continues to encourage public participation through Project Clean Water and related activities.

9.3 PUBLIC PARTICIPATION COMPONENT EFFECTIVENESS ASSESSMENT

Please refer to Section 11 of this JURMP Annual Report for the assessment of program effectiveness.

9.4 PROGRAM REVIEW AND MODIFICATION

No changes to the public participation component of the JURMP are proposed at this time.

11.0 EFFECTIVENESS ASSESSMENT

11.1 INTRODUCTION

The City regularly evaluates its storm water program to make it as effective as possible at reducing discharges of urban runoff related pollution to the MEP. The overall structure of the City's storm water program is composed of three primary components:

- Program Planning
- Program Implementation
- Effectiveness Assessment

The process typically proceeds from planning to implementation to assessment, although in practice all three may be in progress at the same time. The initial step is program planning, which requires identifying potential pollutant sources, establishing BMP requirements, and establishing targeted outcomes and ways to measure those outcomes. Next, the program developed during the planning step is implemented. Program implementation is assessed each year using the methods developed in the program planning stage and reported in JURMP annual reports. The conclusions from these assessments are used during the next round of program planning to incorporate improvements to the program and refine the assessment technique.

Based on participation in regional efforts and experience implementing its JURMP, the City has identified a variety of metrics to assess progress toward targeted outcomes. At the end of each reporting year, the City uses selected metrics to assess the effectiveness of its program implementation. Example metrics were provided in Section 13 of the City's 2008 JURMP, and the City has refined those metrics in the reporting periods since then.

The effectiveness assessment approach developed by the Copermittees during the last permit cycle includes six different levels of targeted outcomes. Each successive level represents a step up from more easily measured, activity-based outcomes to more difficult to measure, quality-based outcomes. The levels are listed below.

Level 1: Compliance with Activity-Based Permit Requirements
Level 2: Changes in Knowledge/Awareness
Level 3: Behavioral Change/BMP Implementation
Level 4: Load Reductions
Level 5: Changes in Discharge Quality
Level 6: Changes in Receiving Water Quality

11.2 EFFECTIVENESS ASSESSMENT RESULTS

The Municipal Permit requires the City to assess the effectiveness of each significant activity for each program component, for each program component as a whole, and for the storm water program as a whole. Level 1, Level 5, and Level 6 outcomes are

discussed in Section 11.2.1. At this time the City is not able to fully assess Level 5 or Level 6 outcomes for individual program activities or individual programs. As has been noted in CASQA effectiveness assessment guidance, methods for integrated assessment—assessment that combines both monitoring data and program data—are still under development at regional and statewide levels (CASQA, 2007).

11.2.1 OUTCOME LEVEL ASSESSMENTS

Level 1

Level 1 outcomes essentially are measures of Municipal Permit compliance. The component-specific sections in this JURMP Annual Report provide details of programmatic actions taken to comply with the applicable Municipal Permit requirements. Appendix C of this JURMP Annual Report also includes a checklist that provides the location within this report where each provision of the Municipal Permit's annual reporting requirements is addressed.

Levels 2 and 3

See the tables 11-1 through 11-8 at the end of this section for discussions of Level 2 and Level 3 outcomes for significant activities within each program component. Please note that only a Level 1 assessment applies to fiscal analysis, so no table for fiscal analysis is included.

Level 4

The tables at the end of this section provide information for Level 4 assessments where feasible. Assessment of Level 4 outcomes is feasible for some programs that directly measure the amounts of pollutant removal, such as MS4 cleaning. For most other programs reliable load estimation methods have not yet been developed.

Level 5

One of the City's primary mechanisms for measuring the quality of discharges is the Dry Weather Monitoring Program. Graphs presenting the historical Dry Weather Monitoring Program exceedances are provided at the end of this section as figures 11-1 and 11-2.

Nitrate-nitrogen exceedances have been common over the years and have been attributed to groundwater seepage into the MS4. Exceedances in conductivity, orthophosphate-phosphorus, oil and grease, copper, and diazinon have been infrequent in the history of the program. In Round One of the 2010 Dry Weather Monitoring Program, two sites had confirmed nitrate-nitrogen exceedances. These sites have regularly exceeded nitrate-nitrogen objectives as a result of groundwater sources. Transient exceedances of turbidity, surfactants, ammonia-nitrogen, orthophosphate-phosphorus, and *Enterococcus* bacteria were measured. Additionally, by best professional judgment, one site was investigated for a chemical odor and sheen.

Total coliform exceedances have generally been decreasing over time. Note that dry weather action levels for bacterial indicators were revised in 2010. In figure 11-2, constituents have been compared to action levels in effect at the time of sampling to

identify exceedances. In comparison to either set of action levels, no total or fecal coliform exceedances were detected in Round One of the 2010 Dry Weather Monitoring Program.

In addition to dry weather monitoring, the City continues to conduct the MS4 Outfall Monitoring Program implemented in 2009. This program examines water quality at targeted MS4 outfalls in order to characterize pollutant discharges to receiving waters. The data is used to assess whether these discharges contribute to the overall receiving water quality.

Level 6

No Regional Monitoring Program stations have been located within or close to the City of Santee in the past. As part of the updated regional monitoring program, two Temporary Watershed Assessment Stations (TWAS) in the San Diego River Watershed will be located in the Santee area, one at the eastern side of the City, and one farther to the west, close to the junction of Forester Creek and the San Diego River. Data collected at these stations may prove useful in evaluating receiving water quality in the City of Santee once the data becomes available. The data was collected in 2009/2010 and will be provided to the City as part of the San Diego County Municipal Copermittees 2009-2010 Urban Runoff Monitoring Report, which will be finalized in January 2011.

Since 2002, the City has performed an additional study of water quality at five receiving water body locations: two sites in the San Diego River, two sites in Forester Creek, and one site in Sycamore Creek. Samples have been collected under ambient conditions twice per year at each site. Although a portion of Forester Creek outside the City of Santee has been listed as impaired for pH, none of the samples in any water body in Santee's additional study have exceeded the Basin Plan water quality objectives (WQO) for pH (Figure 11-3). Figures 11-4, 1-5, and 11-6 show fecal coliform levels measured in upstream and downstream receiving water locations, with downstream measurements typically being lower. In general, fecal coliform levels demonstrate a decreasing trend.

Data collected generally shows that water quality improves through the City of Santee. Pollutant levels are consistently lower in the downstream reach compared to upstream. Samples collected in 2010 from Site J30d1, located downstream of a restored portion of Woodglen Vista Channel, had relatively low bacteria counts, with fecal coliform below the detection level. This is evidence that the City's recently completed projects to revegetate and improve open channels such as Forester Creek and Woodglen Vista Creek results in improved water quality. More rounds of data will be needed to identify trends in these analyte concentrations with a greater degree of certainty.

11.2.2 Overall Component Assessments

Development Planning

The City's review process for development projects effectively requires higher removal efficiency BMPs. City interaction with responsible parties during the reporting period has resulted in BMP installation and a greater level of awareness of the need for regular

treatment control BMP maintenance within the City. During 2009/2010 the City prepared a SWMP forms for developers to use for SUSMP submittals, which should help reduce the number of reviews needed through providing additional clarity on requirements to project proponents. The City's treatment control BMP inspection program exceeded Municipal Permit requirements during 2009/2010.

Construction

The available data indicate that on the whole the City's construction program effectively requires BMP implementation. The City also inspected many sites more frequently than required by the Municipal Permit and sent construction BMP reminders prior to the beginning of the wet season. Additionally, the City conducted inspections at several inactive sites to ensure continued compliance with the City's BMP requirements. The City took enforcement actions when necessary to bring about compliance. These practices appear to have improved BMP implementation both in general and during rain events, which is when construction activities have the highest potential to discharge pollutants.

Municipal

The City's municipal activities effectively implement BMPs and reduce pollutant loading. The City's municipal staff are regularly trained on storm water issues, and the City's MS4 cleaning and street sweeping programs meet or exceed minimum Municipal Permit frequency requirements. The City sweeps its streets more often than Municipal Permit requirements to aid in WURMP efforts. The City coordinates with Padre Dam MWD to prevent and respond to any SSOs in the City. The City also distributes pet waste bags through dispensers in its parks, and distributed over 180,000 more bags than during the 2008/2009 Reporting Period.

Additionally, the City continued its sustainability program, complementing current environmental programs, such as stormwater, with additional programs to reduce consumption of energy from non-renewable resources, promoting the development of green buildings, and reducing consumption of water and energy.

Industrial and Commercial

The City has a comprehensive inspection program, and the City's Stormwater Program Manager personally conducts many of the inspections. The Stormwater Program Manager follows up with the responsible parties of inspected businesses where significant corrections are needed to ensure corrective actions are implemented properly and within a timely manner. The City also follows-up with businesses observed to be out of compliance with the Industrial Permit to ensure appropriate actions are taken to bring about compliance.

Additionally, the City has taken proactive steps to identify and educate mobile businesses in the City by driving by areas known to be frequented by mobile businesses, specifically mobile car detailers. If any mobile businesses were observed, City personnel stopped to provide educational material and ensure that no discharges were occurring.

Residential

The City's residential component achieves BMP implementation through complaint response, education, and routine monitoring to detect IC/IDs. The City also encourages residential participation in clean up and other events to help foster a sense of shared responsibility in keeping the community clean. These activities may promote a sense of awareness in the residential community, which has the potential to mitigate residential sources of pollution. Additionally, residents in the City attended several training sessions focused on residential topics.

IDDE

The City's IDDE program has effectively responded to hotline calls and quickly responded to address any identified IC/IDs. A total of 68 referrals were received during the Reporting Period, which is an increase from the 59 received during the 2008/2009 reporting period. This may indicate that members of the public are more aware of when and how to report potential storm water issues when observed. Actions were taken in response to the recommendations from the 2009 Dry Weather Monitoring Program Report. The City will continue to take action to prevent and eliminate IC/IDs during Fiscal Year 2010/2011.

Education

During the Reporting Period, the City completed a re-design of the City's storm water website to more effectively provide information to various audiences in the City. The City was proactive in its outreach to mobile businesses and worked to identify carpet cleaners, pool maintenance businesses, and landscapers during the business license application process. These businesses were provided activity-specific educational materials. Additionally, the City continued its innovative methods of distributing educational material to hard-to-reach audiences in the City; for example, the City's Stormwater Program Manager worked with local businesses to distribute activity specific fact sheets for pool maintenance and carpet cleaning at facilities that are frequently patronized by residents in the City.

Public Participation

The City has held several clean up events, typically in partnership with community organizations such as the San Diego River Park Foundation. The City also encouraged ongoing community participation through smaller-scale activities such as proper pet-waste disposal.

11.3 PROGRAM REVIEW AND MODIFICATION

No significant changes to the effectiveness assessment approach presented in the City's March 2008 JURMP have been made since the submittal of that document.

Table 11-1
Development Planning Component Assessment Measures

Significant Activity	Level 2	Level 3		Level 4
Review and approve project plans	External Based on meetings with applicants and BMPs proposed, it appears that the level of knowledge is increasing. Internal The City's Stormwater Program Manager and Project Engineers work closely to ensure SUSMP requirements are met.	Overall SWMP approval rate during reporting period	33%	N/A, addressed through other significant activities for this component
		Number of projects requiring three or more reviews prior to SWMP approval	3	
		Percent of approved projects implementing BMPs with high or medium removal efficiencies for key pollutants of concern	100%	
Verify proposed BMPs are implemented	External N/A, knowledge is evaluated by appropriate implementation of BMPs as shown in Level 3 Internal The City's Stormwater Program Manager provides training to staff responsible for verifying BMPs are installed prior to occupancy.	Percent of projects implementing proposed BMPs	100%	Installation of BMPs likely contributed to pollutant load reductions.
		Resolution status of enforcement actions	100%	
Verify BMPs are properly maintained	External Owners notified of requirement to maintain treatment control BMPs Internal The City's Stormwater Program Manager is familiar with BMP maintenance requirements.	Percent of sites with properly maintained BMPs on October 1st	96%	Proper maintenance of BMPs likely contributed to pollutant load reductions.
		Resolution status of enforcement actions	100%	
		Percent of sites submitting verification forms	100%	
Maintain an accurate inventory	N/A, data management only	N/A, data management only		N/A, data management only

Notes: Level 2 - Changes in Knowledge/Awareness; Level 3 - Behavioral Change/BMP Implementation; Level 4 - Load Reductions; N/A – Not Applicable

Table 11-2
Construction Component Assessment Measures

Significant Activity	Level 2	Level 3		Level 4
Review proposed plans and BMPs	External Projects submit plans for construction BMP implementation for their projects; the level of awareness of construction BMP requirements is fairly high. Internal Training for City staff is described in Section 8. City staff are familiar with relevant construction BMPs.	BMPs proposed for construction projects generally meet requirements; no significant problems have been noted.		Proper pre-project planning is likely to have reduced pollutant loading.
Verify proposed BMPs are implemented	External Grading projects implement BMPs as required by their permits, and contractors are familiar with the City's requirements. Construction projects are notified through inspection notices and letters of requirements. Internal Training for City staff is described in Section 8. City inspectors are familiar with relevant construction BMPs.	Percent of inspections during which projects were in compliance with all applicable BMP requirements	91%	Proper BMP implementation is likely to have reduced pollutant loading.
		Resolution status of enforcement actions	100%	
		Number of dry weather monitoring exceedances traced to construction sources	0	
Maintain an accurate inventory	N/A, data management only	N/A, data management only		N/A, data management only

Notes: Level 2 - Changes in Knowledge/Awareness; Level 3 - Behavioral Change/BMP Implementation; Level 4 - Load Reductions; N/A – Not Applicable

Table 11-3
Municipal Component Assessment Measures

Significant Activity	Level 2	Level 3		Level 4	
Verify proposed BMPs are implemented at facilities	City staff are regularly trained on BMP implementation; see sections 4 and 8.	Percent of inspected facilities/activities in compliance with BMP requirements	92%	Proper BMP implementation is likely to have reduced pollutant loading.	
		Resolution status of sites requiring follow-up inspections	100%	Amount of pet waste collected	24 tons*
		Number of dry weather monitoring exceedances traced to municipal sites	1**		
Sweep streets and parking facilities		N/A, streets and parking facilities are swept as often as directed by management and Municipal Permit requirements.		Amount of sediment and debris removed (weight or volume)	648 tons
				Amount of sediment and debris removed per length of street swept (weight or volume per curb mile)	0.06 tons/ curb mile
Maintain and clean out MS4		N/A, MS4 structures are maintained as often as directed by management and in compliance with permit requirements.		Amount of sediment and debris removed (weight or volume)	559 tons
Maintain sanitary sewer system		N/A, the sanitary sewer system is maintained by Padre Dam MWD.		Total volume of SSO discharge to MS4 (gallons)	0
Maintain municipal treatment control BMPs		N/A, treatment control BMPs are maintained as often as directed by management.		BMP effectiveness studies	N/A
Maintain an accurate inventory	N/A, data management only	N/A, data management only		N/A, data management only	

***** Amount of pet waste collected is based on an estimate of 0.2 pounds of pet waste per bag. This conversion rate was developed by the County of San Diego based on the results of a 2004 study and included in the 2006/2007 WURMP Annual Report. A total of 240,000 pet waste bags were distributed in 2009/2010.

** This exceedance was linked to emergency fire fighting activities associated with a car accident.

Notes: Level 2 - Changes in Knowledge/Awareness; Level 3 - Behavioral Change/BMP Implementation; Level 4 - Load Reductions; N/A – Not Applicable

Table 11-4
Industrial and Commercial Component Assessment Measures

Significant Activity	Level 2	Level 3		Level 4	
Require BMP implementation	Business owners and operators were educated in variety of ways during the Reporting Period; see sections 5 and 8 for details.	Percent of inspected sites in compliance with discharge prohibitions	99%	Proper BMP implementation is likely to have reduced pollutant loading.	
		Percent of sites not requiring a follow-up	92%		
		Resolution status of enforcement actions	99%		
		Number of dry weather monitoring exceedances traced to industrial or commercial sources	1	Number of IC/IDs eliminated (inspections and complaint investigations)	15
Maintain an accurate inventory	N/A, data management only	N/A, data management only		N/A, data management only	

Notes: Level 2 - Changes in Knowledge/Awareness; Level 3 - Behavioral Change/BMP Implementation; Level 4 - Load Reductions; N/A – Not Applicable

Table 11-5
Residential Component Assessment Measures

Significant Activity	Level 2	Level 3		Level 4
Require BMP implementation	External Residents were educated through articles in the *Santee Review*, targeted mailers, and in variety of other ways during the Reporting Period; see sections 6 and 8 for details. Internal The City's Stormwater Program Manager is heavily involved in the implementation of the residential component. Other City staff involved in the program also have a good understanding of the goals of the storm water program.	Number of residential incidents reported to storm water hotline	46	Resolution of residential incidents reported to the hotline likely resulted in a decrease in pollutant loading through improved BMP implementation.
		Resolution of enforcement actions	100%	
		Number of dry weather monitoring exceedances traced to residential sources	1	
Maintain an accurate inventory	N/A, data management only	N/A, data management only		N/A, data management only

Notes: Level 2 - Changes in Knowledge/Awareness; Level 3 - Behavioral Change/BMP Implementation; Level 4 - Load Reductions; N/A – Not Applicable

Table 11-6
Illicit Discharge Detection and Elimination Component Assessment Measures

Significant Activity	Level 2	Level 3	Level 4
Conduct Dry Weather Monitoring Program	The City contracts with a qualified consultant to perform its Dry Weather Monitoring Program.	N/A, personnel conduct monitoring as directed by management.	No significant, long term IC/IDs were found or eliminated, so a reliable estimate of load reduction cannot be made.
Respond to incidents reported to storm water hotline	The City's Stormwater Program Manager trains City staff as needed. See sections 4 and 8. City staff were responsible for many of the reports made to the hotline, as shown in Section 4.	N/A, personnel respond to incidents as directed by management. Note that some non-stormwater staff have chosen to respond to observed incidents in their private lives. This is indicative of staff awareness and sense of responsibility.	Resolution of the incidents reported to the hotline and listed in Section 4 are likely to have resulted a pollutant loading reduction.
Respond to and clean up SSOs	City staff are thoroughly trained on how to respond to SSOs.	N/A, the sanitary sewer system is maintained by Padre Dam MWD.	There were two SSOs during the reporting period, each spill was entirely reclaimed.

Notes: Level 2 - Changes in Knowledge/Awareness; Level 3 - Behavioral Change/BMP Implementation; Level 4 - Load Reductions; N/A – Not Applicable

Table 11-7
Education Component Assessment Measures

Significant Activity	Level 2	Level 3	Level 4
Provide storm water education to the public	External The City actively educates the various audiences in its jurisdiction. See Section 8 for details.	See Level 3 outcomes for other program components for information about behavior change.	Sufficient data to estimate load reductions due to educational efforts is not available for the Reporting Period.

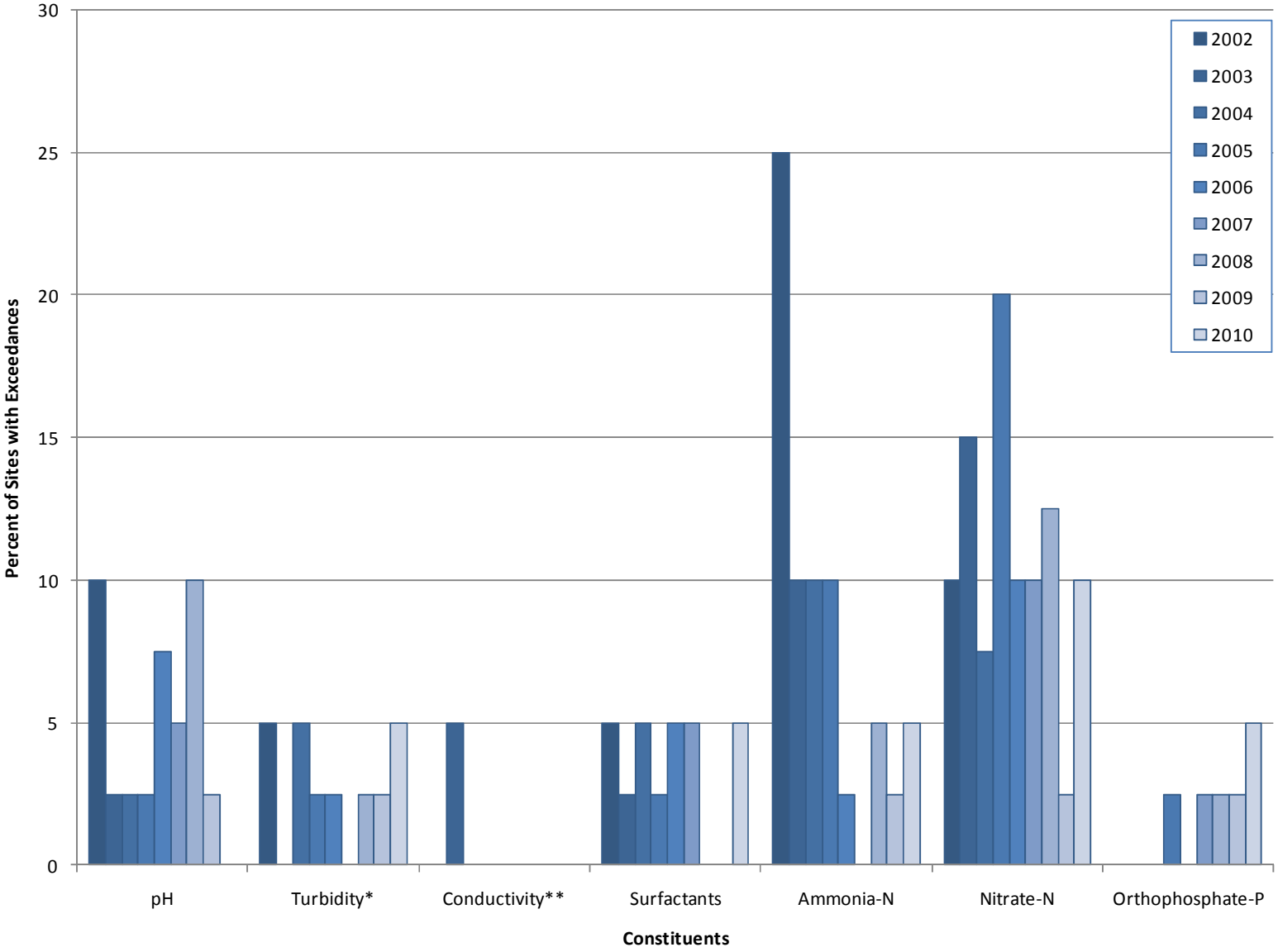
Notes
Level 2 - Changes in Knowledge/Awareness; Level 3 - Behavioral Change/BMP Implementation; Level 4 - Load Reductions; N/A – Not Applicable

Table 11-8
Public Participation Component Assessment Measures

Significant Activity	Level 2	Level 3		Level 4	
Involve the public in activities that relate to storm water protection	External The City and its partners held a number of opportunities for the public to participate. See Section 9 for details. There were more complaints/referrals during Fiscal Year 2009/2010 (68) than during Fiscal Year 2008/2009 (59).	Number of attendees at events	1,338	Amount of trash and debris collected at cleanup events	12.4 tons
		Number of calls received to the storm water hotline	68	Amount of HHW collected	584 collections of HHW, 309 gallons of used oil

Notes: Level 2 - Changes in Knowledge/Awareness; Level 3 - Behavioral Change/BMP Implementation; Level 4 - Load Reductions; N/A – Not Applicable

Figure 11-1
Dry Weather Monitoring Historical Exceedance Summary: Field Screening Tests

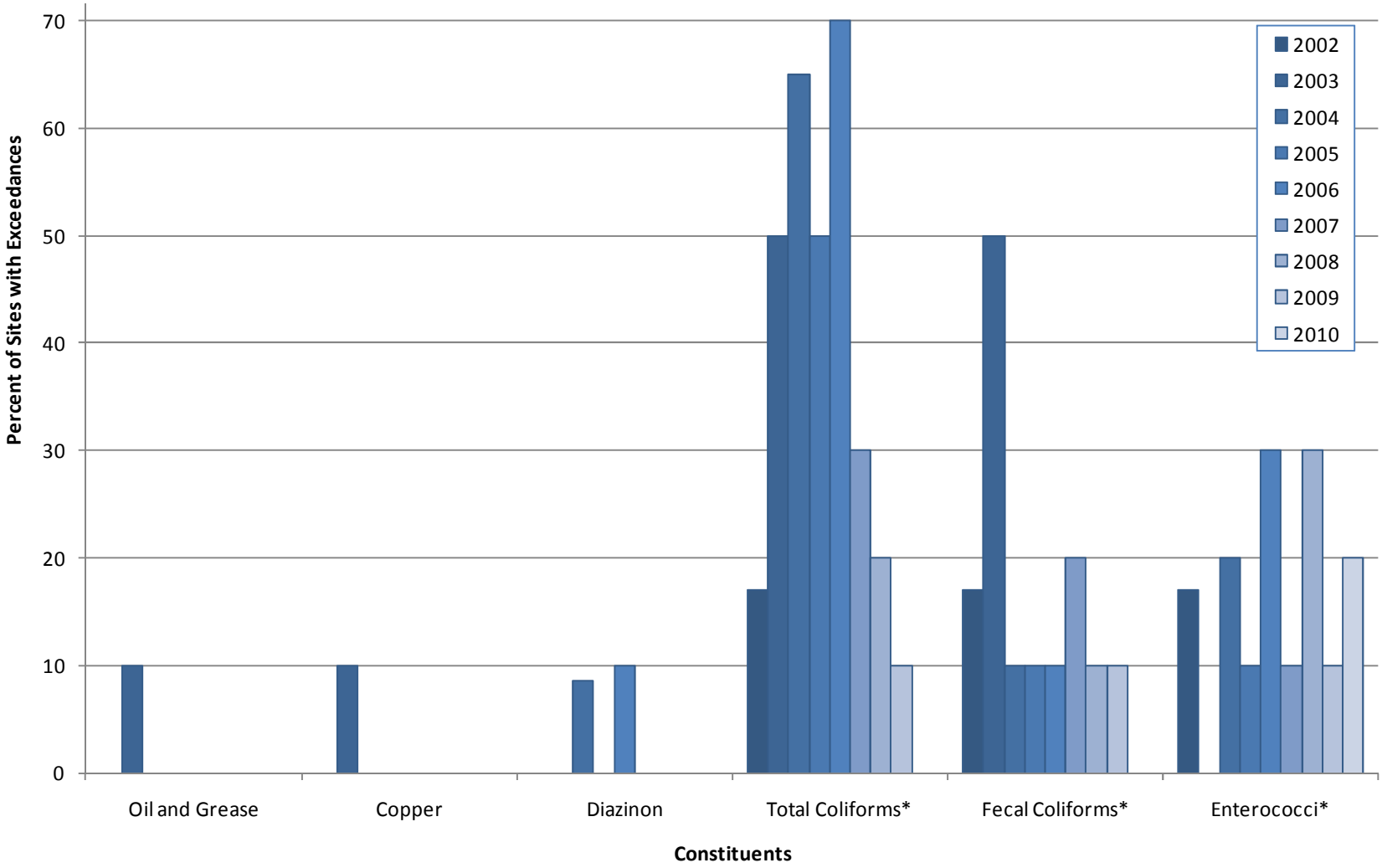


Notes:

* Turbidity action level is based on best professional judgment.

** Conductivity action levels were numeric in the past and transitioned to best professional judgment in recent years.

Figure 11-2
Dry Weather Monitoring Historical Exceedance Summary: Laboratory Analytical Tests



Notes:
*Action levels for bacteria were updated in 2010. Data from 2002-2009 has been compared to action levels in effect at that time. 2010 data has been compared to the updated action levels.
Cadmium, lead, zinc, surfactants, and chlorpyrifos have never exceeded the action level and are therefore not included on the above graph.

Figure 11-3
Additional Study Data: pH

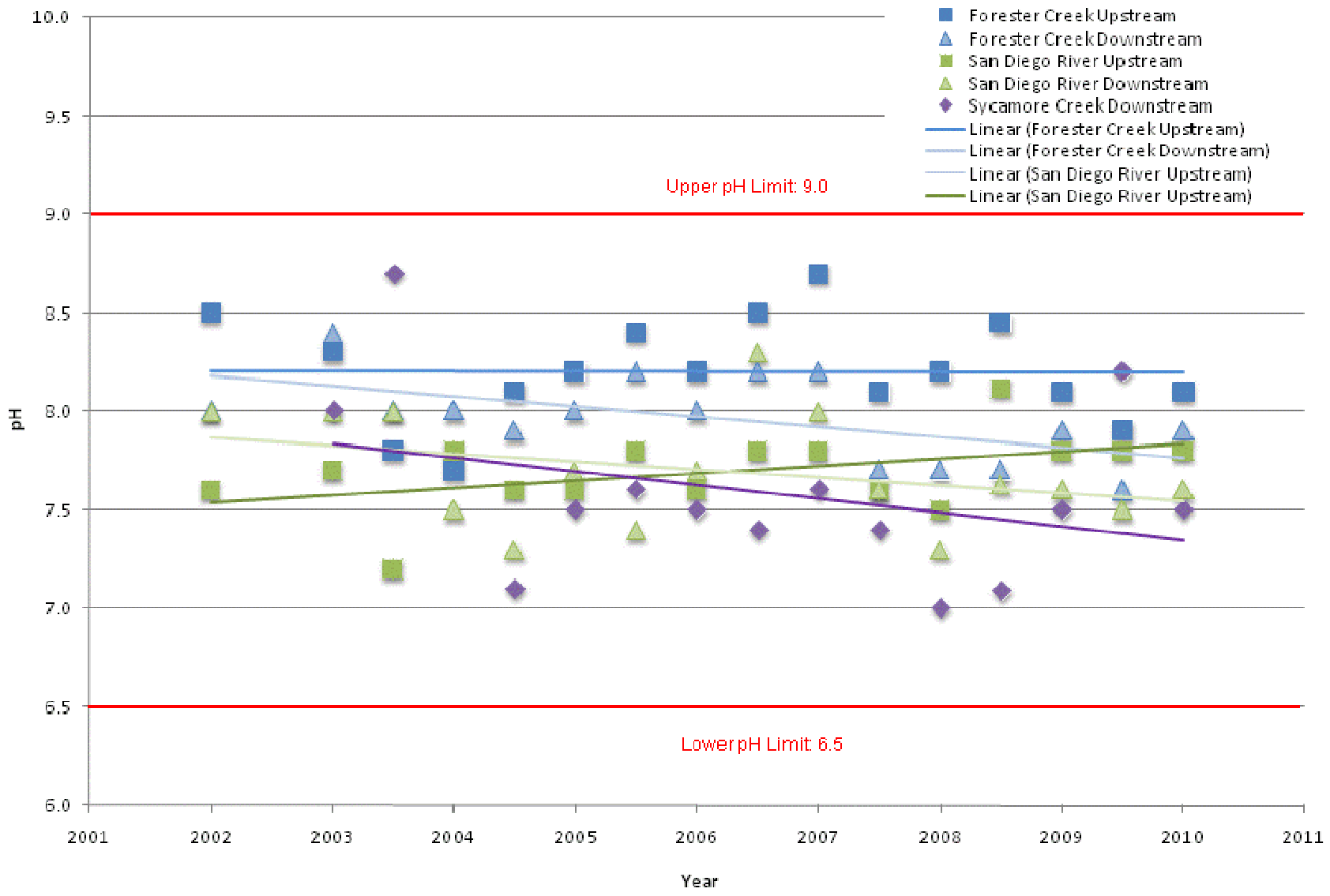


Figure 11-4
Additional Study Data: Fecal Coliform, Forester Creek

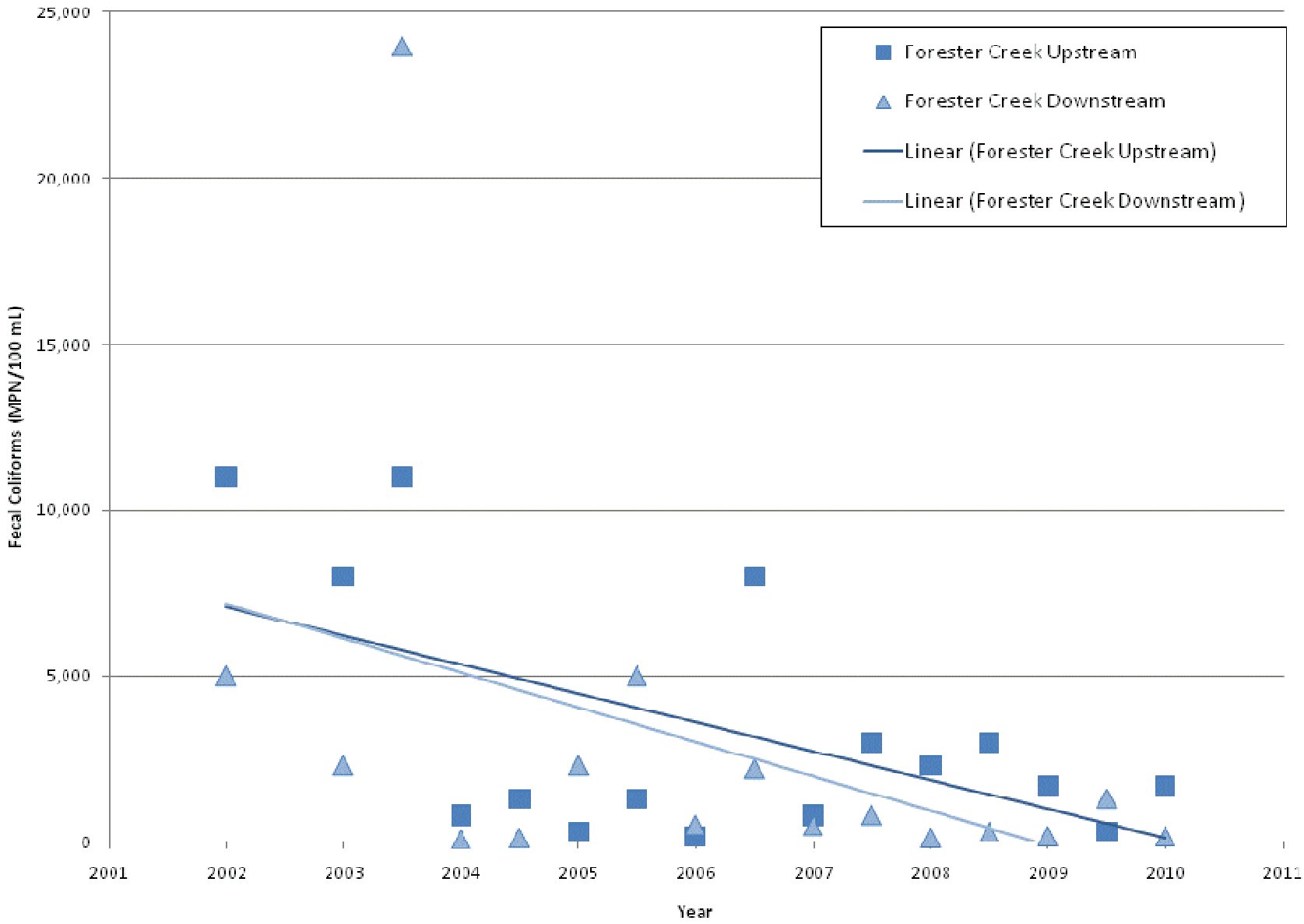


Figure 11-5
Additional Study Data: Fecal Coliform, San Diego River

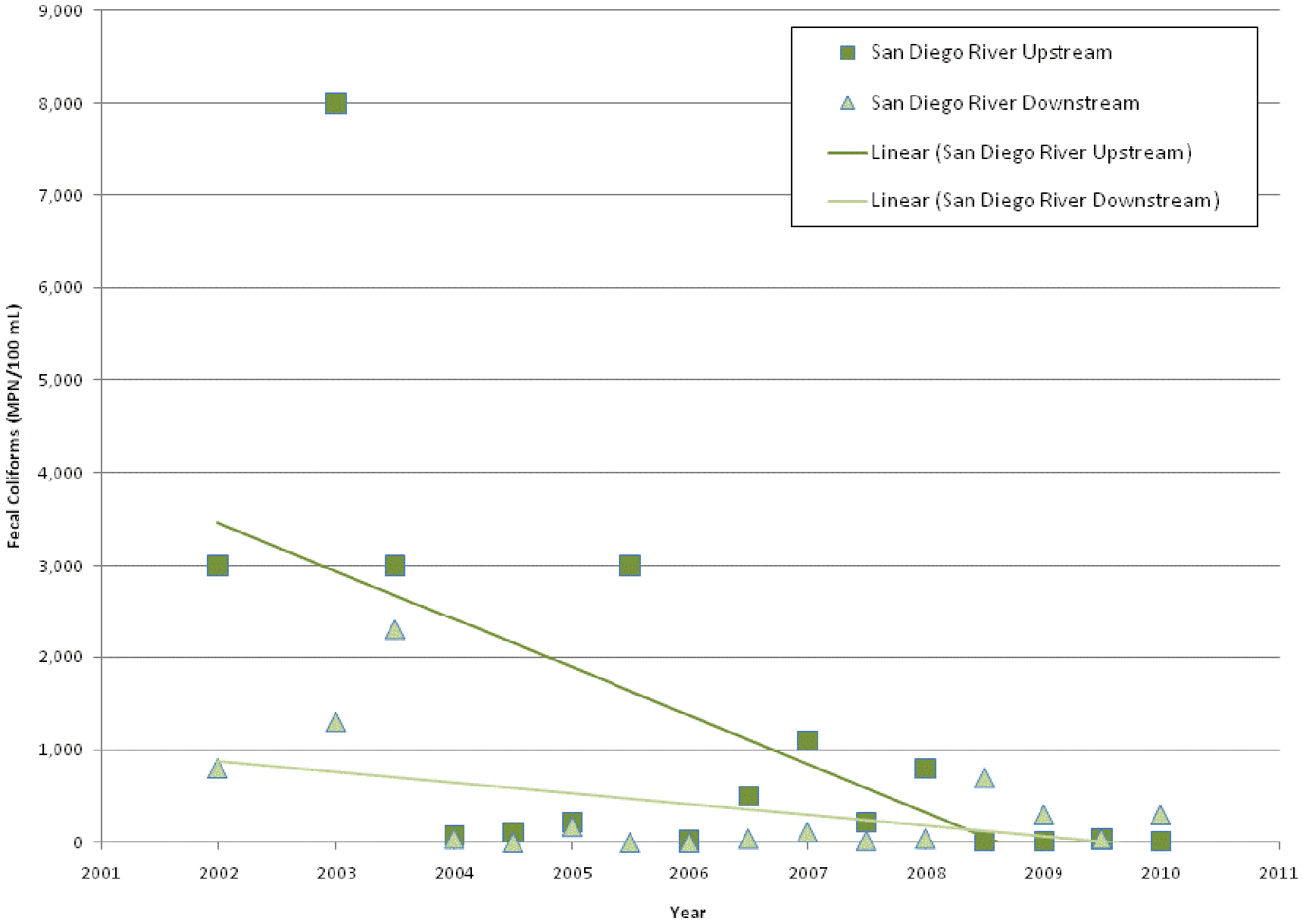
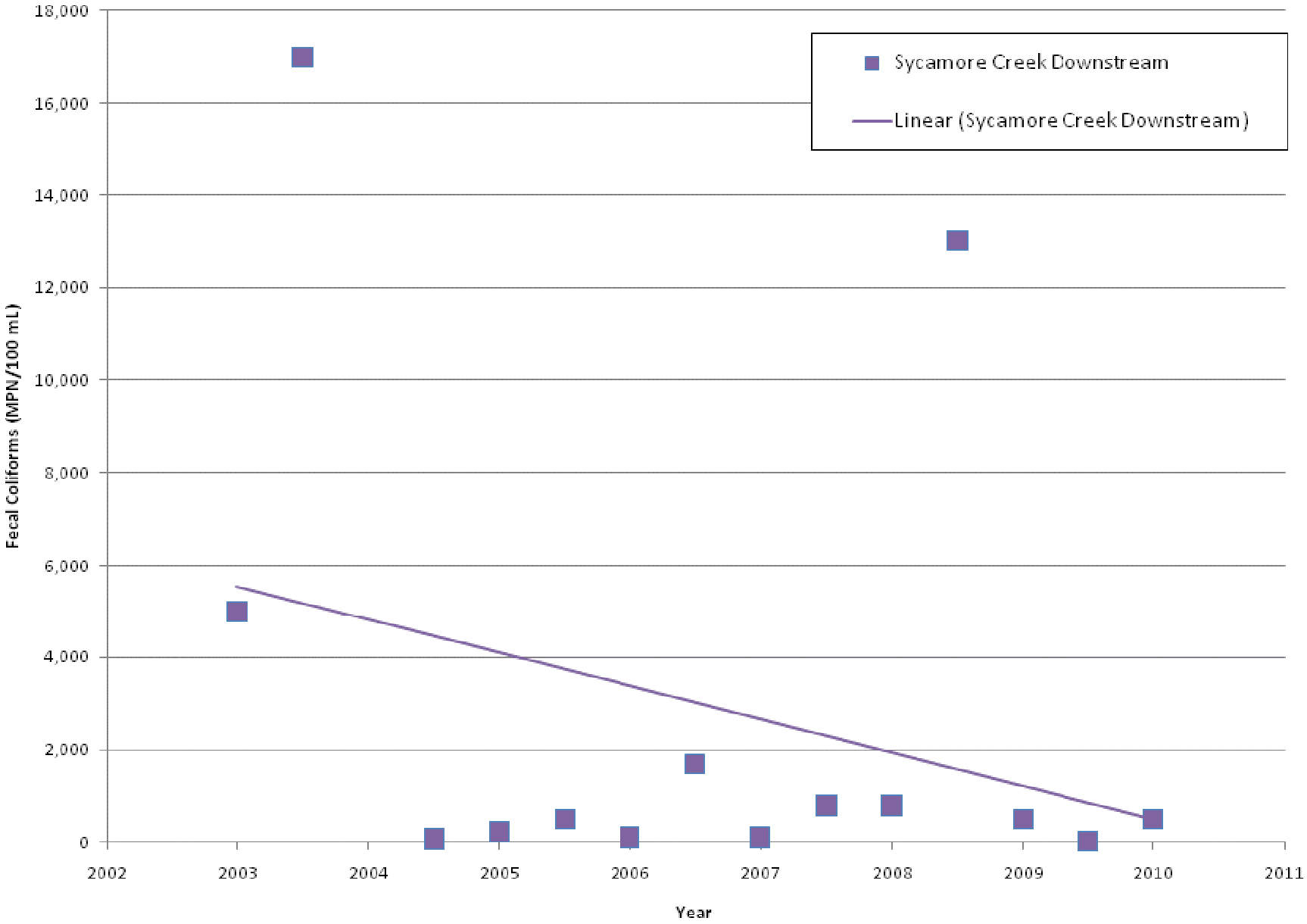


Figure 11-6
Additional Study Data: Fecal Coliform, Sycamore Creek



10.0 FISCAL ANALYSIS

10.1 INTRODUCTION

During 2009/2010, a fiscal analysis reporting template was developed collectively by the Copermittees. Fiscal information is reported in the tables below, which follow the standard format adopted by the Copermittees.

Table 10-1
Expenditure Summary

JURISDICTIONAL COMPONENTS	
Administration	$140,997
Development Planning	$7,747
Construction	$44,096
Municipal	$437,999
Industrial and Commercial	$33,899
Residential	$54,357
IDDE	$63,296
Education	$19,740
Public Participation	$1,188
Special Investigations	$20,706
Non-Emergency Firefighting (incorporated into routine fire safety costs)	$0
Jurisdictional Total	**$824,025**

WATERSHED	
San Diego River	$317,493
Watershed Total	**$317,493**

REGIONAL	**$96,105**

TOTAL COSTS	**$1,237,623**

Table 10-2
Fund Summary

FUNDING BY SOURCE	
General Fund	$938,344
Storm Water Fee	$0
Developer Deposits and Fees	$23,401
Registration and Inspection Fees	$0
Grant Funds	$7048
Zone 2 Flood Control	$268,830
Total	**$1,237,623**

Table 10-3
Watershed Urban Runoff Management Program (WURMP) Expenses

	San Diego River
Administration (1)	$14,310
Cost Share Contribution	$3,628
Watershed Activities	$298,054
Other	$1,501
TOTAL	**$317,493**

(1) Administration – includes Watershed strategic planning, management, mapping, assessment, and reporting.

Table 10-4
Regional Urban Runoff Management Program (RURMP) Expenses

Regional Programs	Jurisdictional Cost
Administration (1)	$35,873
Cost Share Contribution	$60,232
Other (2)	$0
TOTAL	**$96,105**

(1) Administration – includes assessment, reporting, management, etc.
(2) Other – examples include regional and special studies.

11.0 EFFECTIVENESS ASSESSMENT

11.1 INTRODUCTION

The City regularly evaluates its storm water program to make it as effective as possible at reducing discharges of urban runoff related pollution to the MEP. The overall structure of the City's storm water program is composed of three primary components:

- Program Planning
- Program Implementation
- Effectiveness Assessment

The process typically proceeds from planning to implementation to assessment, although in practice all three may be in progress at the same time. The initial step is program planning, which requires identifying potential pollutant sources, establishing BMP requirements, and establishing targeted outcomes and ways to measure those outcomes. Next, the program developed during the planning step is implemented. Program implementation is assessed each year using the methods developed in the program planning stage and reported in JURMP annual reports. The conclusions from these assessments are used during the next round of program planning to incorporate improvements to the program and refine the assessment technique.

Based on participation in regional efforts and experience implementing its JURMP, the City has identified a variety of metrics to assess progress toward targeted outcomes. At the end of each reporting year, the City uses selected metrics to assess the effectiveness of its program implementation. Example metrics were provided in Section 13 of the City's 2008 JURMP, and the City has refined those metrics in the reporting periods since then.

The effectiveness assessment approach developed by the Copermittees during the last permit cycle includes six different levels of targeted outcomes. Each successive level represents a step up from more easily measured, activity-based outcomes to more difficult to measure, quality-based outcomes. The levels are listed below.

Level 1: Compliance with Activity-Based Permit Requirements
Level 2: Changes in Knowledge/Awareness
Level 3: Behavioral Change/BMP Implementation
Level 4: Load Reductions
Level 5: Changes in Discharge Quality
Level 6: Changes in Receiving Water Quality

11.2 EFFECTIVENESS ASSESSMENT RESULTS

The Municipal Permit requires the City to assess the effectiveness of each significant activity for each program component, for each program component as a whole, and for the storm water program as a whole. Level 1, Level 5, and Level 6 outcomes are

discussed in Section 11.2.1. At this time the City is not able to fully assess Level 5 or Level 6 outcomes for individual program activities or individual programs. As has been noted in CASQA effectiveness assessment guidance, methods for integrated assessment—assessment that combines both monitoring data and program data—are still under development at regional and statewide levels (CASQA, 2007).

11.2.1 OUTCOME LEVEL ASSESSMENTS

Level 1

Level 1 outcomes essentially are measures of Municipal Permit compliance. The component-specific sections in this JURMP Annual Report provide details of programmatic actions taken to comply with the applicable Municipal Permit requirements. Appendix C of this JURMP Annual Report also includes a checklist that provides the location within this report where each provision of the Municipal Permit's annual reporting requirements is addressed.

Levels 2 and 3

See the tables 11-1 through 11-8 at the end of this section for discussions of Level 2 and Level 3 outcomes for significant activities within each program component. Please note that only a Level 1 assessment applies to fiscal analysis, so no table for fiscal analysis is included.

Level 4

The tables at the end of this section provide information for Level 4 assessments where feasible. Assessment of Level 4 outcomes is feasible for some programs that directly measure the amounts of pollutant removal, such as MS4 cleaning. For most other programs reliable load estimation methods have not yet been developed.

Level 5

One of the City's primary mechanisms for measuring the quality of discharges is the Dry Weather Monitoring Program. Graphs presenting the historical Dry Weather Monitoring Program exceedances are provided at the end of this section as figures 11-1 and 11-2.

Nitrate-nitrogen exceedances have been common over the years and have been attributed to groundwater seepage into the MS4. Exceedances in conductivity, orthophosphate-phosphorus, oil and grease, copper, and diazinon have been infrequent in the history of the program. In Round One of the 2010 Dry Weather Monitoring Program, two sites had confirmed nitrate-nitrogen exceedances. These sites have regularly exceeded nitrate-nitrogen objectives as a result of groundwater sources. Transient exceedances of turbidity, surfactants, ammonia-nitrogen, orthophosphate-phosphorus, and *Enterococcus* bacteria were measured. Additionally, by best professional judgment, one site was investigated for a chemical odor and sheen.

Total coliform exceedances have generally been decreasing over time. Note that dry weather action levels for bacterial indicators were revised in 2010. In figure 11-2, constituents have been compared to action levels in effect at the time of sampling to

identify exceedances. In comparison to either set of action levels, no total or fecal coliform exceedances were detected in Round One of the 2010 Dry Weather Monitoring Program.

In addition to dry weather monitoring, the City continues to conduct the MS4 Outfall Monitoring Program implemented in 2009. This program examines water quality at targeted MS4 outfalls in order to characterize pollutant discharges to receiving waters. The data is used to assess whether these discharges contribute to the overall receiving water quality.

Level 6

No Regional Monitoring Program stations have been located within or close to the City of Santee in the past. As part of the updated regional monitoring program, two Temporary Watershed Assessment Stations (TWAS) in the San Diego River Watershed will be located in the Santee area, one at the eastern side of the City, and one farther to the west, close to the junction of Forester Creek and the San Diego River. Data collected at these stations may prove useful in evaluating receiving water quality in the City of Santee once the data becomes available. The data was collected in 2009/2010 and will be provided to the City as part of the San Diego County Municipal Copermittees 2009-2010 Urban Runoff Monitoring Report, which will be finalized in January 2011.

Since 2002, the City has performed an additional study of water quality at five receiving water body locations: two sites in the San Diego River, two sites in Forester Creek, and one site in Sycamore Creek. Samples have been collected under ambient conditions twice per year at each site. Although a portion of Forester Creek outside the City of Santee has been listed as impaired for pH, none of the samples in any water body in Santee's additional study have exceeded the Basin Plan water quality objectives (WQO) for pH (Figure 11-3). Figures 11-4, 1-5, and 11-6 show fecal coliform levels measured in upstream and downstream receiving water locations, with downstream measurements typically being lower. In general, fecal coliform levels demonstrate a decreasing trend.

Data collected generally shows that water quality improves through the City of Santee. Pollutant levels are consistently lower in the downstream reach compared to upstream. Samples collected in 2010 from Site J30d1, located downstream of a restored portion of Woodglen Vista Channel, had relatively low bacteria counts, with fecal coliform below the detection level. This is evidence that the City's recently completed projects to revegetate and improve open channels such as Forester Creek and Woodglen Vista Creek results in improved water quality. More rounds of data will be needed to identify trends in these analyte concentrations with a greater degree of certainty.

11.2.2 Overall Component Assessments

Development Planning

The City's review process for development projects effectively requires higher removal efficiency BMPs. City interaction with responsible parties during the reporting period has resulted in BMP installation and a greater level of awareness of the need for regular

treatment control BMP maintenance within the City. During 2009/2010 the City prepared a SWMP forms for developers to use for SUSMP submittals, which should help reduce the number of reviews needed through providing additional clarity on requirements to project proponents. The City's treatment control BMP inspection program exceeded Municipal Permit requirements during 2009/2010.

Construction

The available data indicate that on the whole the City's construction program effectively requires BMP implementation. The City also inspected many sites more frequently than required by the Municipal Permit and sent construction BMP reminders prior to the beginning of the wet season. Additionally, the City conducted inspections at several inactive sites to ensure continued compliance with the City's BMP requirements. The City took enforcement actions when necessary to bring about compliance. These practices appear to have improved BMP implementation both in general and during rain events, which is when construction activities have the highest potential to discharge pollutants.

Municipal

The City's municipal activities effectively implement BMPs and reduce pollutant loading. The City's municipal staff are regularly trained on storm water issues, and the City's MS4 cleaning and street sweeping programs meet or exceed minimum Municipal Permit frequency requirements. The City sweeps its streets more often than Municipal Permit requirements to aid in WURMP efforts. The City coordinates with Padre Dam MWD to prevent and respond to any SSOs in the City. The City also distributes pet waste bags through dispensers in its parks, and distributed over 180,000 more bags than during the 2008/2009 Reporting Period.

Additionally, the City continued its sustainability program, complementing current environmental programs, such as stormwater, with additional programs to reduce consumption of energy from non-renewable resources, promoting the development of green buildings, and reducing consumption of water and energy.

Industrial and Commercial

The City has a comprehensive inspection program, and the City's Stormwater Program Manager personally conducts many of the inspections. The Stormwater Program Manager follows up with the responsible parties of inspected businesses where significant corrections are needed to ensure corrective actions are implemented properly and within a timely manner. The City also follows-up with businesses observed to be out of compliance with the Industrial Permit to ensure appropriate actions are taken to bring about compliance.

Additionally, the City has taken proactive steps to identify and educate mobile businesses in the City by driving by areas known to be frequented by mobile businesses, specifically mobile car detailers. If any mobile businesses were observed, City personnel stopped to provide educational material and ensure that no discharges were occurring.

Residential

The City's residential component achieves BMP implementation through complaint response, education, and routine monitoring to detect IC/IDs. The City also encourages residential participation in clean up and other events to help foster a sense of shared responsibility in keeping the community clean. These activities may promote a sense of awareness in the residential community, which has the potential to mitigate residential sources of pollution. Additionally, residents in the City attended several training sessions focused on residential topics.

IDDE

The City's IDDE program has effectively responded to hotline calls and quickly responded to address any identified IC/IDs. A total of 68 referrals were received during the Reporting Period, which is an increase from the 59 received during the 2008/2009 reporting period. This may indicate that members of the public are more aware of when and how to report potential storm water issues when observed. Actions were taken in response to the recommendations from the 2009 Dry Weather Monitoring Program Report. The City will continue to take action to prevent and eliminate IC/IDs during Fiscal Year 2010/2011.

Education

During the Reporting Period, the City completed a re-design of the City's storm water website to more effectively provide information to various audiences in the City. The City was proactive in its outreach to mobile businesses and worked to identify carpet cleaners, pool maintenance businesses, and landscapers during the business license application process. These businesses were provided activity-specific educational materials. Additionally, the City continued its innovative methods of distributing educational material to hard-to-reach audiences in the City; for example, the City's Stormwater Program Manager worked with local businesses to distribute activity specific fact sheets for pool maintenance and carpet cleaning at facilities that are frequently patronized by residents in the City.

Public Participation

The City has held several clean up events, typically in partnership with community organizations such as the San Diego River Park Foundation. The City also encouraged ongoing community participation through smaller-scale activities such as proper pet-waste disposal.

11.3 PROGRAM REVIEW AND MODIFICATION

No significant changes to the effectiveness assessment approach presented in the City's March 2008 JURMP have been made since the submittal of that document.

Table 11-1
Development Planning Component Assessment Measures

Significant Activity	Level 2	Level 3		Level 4
Review and approve project plans	External Based on meetings with applicants and BMPs proposed, it appears that the level of knowledge is increasing. Internal The City's Stormwater Program Manager and Project Engineers work closely to ensure SUSMP requirements are met.	Overall SWMP approval rate during reporting period	33%	N/A, addressed through other significant activities for this component
		Number of projects requiring three or more reviews prior to SWMP approval	3	
		Percent of approved projects implementing BMPs with high or medium removal efficiencies for key pollutants of concern	100%	
Verify proposed BMPs are implemented	External N/A, knowledge is evaluated by appropriate implementation of BMPs as shown in Level 3 Internal The City's Stormwater Program Manager provides training to staff responsible for verifying BMPs are installed prior to occupancy.	Percent of projects implementing proposed BMPs	100%	Installation of BMPs likely contributed to pollutant load reductions.
		Resolution status of enforcement actions	100%	
Verify BMPs are properly maintained	External Owners notified of requirement to maintain treatment control BMPs Internal The City's Stormwater Program Manager is familiar with BMP maintenance requirements.	Percent of sites with properly maintained BMPs on October 1st	96%	Proper maintenance of BMPs likely contributed to pollutant load reductions.
		Resolution status of enforcement actions	100%	
		Percent of sites submitting verification forms	100%	
Maintain an accurate inventory	N/A, data management only	N/A, data management only		N/A, data management only

Notes: Level 2 - Changes in Knowledge/Awareness; Level 3 - Behavioral Change/BMP Implementation; Level 4 - Load Reductions; N/A – Not Applicable

Table 11-2
Construction Component Assessment Measures

Significant Activity	Level 2	Level 3		Level 4
Review proposed plans and BMPs	External Projects submit plans for construction BMP implementation for their projects; the level of awareness of construction BMP requirements is fairly high. Internal Training for City staff is described in Section 8. City staff are familiar with relevant construction BMPs.	BMPs proposed for construction projects generally meet requirements; no significant problems have been noted.		Proper pre-project planning is likely to have reduced pollutant loading.
Verify proposed BMPs are implemented	External Grading projects implement BMPs as required by their permits, and contractors are familiar with the City's requirements. Construction projects are notified through inspection notices and letters of requirements. Internal Training for City staff is described in Section 8. City inspectors are familiar with relevant construction BMPs.	Percent of inspections during which projects were in compliance with all applicable BMP requirements	91%	Proper BMP implementation is likely to have reduced pollutant loading.
		Resolution status of enforcement actions	100%	
		Number of dry weather monitoring exceedances traced to construction sources	0	
Maintain an accurate inventory	N/A, data management only	N/A, data management only		N/A, data management only

Notes: Level 2 - Changes in Knowledge/Awareness; Level 3 - Behavioral Change/BMP Implementation; Level 4 - Load Reductions; N/A – Not Applicable

Table 11-3
Municipal Component Assessment Measures

Significant Activity	Level 2	Level 3		Level 4	
Verify proposed BMPs are implemented at facilities	City staff are regularly trained on BMP implementation; see sections 4 and 8.	Percent of inspected facilities/activities in compliance with BMP requirements	92%	Proper BMP implementation is likely to have reduced pollutant loading.	
		Resolution status of sites requiring follow-up inspections	100%	Amount of pet waste collected	24 tons*
		Number of dry weather monitoring exceedances traced to municipal sites	1**		
Sweep streets and parking facilities		N/A, streets and parking facilities are swept as often as directed by management and Municipal Permit requirements.		Amount of sediment and debris removed (weight or volume)	648 tons
				Amount of sediment and debris removed per length of street swept (weight or volume per curb mile)	0.06 tons/ curb mile
Maintain and clean out MS4		N/A, MS4 structures are maintained as often as directed by management and in compliance with permit requirements.		Amount of sediment and debris removed (weight or volume)	559 tons
Maintain sanitary sewer system		N/A, the sanitary sewer system is maintained by Padre Dam MWD.		Total volume of SSO discharge to MS4 (gallons)	0
Maintain municipal treatment control BMPs		N/A, treatment control BMPs are maintained as often as directed by management.		BMP effectiveness studies	N/A
Maintain an accurate inventory	N/A, data management only	N/A, data management only		N/A, data management only	

***** Amount of pet waste collected is based on an estimate of 0.2 pounds of pet waste per bag. This conversion rate was developed by the County of San Diego based on the results of a 2004 study and included in the 2006/2007 WURMP Annual Report. A total of 240,000 pet waste bags were distributed in 2009/2010.

** This exceedance was linked to emergency fire fighting activities associated with a car accident.

Notes: Level 2 - Changes in Knowledge/Awareness; Level 3 - Behavioral Change/BMP Implementation; Level 4 - Load Reductions; N/A – Not Applicable

Table 11-4
Industrial and Commercial Component Assessment Measures

Significant Activity	Level 2	Level 3		Level 4	
Require BMP implementation	Business owners and operators were educated in variety of ways during the Reporting Period; see sections 5 and 8 for details.	Percent of inspected sites in compliance with discharge prohibitions	99%	Proper BMP implementation is likely to have reduced pollutant loading.	
		Percent of sites not requiring a follow-up	92%		
		Resolution status of enforcement actions	99%		
		Number of dry weather monitoring exceedances traced to industrial or commercial sources	1	Number of IC/IDs eliminated (inspections and complaint investigations)	15
Maintain an accurate inventory	N/A, data management only	N/A, data management only		N/A, data management only	

Notes: Level 2 - Changes in Knowledge/Awareness; Level 3 - Behavioral Change/BMP Implementation; Level 4 - Load Reductions; N/A – Not Applicable

Table 11-5
Residential Component Assessment Measures

Significant Activity	Level 2	Level 3		Level 4
Require BMP implementation	External Residents were educated through articles in the *Santee Review*, targeted mailers, and in variety of other ways during the Reporting Period; see sections 6 and 8 for details. Internal The City's Stormwater Program Manager is heavily involved in the implementation of the residential component. Other City staff involved in the program also have a good understanding of the goals of the storm water program.	Number of residential incidents reported to storm water hotline	46	Resolution of residential incidents reported to the hotline likely resulted in a decrease in pollutant loading through improved BMP implementation.
		Resolution of enforcement actions	100%	
		Number of dry weather monitoring exceedances traced to residential sources	1	
Maintain an accurate inventory	N/A, data management only	N/A, data management only		N/A, data management only

Notes: Level 2 - Changes in Knowledge/Awareness; Level 3 - Behavioral Change/BMP Implementation; Level 4 - Load Reductions; N/A – Not Applicable

Table 11-6
Illicit Discharge Detection and Elimination Component Assessment Measures

Significant Activity	Level 2	Level 3	Level 4
Conduct Dry Weather Monitoring Program	The City contracts with a qualified consultant to perform its Dry Weather Monitoring Program.	N/A, personnel conduct monitoring as directed by management.	No significant, long term IC/IDs were found or eliminated, so a reliable estimate of load reduction cannot be made.
Respond to incidents reported to storm water hotline	The City's Stormwater Program Manager trains City staff as needed. See sections 4 and 8. City staff were responsible for many of the reports made to the hotline, as shown in Section 4.	N/A, personnel respond to incidents as directed by management. Note that some non-stormwater staff have chosen to respond to observed incidents in their private lives. This is indicative of staff awareness and sense of responsibility.	Resolution of the incidents reported to the hotline and listed in Section 4 are likely to have resulted a pollutant loading reduction.
Respond to and clean up SSOs	City staff are thoroughly trained on how to respond to SSOs.	N/A, the sanitary sewer system is maintained by Padre Dam MWD.	There were two SSOs during the reporting period, each spill was entirely reclaimed.

Notes: Level 2 - Changes in Knowledge/Awareness; Level 3 - Behavioral Change/BMP Implementation; Level 4 - Load Reductions; N/A – Not Applicable

Table 11-7
Education Component Assessment Measures

Significant Activity	Level 2	Level 3	Level 4
Provide storm water education to the public	External The City actively educates the various audiences in its jurisdiction. See Section 8 for details.	See Level 3 outcomes for other program components for information about behavior change.	Sufficient data to estimate load reductions due to educational efforts is not available for the Reporting Period.

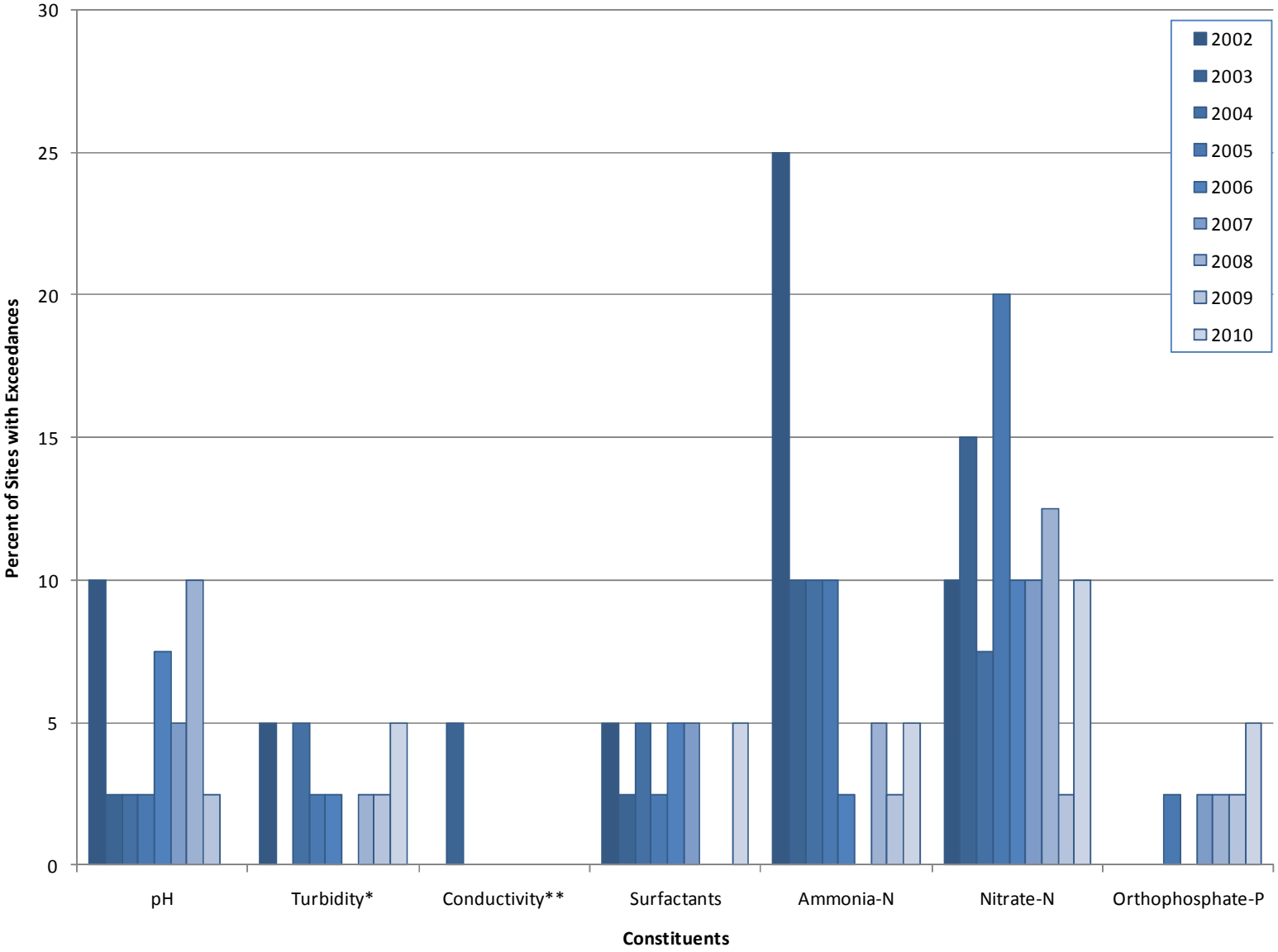
Notes
Level 2 - Changes in Knowledge/Awareness; Level 3 - Behavioral Change/BMP Implementation; Level 4 - Load Reductions; N/A – Not Applicable

Table 11-8
Public Participation Component Assessment Measures

Significant Activity	Level 2	Level 3		Level 4	
Involve the public in activities that relate to storm water protection	External The City and its partners held a number of opportunities for the public to participate. See Section 9 for details. There were more complaints/referrals during Fiscal Year 2009/2010 (68) than during Fiscal Year 2008/2009 (59).	Number of attendees at events	1,338	Amount of trash and debris collected at cleanup events	12.4 tons
		Number of calls received to the storm water hotline	68	Amount of HHW collected	584 collections of HHW, 309 gallons of used oil

Notes: Level 2 - Changes in Knowledge/Awareness; Level 3 - Behavioral Change/BMP Implementation; Level 4 - Load Reductions; N/A – Not Applicable

Figure 11-1
Dry Weather Monitoring Historical Exceedance Summary: Field Screening Tests



Notes:

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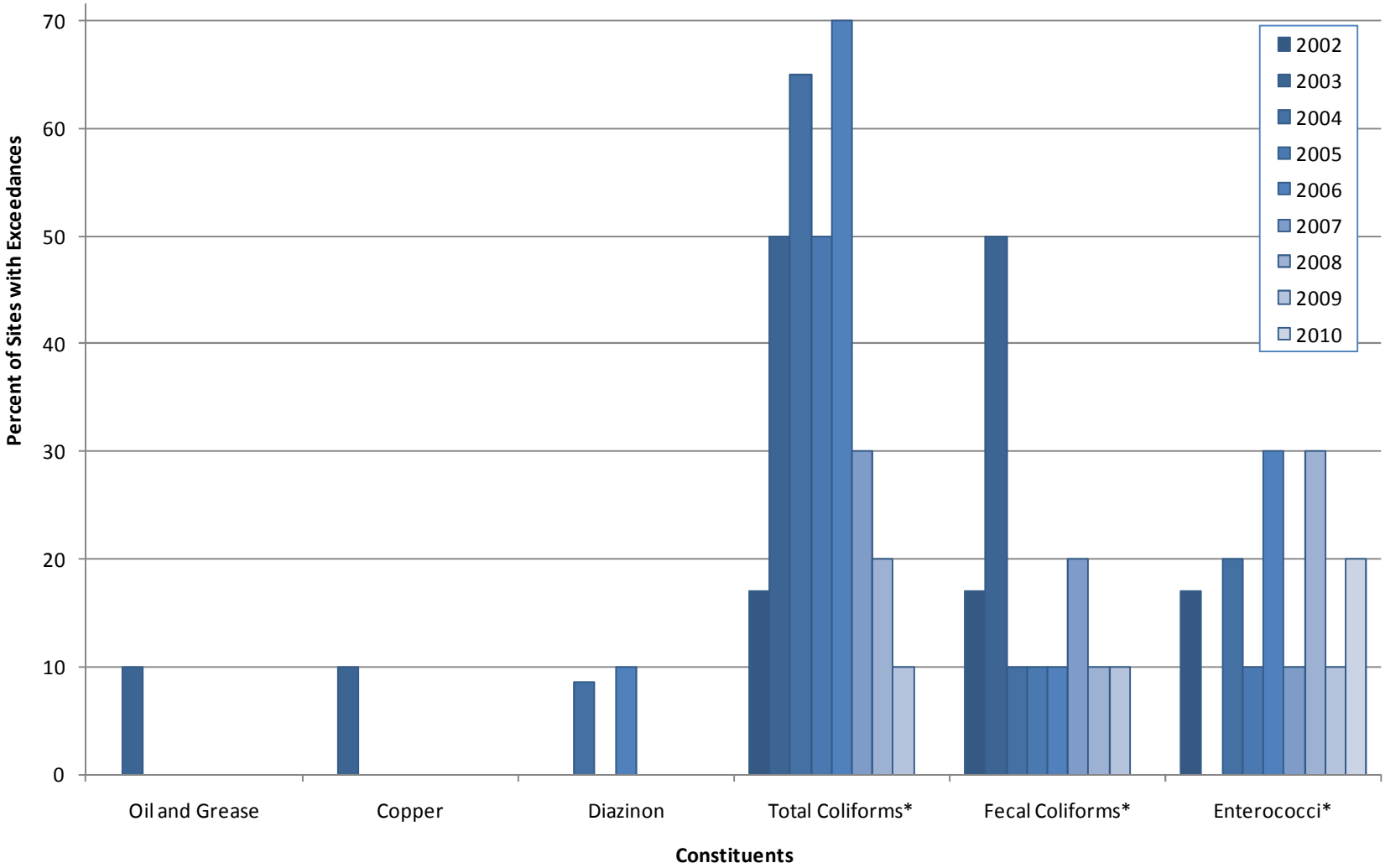
Figure 11-2
Dry Weather Monitoring Historical Exceedance Summary: Laboratory Analytical Tests



Notes:
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Cadmium, lead, zinc, surfactants, and chlorpyrifos have never exceeded the action level and are therefore not included on the above graph.

Figure 11-3
Additional Study Data: pH

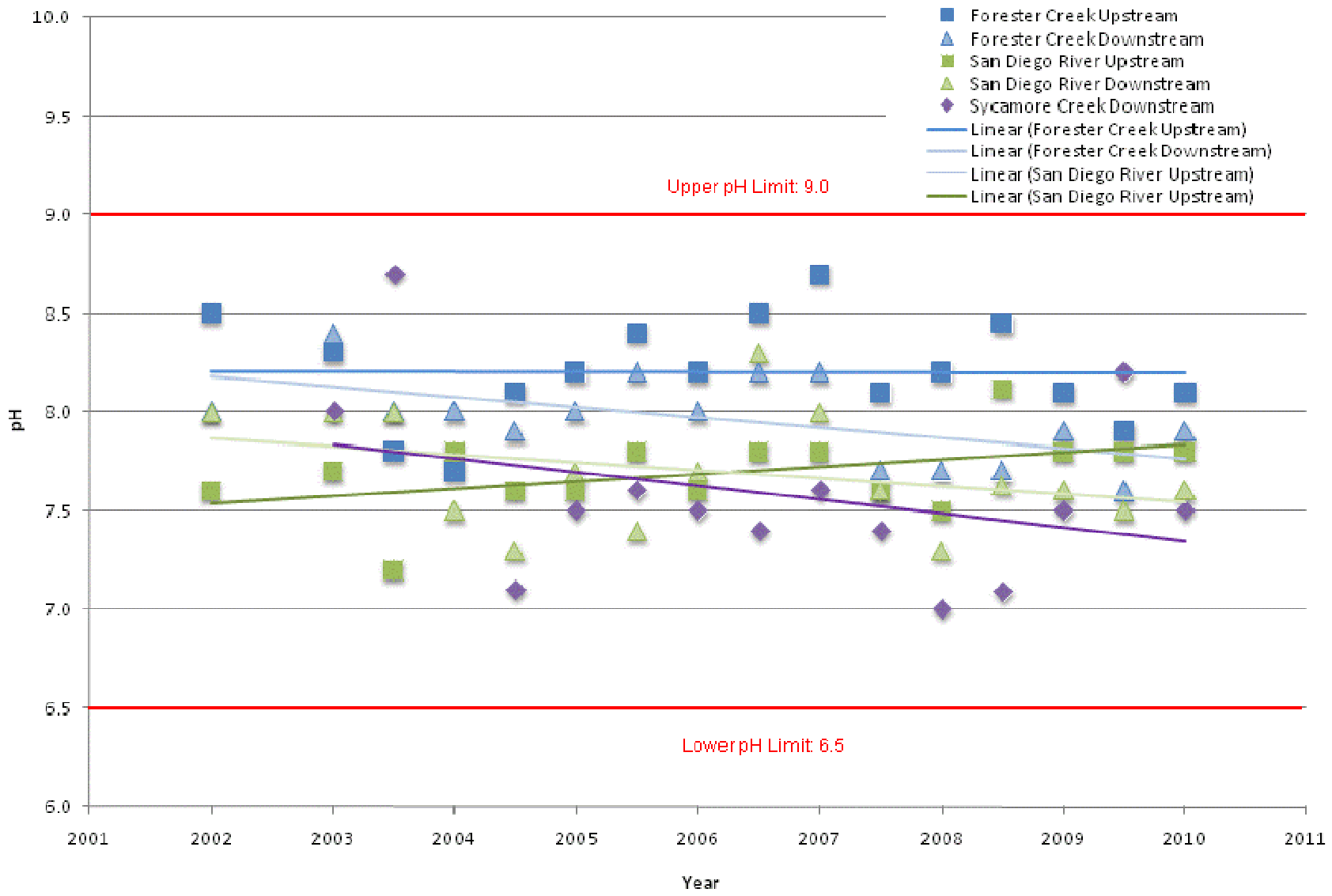


Figure 11-4
Additional Study Data: Fecal Coliform, Forester Creek

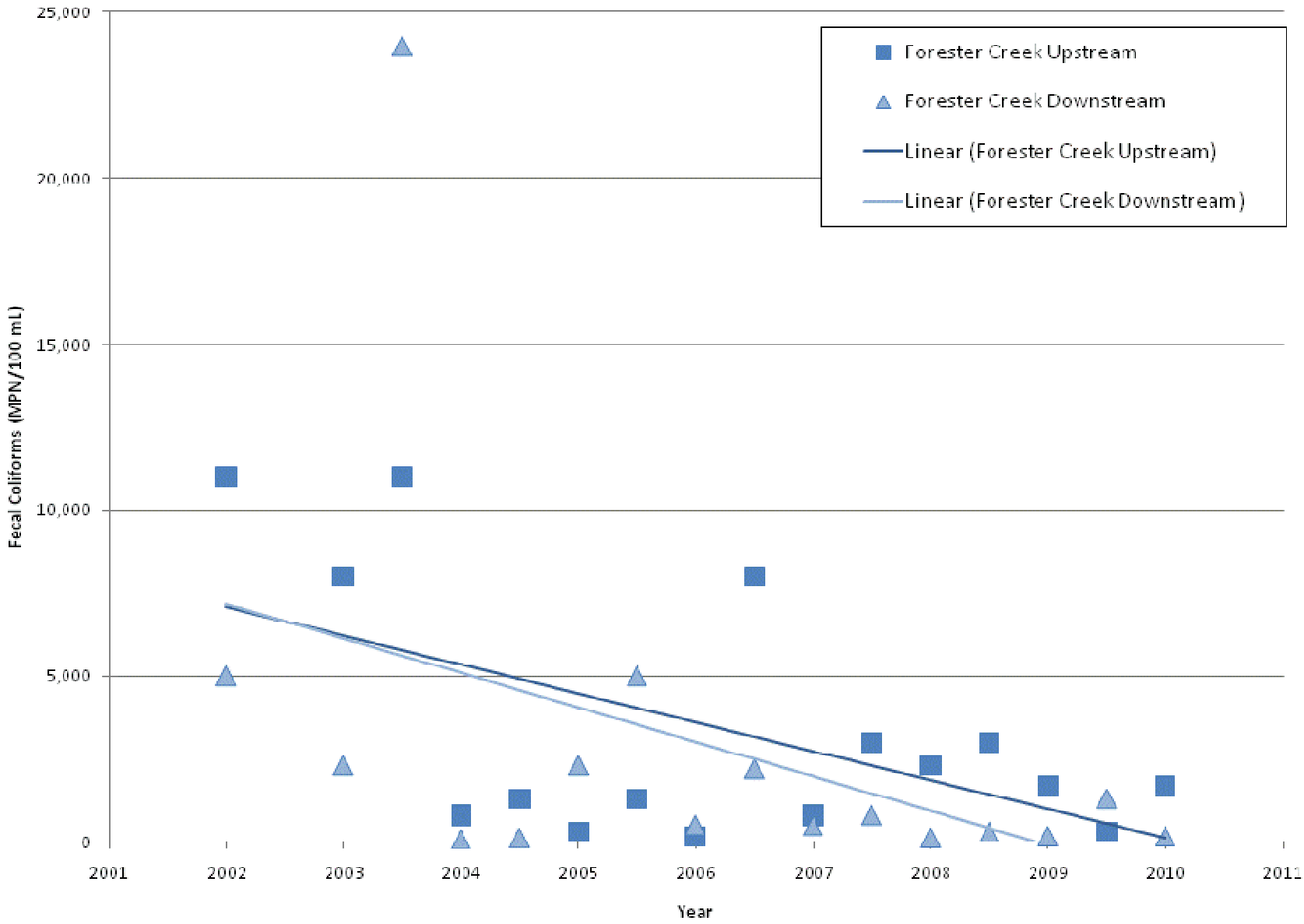


Figure 11-5
Additional Study Data: Fecal Coliform, San Diego River

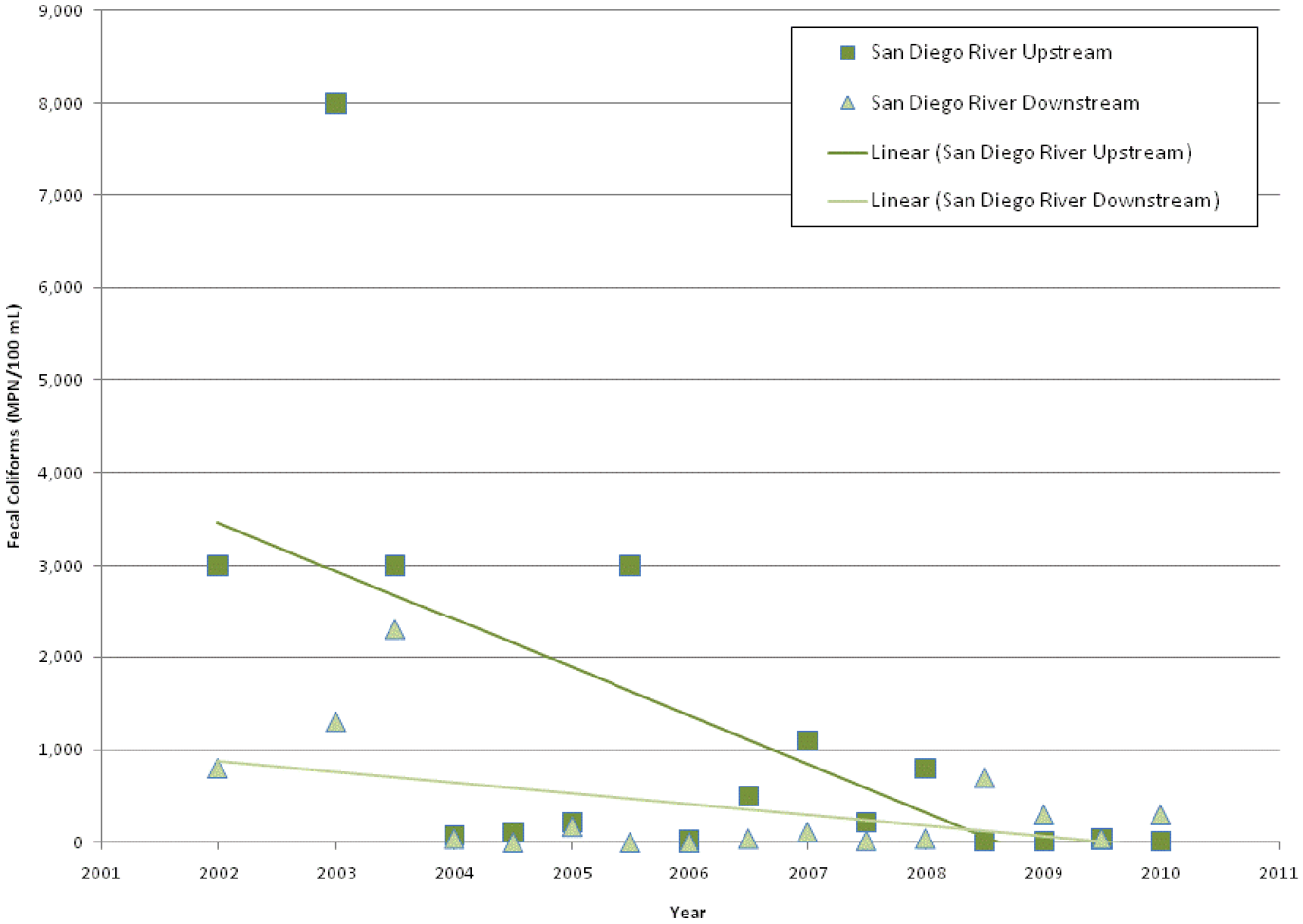
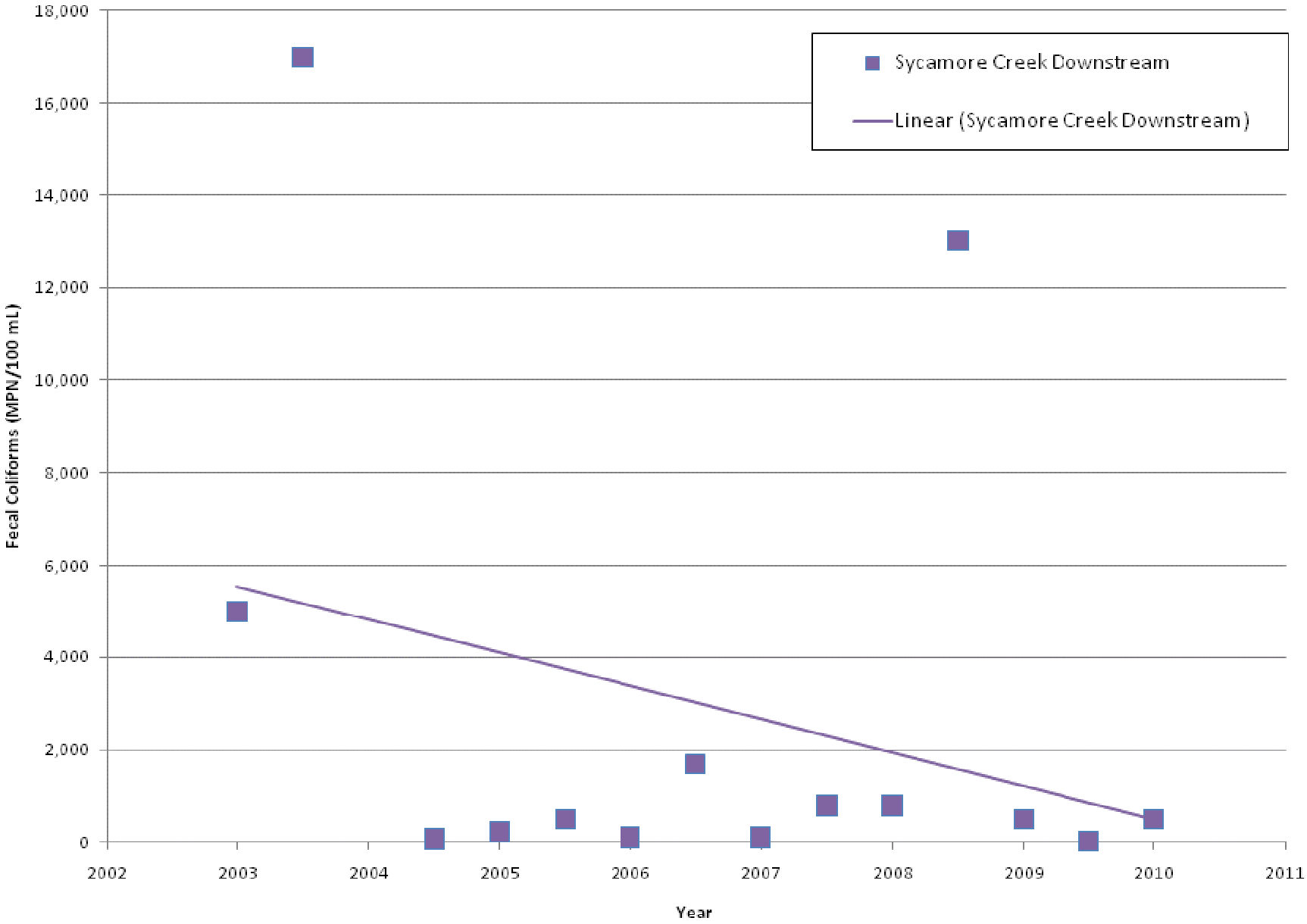


Figure 11-6
Additional Study Data: Fecal Coliform, Sycamore Creek



12.0 SPECIAL INVESTIGATIONS

12.1 SURFACE WATER QUALITY MONITORING

The City has completed an additional study that includes sampling and analysis under ambient conditions at five sites in receiving water bodies in the City since 2002. The study includes two sites in the San Diego River, two sites in Forester Creek, and one site in Sycamore Creek. These sites are sampled twice per year, concurrently with the two rounds of the City's Dry Weather Monitoring Program. The findings of the additional study can be found in Attachment 12.1.

13.0 NON-EMERGENCY FIRE FIGHTING

Please reference Section 4.2.3 of this JURMP Annual Report for information about BMPs and procedures associated with non-emergency fire fighting activities.

14.0 JURMP REVISIONS

The City's JURMP was rewritten in the spring of 2008 in response to new Municipal Permit requirements. Section 14 of the updated JURMP document includes a list of the changes made to the JURMP at that time. Any other changes to the JURMP made since the overall JURMP update in the spring of 2008 are discussed in the individual "Program Review and Modification" subsections in the preceding sections in this JURMP Annual Report.

15.0 CONCLUSIONS AND RECOMMENDATIONS

During the Reporting Period, the City continued to implement the programs in its updated Jurisdictional Urban Runoff Management Plan (JURMP). A checklist matching the JURMP annual reporting requirements in the Municipal Permit with the portion(s) of this JURMP Annual Report and showing where those requirements are addressed is provided as Appendix C. The checklist demonstrates the City's compliance with applicable Municipal Permit regulations during the Reporting Period. Some notable achievements during the Reporting Period are listed below.

- The City completed 775 construction inspections. Pre-rain inspections were regularly completed at construction sites, and overall the construction inspection frequencies met and in some cases exceeded the required frequencies.
- The City conducted 291 business inspections, which is more than 25 percent of its inventory.
- Responsible parties for newly-completed priority projects are notified shortly after project completion of the requirements relating to treatment control BMP maintenance and certification.
- The City spent $298,054 to widen and revegetate a portion of Woodglen Vista Creek and to establish vegetation in recently improved Forester Creek.
- The City spent over $26,000 replacing approximately 93 lineal feet of deteriorated corrugated metal storm drain pipes.
- The City responded to 68 complaints made to its storm water hotline, to the City website, or by City staff members.
- Over 12 tons of trash and debris were collected and removed during eleven community clean-up events. Over 900 individuals participated in these events.
- The City removed 675 tons of debris from City streets and parking lots and 559 tons from the storm drain system.
- The City adopted a revised SUSMP, based on the Model Standard Urban Stormwater Mitigation Plan (SUSMP).
- The City had a proactive role in the development of the Model SUSMP and the hydromodification plan that was adopted shortly after the Reporting Period.
- The City updated its storm water webpages and posted the revised SUSMP, Applicability Checklists and other forms on the website.
- Four development projects were conditioned to comply with the new permit requirements.

- The City participated in an Association of General Contractors' training on construction requirements and has provided formalized training for contractors during pre-grading meetings.
- City streets were swept more frequently than required by the Municipal Permit.
- Residents and businesses were educated through the City's updated stormwater pages and articles including storm water pollution prevention information in the *Santee Review*. The City is currently finalizing the update of its stormwater website pages to make it more useful to viewers.
- The City completed two rounds of additional monitoring at five locations in receiving waters in the City.

The City will continue to implement its JURMP in future reporting periods. Key components of City's plans for future program implementation include the following.

- Ensure that HMP requirements are updated in accordance with Municipal Permit requirements.
- Continue to train inspectors and contractors on BMP implementation and maintenance during construction activities.
- Continue to complete inspections before rain events, including inspections immediately preceding the rainy season, for active construction sites.
- Meet the inspection frequency requirements as stated in the Municipal Permit for the development planning (treatment control BMP), construction, and industrial and commercial components.
- Continue prompt and thorough follow-up for sites at which BMP implementation deficiencies are noted as a means to bring about improved compliance.
- Develop new methods of outreach for the residential, industrial and commercial, development planning, and construction communities.
- Continue to document and respond to complaints reported to the City's storm water hotline.
- Continue to complete the City's Dry Weather Monitoring Program and to investigate any exceedances noted during routine testing.
- Continue to complete additional studies of receiving water quality in the City and to participate in assessments within the San Diego River watershed, as appropriate.
- Increase the number of opportunities for public participation and facilitate participation in such events.

The Copermittees have created several regional workgroups to facilitate sharing of information about how best to run these programs and to provide regional guidance on

standardized implementation where applicable. The City will continue to work collaboratively with the other Copermittees in this process and continue to refine its program implementation as needed to improve its ability to reduce or eliminate the potential for pollutant discharges and meet regulatory requirements.

16.0 REFERENCES

California Regional Water Quality Control Board, 2007. Order No. R9-2007-0001. *Waste Discharge Requirements for Discharges of Urban Runoff from the Municipal Separate Storm Sewer Systems (MS4s) Draining the Watersheds of the County of San Diego, the Incorporated Cities of San Diego County, the San Diego Unified Port District, and the San Diego County Regional Airport Authority.*

California Storm Water Quality Association, 2003. *California Storm Water BMP Handbook – Construction.*

California Storm Water Quality Association, 2003. *California Storm Water BMP Handbook – Industrial & Commercial.*

California Storm Water Quality Association, 2003. *California Storm Water BMP Handbook – Municipal.*

California Storm Water Quality Association, 2007. *Municipal Stormwater Program Effectiveness Assessment Guidance.*

Caltrans Storm Water Quality Handbooks, 2003. *Construction Site Best Management Practices Manual.*

City of Santee, 2008. *Jurisdictional Urban Runoff Management Program.*

County of San Diego, 2007. *Standardized Format for Jurisdictional Urban Runoff Management Plan Annual Report.*

PBS&J, 2009. *Standardized Fiscal Analysis Method and Format.*

APPENDIX A.1 PERMANENT TREATMENT CONTROL BMP INVENTORY

APPENDIX A.1

INVENTORY OF DEVELOPMENT PROJECTS WITH APPROVED TREATMENT CONTROL BMPS

#	Project Name	Address or APN	Watershed	Project Number	Date Completed	BMP Description	Responsible Party	Responsible Party Mailing Address	TTWQ Priority
1	Altair**	384-120-40	907.12	G963	12/22/09	Hydrodynamic separator, inlet filters (7)	Altair HOA	c/o Adriana Machuca, 3944 Murphy Canyon Rd, San Diego, CA 92123	High
2	American Sheet Metal	8674 Railroad Avenue	907.12	G-1003	4/4/08	Grassy swale	Ron Burner Jr.	8674 Railroad Avenue, Santee, CA 92071	Low
3	Aubrey Glen	Hiser Road and Mission Gorge Road	907.12	G-942	06/20/08	Hydrodynamic Separator System	Aubrey Glen HOA	c/o N. N. Jaeskchay 9610 Waples Street San Diego, CA 92121	Medium
4	Autowerks	383-112-53	907.12	DR-02-10 / G818	12/15/04	Drainage inserts and grass swales	Philip H. Thearle II	8890 Mission Gorge Road, Santee CA 92071-3718	Medium
5	Autumnwood II	381-681-20	907.12	TM02-03	11/15/05	Hydrodynamic Separator System (2)	Kingsman LLC	11459 Woodside Avenue, Santee CA 92071-4729	Medium
6	Black Horse Estates*	385-010-34, -35	907.12	TM 2000-02	12/13/06	Filter inserts (5), detention basin.	City of Santee	NA	Medium
7	Boys and Girls Club	8820 Tamberley Way	907.12	G-907	06/16/08	Grassy swale, drainage inserts.	Boys and Girls Club	8820 Tamberley Way, Santee, CA 92071	Medium
8	Cameron II	10580 Prospect	907.13	G-947	1/23/08	Grassy swale, drainage insert (1)	Cameron Brothers Construction	10580 Prospect Avenue, Santee, CA 92071	Medium
9	Ciraolo Industrial Building	381-540-10 and 11	907.12	G-905/DR04-09	1/5/06	Inlet filters, grass swale, downspout filters	Ciraolo Family Partners	9327 Wheatlands Road, Santee, CA 92071-2860	Medium

APPENDIX A.1
INVENTORY OF DEVELOPMENT PROJECTS WITH APPROVED TREATMENT CONTROL BMPS

#	Project Name	Address or APN	Watershed	Project Number	Date Completed	BMP Description	Responsible Party	Responsible Party Mailing Address	TTWQ Priority
10	Cuyamaca Town Common	APN 381-051-01	907.12	G-873	09/05	Drainage inserts	Property Owner	c/o Treitler and Hager LLP, 3737 Camino Del Rio South, Suite 109, San Diego CA 92108-4007	Medium
11	Express Performance	APN 384-141-03	907.12	G1021	5/29/08	Media filter and drainage inserts (2)	Scott and Barbara Young	8711 Magnolia Avenue, Santee, CA 92071	Medium
12	Farrington Court	Farrington Drive, west of Fanita	907.12	G-910	8/16/07	Drainage insert	Brian Snow	LUCA Inc., 8534 Hubbles Lane, Santee, CA 92071	High
13	Fred's Fences	384-250-24	907.13	G-951	10/28/07	Swale and drainage inserts	Fadi Khouri	Fred's Fencing, 10546-60 Kenney Street, Santee, CA 92071	Medium
14	Hartford Insurance*	381-050-59	907.12	DR 2002-04	12/17/03	Vegetated swale, rocky swale, and drainage inserts (3).	Hartford	101 Civic Center Dr, Santee CA 92071	Medium
15	Marketplace	Hazeldon Drive and Mission Gorge Road	907.13	G-1052	12/12/08	Grassy swale, infiltration trench, water quality inlets (4), drainage inserts (2).	Tony Gentry	Sudberry Properties Inc., 5465 Morehouse Drive, Suite 260, San Diego, CA 92121	High
16	Michael Stoff Property	9242 Abraham Way	907.12	G-1003	7/28/08	Grass swale	9424 AW LLC	6749 Top Gun Street Suite 104 San Diego, CA 92121-4151	Medium

APPENDIX A.1

INVENTORY OF DEVELOPMENT PROJECTS WITH APPROVED TREATMENT CONTROL BMPS

#	Project Name	Address or APN	Watershed	Project Number	Date Completed	BMP Description	Responsible Party	Responsible Party Mailing Address	TTWQ Priority
17	Morningside	384-081-16	907.12	G-851	12/14/05	Hydrodynamic Separator System	Property Owner	Walters Management, 9665 Chesapeake Drive, Suite 300, San Diego, CA 92123	Medium
18	Padre Dam Service Center*	9300 Fanita Parkway	907.12	G-704	1/5/06	Drainage inserts (6)	Padre Dam Municipal Water District	John Dedonato PO Box 719003, Santee, CA 92072-9003	High
19	Prospect Glen*	Northwest corner of Fanita and Prospect	907.12	G-739	11/19/07	Drainage inserts (3)	Prospect Glen HOA	c/o Harland Associates, 8580 La Mesa Boulevard, Suite 105, La Mesa CA 91941	High
20	Rayo Wholesale*, Rayo II***	11495 Woodside Avenue (382-310-16, -17, -18)	907.12	IP 2001-04, G-1041	12/30/02, 06/24/08	Grass swale, Grassy detention basin with sand cone filter	Kingsmen LLC	11495 Woodside Avenue, Santee CA 92071	Medium
21	Santee Trolley Square*	381-052-02	907.12	P2001-06	12/17/03	Inlet filters (12)	Vestar Property Management	9884 Mission Gorge Rd, Santee, CA	High
22	Sky Business Park	384-091-45	907.12	G-1062	03/23/09	Grass swale, media filter, drainage insert.	Sky Investments Ltd Partnership	Mr. Charles P. Sampson Jr., 8779 Cottonwood Avenue, Santee, CA 92071	Medium
23	Sonic Car Wash	383-121-44	907.12	G-974	8/29/07	Vegetated swale and drainage insert (3)	Kalasho Inc.	Ghazwan Kalasho, 9312 Mission Gorge Road, Santee, CA 92071	Medium

APPENDIX A.1

INVENTORY OF DEVELOPMENT PROJECTS WITH APPROVED TREATMENT CONTROL BMPS

#	Project Name	Address or APN	Watershed	Project Number	Date Completed	BMP Description	Responsible Party	Responsible Party Mailing Address	TTWQ Priority
24	Sonic Restaurant	384-091-65, -07	907.12	G-1088	04/02/09	Grass swale	Sonic Restaurant	Ms. Laura Hamelin Sonic Restaurant, 10515 Mission Gorge Road, Santee, CA 92071	Medium
25	Toyota**	383-124-11	907.12	G1067	10/14/09	Extended detention basin, bioretention, inlet filters (8)	Toyota of Santee	Eric Axford, 9135 Mission Gorge Rd, Santee, CA 92071	Medium
26	Treviso	Northeast corner Mission Gorge Road and Westhills Parkway	907.12	G-857	10/8/08	Hydrodynamic separator and drainage inserts (2)	Treviso HOA	c/o Melanie Hudson, 3944 Murphy Canyon Road, Suite C205, San Diego CA 92123	High
27	Vista Este*	386-192-18	907.12	G-736/ TM200-03	9/20/06	Inlet filters (2)	Vista Este HOA	c/o The Daniels Company	High
28	Walgreens 1	9305 Mission Gorge Road	907.13	G987	6/3/09	Media filter	Walgreens	Not available	High
29	Walgreens 2**	10512 Mission Gorge Road	907.12	G1066	12/31/09	Vegetated swale, media filter	Walgreens	Not available	Low

Notes

* Project approved prior to development of the City's SUSMP requirements

** Priority Projects that were completed during the 2009/2010 fiscal year

*** These two projects were combined into one listing on the inventory since they are located on the same property and share the same responsible party.

APPENDIX A.2 CONSTRUCTION INVENTORY

APPENDIX A.2
CONSTRUCTION INVENTORY AND INSPECTION SUMMARY

#	Project Name	Watershed	TTWQ	Weeks Active (Wet Season)	#of Insp. (Wet Season)	# of Insp. (Dry Season)	Follow Up Insp.	Complaint Investigation Insp.	Total Insp.
1	8458 Mesa Terrace Road	San Diego River	Low	3	1	1	0	0	2
2	Aleto*	San Diego River	Medium	0	8	1	0	0	9
3	Altair	San Diego River	High	11	8	3	3	0	14
4	AT&T Fleet Storage	San Diego River	Medium	5	2	5	1	0	8
5	Chaparrel/Mission View Estates	San Diego River	High	30	18	5	1	0	24
6	D'Lazio*	San Diego River	Low	0	8	2	1	0	11
7	Elias*	San Diego River	Low	0	8	2	1	0	11
8	Ladera*	San Diego River	High	0	17	6	1	0	24
9	Las Brisas*	San Diego River	Medium	0	8	1	2	0	11
10	Liberty High School*	San Diego River	High	0	16	4	1	0	21
11	Mission Trails Villas*	San Diego River	Low	0	7	1	3	0	11

APPENDIX A.2
CONSTRUCTION INVENTORY AND INSPECTION SUMMARY

#	Project Name	Watershed	TTWQ	Weeks Active (Wet Season)	#of Insp. (Wet Season)	# of Insp. (Dry Season)	Follow Up Insp.	Complaint Investigation Insp.	Total Insp.
12	O'Connel*	San Diego River	Low	0	1	1	0	0	2
13	Prospect Avenue/ Fanita	San Diego River	Low	0	0	2	0	0	2
14	Pryor*	San Diego River	Low	0	1	1	0	0	2
15	Riverview*	San Diego River	Medium	0	17	4	1	0	22
16	Riverwalk	San Diego River	High	30	15	5	4	0	24
17	Santee Affordable	San Diego River	Low	14	6	1	1	0	8
18	Shadow Hill Estates*	San Diego River	Low	0	9	2	1	2	14
19	Sky Ranch	San Diego River	High	30	17	5	2	0	24
20	TCCP	San Diego River	High	30	16	6	0	0	22
21	Tower Glass	San Diego River	High	1	1	3	0	0	4
22	Toyota	San Diego River	Medium	2	1	1	1	0	3

APPENDIX A.2
CONSTRUCTION INVENTORY AND INSPECTION SUMMARY

#	Project Name	Watershed	TTWQ	Weeks Active (Wet Season)	#of Insp. (Wet Season)	# of Insp. (Dry Season)	Follow Up Insp.	Complaint Investigation Insp.	Total Insp.
23	Walgreens II	San Diego River	Medium	13	3	1	0	0	4

Note

*Projects that were inactive during the Reporting Period.

ATTACHMENT A.3 MUNICIPAL INVENTORY

APPENDIX A.3
MUNICIPAL INVENTORY

#	Facility Name	Facility Address	TTWQ	Watershed	Facility Category
1	Big Rock Park	8125 Arlette Street	High	San Diego River	Parks, Recreational Facilities, and Other Landscaped Areas
2	Fire Station No. 4	8950 Cottonwood Avenue	High	San Diego River	Fire Stations
3	Fire Station No. 5	9130 Carlton Oaks Drive	High	San Diego River/Forester Creek	Fire Stations
4	Graffiti Removal	Throughout City	High	All	Mobile Municipal Activities
5	Infrastructure Maintenance	Throughout City	High	All	Mobile Municipal Activities
6	Landscaping	Throughout City	High	All	Mobile Municipal Activities
7	Mast Park	9125 Carlton Hills Boulevard	High	San Diego River	Parks, Recreational Facilities, and Other Landscaped Areas
8	Municipal Separate Storm Sewer	Throughout City	High	All	MS4
9	Public Services Operations Center	9534 Via Zapador	High	San Diego River/Forester Creek	Public Works Facilities
10	Roads, Streets, Highways	Throughout City	High	All	Roads, Streets, Highways, and Parking Facilities
11	Santee Mini Park	10446 Mission Gorge Road	High	San Diego River	Parks, Recreational Facilities, and Other Landscaped Areas
12	Shadow Hill Park	9161 Shadow Hill Road	High	San Diego River	Parks, Recreational Facilities, and Other Landscaped Areas
13	Sky Ranch Park	Southeast corner of Sevilla Street and Cala Lilly Street	High	All	Parks, Recreational Facilities, and Other Landscaped Areas
14	Special Events	Throughout City	High	All	Special Events
15	Town Center Community Park	9545 Cuyamaca Street	High	San Diego River	Parks, Recreational Facilities, and Other Landscaped Areas
16	Vehicle Maintenance Facility	8950 Cottonwood Avenue	High	San Diego River	Public Works Facilities

APPENDIX A.3
MUNICIPAL INVENTORY

#	Facility Name	Facility Address	TTWQ	Watershed	Facility Category
17	West Hills Park	8751 Mast Boulevard	High	San Diego River	Parks, Recreational Facilities, and Other Landscaped Areas
18	Woodglen Vista Park	10250 Woodglen Vista Drive	High	San Diego River	Parks, Recreational Facilities, and Other Landscaped Areas
19	City Activity Building #1	8115 Arlette Street	Low	San Diego River	Other Fixed Facilities
20	City Activity Building #2	10335 Mission Gorge Road	Low	San Diego River	Other Fixed Facilities
21	Santee City Hall and Civic Center	10601 Magnolia Avenue	Low	San Diego River/Woodglen Vista Channel	Other Fixed Facilities
22	Santee Teen Center	9310 Fanita Parkway	Low	San Diego River	Other Fixed Facilities

A.4 INDUSTRIAL/COMMERCIAL INVENTORY

City of Santee
Active Business List Report

9/17/2010

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
High							
A&I Services	8665 Argent A		7538	907.13		☐	☐
Advanced Electromagnetics	9311 Stevens		3812	907.12		☐	☐
AL MAX SANITATION (AMS)	10023 PROSPECT AVENUE		4953	907.13		☐	☐
Artistic Marble and Granite, Inc.	9323 Stevens		3281	907.12	937I021810	☐	☐
BONDS AUTOMOTIVE SALES	11420 Woodside		5521	907.12		☐	☐
Bradshaw Engineering Corp.	8645 Argent B		3498	907.13	937I020468	☐	☐
C C M ENTERPRISES	10848 WHEATLANDS		3281	907.12	937I018541	☐	☐
C C M ENTERPRISES	9366 ABRAHAM		3281	907.12	937I018540	☐	☐
CALIFORNIA ACRYLIC & GLASS MIRROR PLATE COMPANY	10658 Prospect C		3231			☐	☐
CARLS JUNIOR #385	10009 MISSION GORGE ROAD		5812	907.12		☐	☐
CARLTON OAKS COUNTRY CLUB	9200 INWOOD DRIVE		7992	907.12		☐	☐
Cazadores Mexican Food	9331 Mission Gorge 111		5812	907.13		☐	☐

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
Cotijas	9121 Mission Gorge		5812	907.12		☐	☐
Estradas	8528 Magnolia 107		5812	907.13		☐	☐
Estradas Mexican Food	9292 Carlton Hills B		5812	907.13		☐	☐
Estrada's Mexican Food	9630 Carlton Hills		5812	907.12		☐	☐
European Company	10051 Prospect		3281	907.12	937I016521	☐	☐
Harrison Trucking Inc.	8801 Olive		4213	907.13	937I003651	☐	☐
Hilbertos Mexican Food	9805 Prospect F		5812	907.13		☐	☐
JACK IN THE BOX #20	9337 MISSION GORGE		5812	907.13		☐	☐
JACK IN THE BOX #3007	10330 MAST		5812	907.12		☐	☐
Ke-Burgmann	8575 Roland Acres		3494	907.13	937I022304	☐	☐
KIRIN SUSHI	8790 CUYAMACA K		5812	907.13		☐	☐
MARIETAS #4	8915 Carlton Hills		5812	907.13		☐	☐
MARJAN STONE COMPANY	9746 PROSPECT		3281	907.13	937I020456	☐	☐
MARYS DONUTS	9031 MISSION GORGE		5812	907.12		☐	☐
Metro Steel	10520 Kenney A		3441	907.13		☐	☐
ORIGINAL ROADHOUSE GRILL	9816 MISSION GORGE		5812	907.12		☐	☐

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
PADRE DAM WATER RECYCLING FACILITY	9300 FANITA		4952	907.12	937I005752	☐	☐
R C P BLOCK & BRICK INC	9631 MAGNOLIA		3271	907.12	937I002459	☐	☐
RICKS MACHINE SHOP	11448 WOODSIDE		7538	907.12		☐	☐
Sab-E-Lee	9159 Mission Gorge		5812	907.13		☐	☐
San Diego Classic Restoration	9440 Wheatlands #7		7532	907.12		☐	☐
Solid Surface Solutions	10704 Prospect		3281	907.13		☐	☐
Specialty Metals Fabrication	11222 Woodside		3444	907.12		☐	☐
T C CONSTRUCTION CO INC	10540 PROSPECT		1623	907.13		☐	☐
Valley Box Co. Inc.	8544 Tumbleweed		2441	907.13	937I017881	☐	☐
Valley Tractor & Equipment	11478 Woodside		7699	907.12		☐	☐

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
Low							
7-Eleven 19006D	9111 Mission Gorge		5411	907.12		☐	☐
7-Eleven 2121-20321D	9750 Cuyamaca		5411	907.12		☐	☐
7-Eleven-2121-13661C	9251 Carlton Hills		5411	907.12		☐	☐
8-5 Corp. / Artisan Gallery	10928 Wheatlands A		5199	907.12		☐	☐
A - Z Patio	8055 Linen		1799	907.12		☑	☐
A & B A/C & Heating	8701 Mesa 117		1711	907.12		☐	☐
A & D Fire Protection	11465 Woodside 1		1799	907.12		☐	☐
A & E Moving & Storage	9263 Abraham F		4214	907.12		☐	☐
A C L Electric	9315 Cadorette		1731	907.12		☑	☐
A J Audio	7467 Mission Gorge 64		3669	907.12		☐	☐
A Woodpecker Fence	10338 Carreta		7359	907.12		☑	☐
A-1 Stor-it	11493 Woodside		4226	907.12		☐	☐
A-Advanced Electrical & Communications Cabling Company	8710 Ruocco		1731	907.12		☐	☐
Abler Fabrication	10325 Amada		3444	907.12		☑	☐
Absolute Exhaust Coatings	10020 Prospect B14		7533			☐	☐
Accu-Tap LLC	9625 Mission Gorge B2-305		3541	907.12		☐	☐

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
Aces Electrical Contractors Inc.	8616 Atlas View		1731	907.13		☑	☐
Action Turbo Repair Inc	10722 Kenney A		3714	907.13		☐	☐
Acuhon	8665 Mission Gorge B1		7538	907.12		☐	☐
Adona Grinding a Divisions of	11478 Woodside		7699	907.12		☐	☐
Adopt the Environment, Inc.	9767 Castaic		7389	907.12		☑	☐
Advanced Automotive Center	7945 Mission Gorge 108		7539	907.12		☐	☐
Advanced Copying Systems	9944 Cleary		7629	907.12		☑	☐
Aeromach	11423 Woodside B		3751	907.12		☐	☐
Affordable Auto Wholesale	10764 2nd		5511	907.12		☑	☐
A-I-M Plastics Inc.	9326 Abraham		3089	907.12		☐	☐
AKENSON ELECTRIC	8843 PROSPECT		1731	907.12		☐	☐
ALL CITIES BEE & PEST CONTROL	10201 BUENA VISTA		7342	907.12		☐	☐
ALLEN MECHANICAL Inc.	11030 SUMMIT		1711	907.12		☑	☐
ALLIANCE HEATING AND AIR CONDITIONING	10281 PEBBLE BEACH		1711	907.12		☑	☐
Almondzies Gourmet Nut Brittle	10230 Palm Glen 85		2064	907.12		☑	☐
Aloha Pet Grooming	8011 Mission Gorge G		752	907.12		☐	☐

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
Altech Machining	11000 Woodside		3492	907.12		☐	☐
Alternative Bathtub	9428 Leticia		1799	907.12		☑	☐
Alternative Energy Technologies	9465 Mission Park B		3674	907.12		☐	☐
Alumi Craft Inc.	10815 Wheatlands I		3799	907.12		☐	☐
American Automatic Fire	9510 Pathway B		1731	907.13		☐	☐
AMERICAN EAGLE SELF STORAGE	8810 CUYAMACA		4225	907.12		☐	☐
American Fence Co.	9944 Prospect		1799	907.13		☐	☐
AMERICAN SHEET METAL	8710 RAILROAD		3444	907.12		☐	☐
AMOREE DESIGNS, INC.	9360 LETICIA			907.12		☑	☐
Anny'S Fine Burger	9862 Mission Gorge		5812			☐	☐
APOMTEC SERVICES	9214 BIRD		7699	907.12		☑	☐
AQUA VINYL & PLASTER POOLS	10127 WOODROSE		1799	907.12		☑	☐
A-QUALITY GARAGE DOORS	8803 PEBBLE BEACH		1799	907.12		☑	☐
ARC LIGHTING AND ELECTRIC	10054 PROSPECT I		1731	907.13		☐	☐
ARC PAINT	10925 HARTLEY G		3914	907.12		☐	☐
ARCE ENTERPRISES	9944 Cleary		7538	907.13		☑	☐

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
ARGEE CORPORATION	9550 PATHWAY		3089	907.13		☐	☐
ARROW AUTOMATIC FIRE SPRINKLER	9520 PATHWAY		1711	907.13		☐	☐
ART JOURNEYS	10230 JULIO		7389	907.12		☑	☐
Ascend Manufacturing	10217 Buena Vista G		3599	907.12		☐	☐
ASHWOOD CABINETS	8733 MAGNOLIA 137		1751	907.12		☐	☐
AUDIO VIDEO INSTALLS	10171 SWANTON		1731	907.12		☑	☐
AUSTIN CONSTRUCTION, JAMES F	9540 PATHWAY 103		1522	907.13		☐	☐
AUSTIN HEALEY MOTOR WORKS	9440 WHEATLANDS COURT		7538	907.12		☐	☐
AUTO CORRAL	11440 WOODSIDE		5541	907.12		☐	☐
AUTO PERFECT	9937 PROSPECT 11		7538	907.13		☐	☐
AUTOFAB	10996 WOODSIDE		7538	907.12		☐	☐
AUTOZONE #3347	285 TOWN CENTER		3714	907.12		☐	☐
AWNING PRODUCTS UNLIMITED	8540 ABLETTE B		1799	907.13		☐	☐
AYMAR ENGINEERING	9434 ABRAHAM 1		3499	907.12		☐	☐
B SMITH ARTISTRY BY DESIGN	8701 MESA ROAD		2771	907.12		☑	☐
B.J.'S Lawn Care	8680 Wahl		782			☑	☑

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
BABCOCK ELECTRICAL SERVICE	8521 MASSERY		1731	907.13		☑	☐
BAGZ 4 GAMEZ	9348 NALINIE		3949	907.12		☑	☐
BAILEY ELECTRIC AND SUPPLY	9819 SCOTTSBLUFF		1731	907.12		☑	☐
BAKER OFFSET PRINTING	8781 CUYAMACA T		2752	907.13		☐	☐
BARE ROOTS	9711 HUBER		1799	907.12		☑	☐
BARNER ELECTRIC	9435 WHEATLANDS K		1731	907.12		☐	☐
Battery Systems	9465 Mission Park		5013	907.12		☐	☐
Bella Tazza Gourmet Coffee Services	10792 SUSIE		5046	907.12		☑	☐
BENHAM CORPORATION DBA:, D	10969 WHEATLANDS A		2752	907.12		☐	☐
BENNETT'S TRANSMISSIONS	9220 RUFFIN ROAD		7538	907.12		☑	☐
Bert W. Salas, Inc.	10767 Woodside		1521	907.12		☐	☐
BJ Metal & Refinishing	10416 Len		7692	907.12		☑	☐
BLACK HAWK ELECTRIC COMPANY	8404 MAGNOLIA I		1731	907.13		☐	☐
BLACK WIRE	9711 HUBER COURT		1731	907.12		☑	☐
Blind Installations By John Irwin	365 Whispering Wil		2591	907.12		☑	☐

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
Blue Deuce Cycles	10739 Woodside		5571	907.12		☐	☐
Blue Moon Pools	8606 Argent H		1771	907.13		☐	☐
Blue Star Steel Inc.	11322 Woodside		1791	907.12		☐	☐
BMC MOBILE WELDING	10801 WOODSIDE AVENUE		1799	907.12		☐	☑
BMW MC Service of S.D., Inc.	7945 Mission Gorge 109		7699	907.12		☐	☐
BOB'S FIRE EQUIPMENT COMPANY	9366 GOYETTE		7389	907.12		☑	☐
BOBS POOL'S	8545 MISSION GORGE ROAD		7389	907.12		☐	☑
BOCK COMPANY	8510 RAILROAD		1623	907.13		☐	☐
BOND CONSTRUCTION	7819 RANCHO FANITA F		1521	907.12		☑	☐
BOONES POOL SERVICE	8414 BIG ROCK ROAD		7389	907.12		☐	☑
Bow & Lever	8622 Argent C		3499	907.13		☐	☐
BOWEN & WARENGO INC	10723 PROSPECT		3444	907.13		☐	☐
BOYCE CORPORATION dba FREEDOM ELECTRIC	10744 ROCKVILL 101		1731	907.12		☐	☐
BP West Coast Prod. DBA Arco #9567	9811 Mission Gorge		5541	907.12		☐	☐
Bradley Electric	10861 El Nopal		4911			☑	☐
Brainard Construction	113 Rock Glen		1521			☑	☐

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
Bright Tech Auto Service	10438 Mission Gorge B		7538	907.12		☐	☐
BRON DEVELOPMENT COMPANY	10035 PROSPECT		1521	907.13		☐	☐
BTI PERFORMANCE PRODUCTS	9525 Pathway		3544	907.13		☐	☐
BUGGY WORKS	11421 WOODSIDE		3799	907.12		☐	☐
BUILDIT CONSTRUCTION	9228 FAIREN		1521	907.13		☐	☐
Burness Flooring	10018 Three Oaks		1752	907.12		☑	☐
BUTLER'S WEED ABATEMENT	9430 GALSTON		782	907.12		☑	☐
C & H AUTO BODY	10996 WOODSIDE		7532	907.12		☐	☐
C & L ELECTRIC	9065 INVERNESS ROAD		1731	907.12		☑	☐
C H C DIST. CO.	10925 WHEATLANDS M		5013	907.12		☐	☐
C. DALTON FLOORING	10811 LEN STREET		1752	907.12		☑	☐
Cabral Metal Fab & Fence, Inc.	10020 Prospect		1799	907.13		☐	☐
CARL'S TRIM & REMODELING SUPPLY	9524 GALSTON		1521	907.12		☑	☐
CARPET CLEANER (ALAN)	10233 MISSION GORGE ROAD		7217	907.12		☑	☐
CARPET INSTALLERS, INC	10208 STRATHMORE		1752	907.12		☑	☐

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
CARROLL BUSINESS SUPPLY, INC.	10223 PROSPECT		5112	907.13		☐	☐
CARTER COLLISION SERVICE	8835 CUYAMACA STREET		7538	907.12		☐	☐
CED (Contour Technology)	8406 MAGNOLIA H		5211	907.13		☐	☐
CHARLES ENGINEERING COMPANY	8733 MAGNOLIA 107		3823	907.12		☐	☐
CHEAPOS PRINTING	10215 BUENA VISTA C		2759	907.12		☐	☐
CHEVRON STATION INC #1741	8888 MAGNOLIA		5989	907.12		☐	☐
ChiTown Pizza Company	8528 N. Magnolia		5812	907.12		☐	☐
CHOICE LOCKSMITHING & SECURITY, INC.	10117 CARRIE ELLEN		7699	907.12		☑	☐
CHRIS MONTOYA HEATING & AIR	8581 ATLAS VIEW		1711	907.13		☑	☐
Chuck Wilson Construction	9731 Abbeyfield		1521	907.12		☑	☐
CIN CLEARLY	1910 Montilla		7349			☑	☑
Cinda's Toffee	9320 Praful		2064	907.12		☑	☐
CITY ELECTRIC SUPPLY	10729 WHEATLANDS A		5063	907.12		☐	☐
CLASSIC ELECTRIC	8531 ABLETTE		1731	907.13		☐	☐

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
CLEAN WATER POOL SERVICE	10123 THREE OAKS WAY		7389	907.12		☐	☑
CLEANDAY CARPET CARE	9122 FARRINGTON DRIVE		7217	907.12		☑	☑
Cliff'S Poolside Service	9031 Calle Del Verde		7389			☑	☐
COASTAL SUPPLY CO INC	8650 ARGENT		5099	907.13		☐	☐
CODE 3 ELECTRICAL	10934 GREEN CASTLE		1731	907.12		☑	☐
Cohesive Screen Printing	9405 Carlton Oaks		2269			☑	☐
COLE HILL SYSTEMS	10756 VALOR		1799	907.12		☑	☐
Coltrane Fire Protection	8620 Big Rock		1711	907.12		☑	☐
COMFORT MECHANICAL INC	10740 KENNEY 404		1711	907.13		☐	☐
COMFORT PLUMBING	9330 GOYETTE		1711	907.12		☑	☑
COMMERCIAL OPENINGS	8630 ARGENT A		1751	907.13		☐	☐
COMPETITION BOBCAT	9587 MAVIN		7699	907.12		☑	☐
COMPUCRAFT INDUSTRIES INC	8787 OLIVE		3999	907.13		☐	☐
Computer Integrated Machining Inc.	10960 WHEATLANDS		3599	907.12		☐	☐
Conn's Machining	10207 Buena Vista B		3444	907.12		☐	☐

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
CONSOLIDATED ELECTRICAL DIST	8406 MAGNOLIA H		5211	907.13		☐	☐
CONTOUR TECHNOLOGY	8406 MAGNOLIA E		3599	907.13		☐	☐
Cookies By Design	30 Town Center B		5812			☐	☐
COOL MASTER	8501 ABLETTE B		7538	907.13		☐	☐
Cooptec Weld Manufacturing	9526 Saint Andrews		3548	907.12		☑	☐
COPPER ELECTRIC	10054 PROSPECT T		1731	907.13		☐	☐
CORONADO CONTRACTORS	10101 GEM TREE		1521	907.12		☑	☐
Costco Wholesale #403	101 Town Center		5999	907.12		☐	☐
COUNTY FLEET SERVICE	10053 PROSPECT		7538	907.13		☐	☐
COUNTY HEATING AND AIR CONDITIONING	10020 PROSPECT		1711	907.13		☐	☐
COUNTY RV SERVICE CENTER	10229 PROSPECT		7699	907.13		☐	☐
CRAFTERS FENCE	8606 ARGENT A		1799	907.13		☐	☐
Creative Metals Industries Inc.	10039 Prospect E		3479	907.13		☐	☐
CROWN SIGNS	9937 PROSPECT 10		3993	907.13		☐	☐
CS MUSIC COMPANY	8606 ARGENT B		7699	907.13		☐	☐
Current Ways	10221 Buena Vista		8731			☐	☐

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
CURRIER STUCCO	8820 PRESTWICK		1742	907.12		☑	☐
CURTIS AIR CONDITIONING AND HEATING	10290 PEBBLE BEACH		1711	907.12		☑	☐
CUSTOM AIR SYSTEMS	9772 CASTAIC		1711	907.12		☑	☐
CUSTOM CRAFT CONSTRUCTION	8546 GRAHAM 18		1521	907.12		☑	☐
CUSTOM WHEEL INDUSTRIES INC	10221 PROSPECT		5013	907.13		☐	☐
CUYAMACA CONSTRUCION INC	10763 WOODSIDE D		1751	907.12		☐	☐
D & G WINDOW	10114 WEST GLENDON		1793	907.12		☑	☐
D BENHAM CORP	10969 WHEATLANDS A		2752	907.12		☐	☐
D C R CONSTRUCTION SERVICES	9440 WHEATLANDS 4		1521	907.12		☐	☐
D R W TRANSMISSION SPECIALTIES	10728 KENNEY B		7537	907.13		☐	☐
D S Fibertech Corp	11015 Mission Park		2899	907.12	937I019826	☐	☐
Dale's Custom Woodworking	10407 Santana		2599	907.12		☑	☐
DALTON & SON PAINT & BODY	10439 PROSPECT AVENUE		7532	907.13		☐	☐
DAN WHEELER TRUCKING	9437 WILLOWGROVE		4213	907.12		☑	☐
DANIELS ALIGNMENT, ROGER	8517 ABLETTE F		7539	907.13		☐	☐

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
DANOS SIGNS GRAPHICS & DESIGN	9950 SAPPINGTON		7389	907.12		☑	☐
DAN'S HAULING SERVICE	7735 MISSION GORGE ROAD		4212	907.12		☑	☐
DARKSIDE CUSTOMS	11420 WOODSIDE		5571	907.12		☐	☐
Dave's Pool Services	9912 Via Nina		7349	907.12		☑	☑
DAVIC CONSTRUCTION GENERAL CONTRACTOR	10925 WHEATLANDS N		3444	907.12		☐	☐
DAVIS GREGG ENTERPRISES	10139 PROSPECT		3499	907.13		☐	☐
DAVIS ROOFING	10027 BECK		1761	907.12		☑	☐
DAWSON LEASING INC., G M	11220 WOODSIDE		5511	907.12		☐	☐
Day & Night Restoration Inc.	10728 Prospect G		1521	907.13		☐	☐
Decker's Custom Carpentry	9244 Bird		1522	907.12		☑	☐
DeCrescente's Drywall & Texture	8748 WAHL		1742	907.12		☑	☐
DeCrescente's Landscaping	8748 WAHL STREET		782	907.12		☑	☐
DELTATRAK TECHNOLOGIES	9260 ISAAC D		3823	907.12		☐	☐
DESIGNER'S TOUCH BUILDERS	9953 LOS RANCHITOS		1521	907.12		☑	☐

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
DIAMOND PAINTING	8301 MISSION GORGE 52		1721	907.12		☐	☐
DIMOND CONSTRUCTION	10112 GEM TREE		1522	907.12		☑	☐
DISCFLO CORPORATION	10850 HARTLEY		3561	907.12		☐	☐
DISPLAY CASE MANUFACTURING (previously Case It)	8645 ARGENT A		2541	907.13		☐	☐
DKA3 INDUSTRIES	9435 LAKE CANYON			907.12		☑	☐
DLOUHY DOORS	8813 ELLSWORTH		3442	907.13		☑	☐
DLS CYCLES	10176 SWANTON		7699	907.12		☑	☐
Don Lincoln Lath and Plaster	9235 Birchcrest		1742	907.12		☑	☐
Double Double Fine Burger	9862 Mission Gorge		5812	907.12		☐	☐
Dr. Mary Jungman	8306 Courtney		8011			☐	☐
DUNCAN RACING/DANNYS MACHINE	10734 KENNEY STREET		5531	907.13		☐	☐
DYNO SHOP, THE	10042 PROSPECT		7538	907.13		☐	☐
E.C. CABINETS	8402 MAGNOLIA H		1751	907.13		☐	☐
Eagle Fence	8065 Shantung		1799	907.12		☑	☐
EAST COUNTY ALIGNMENT	10741 WOODSIDE		7539	907.12		☐	☐
East County Lube Center	7945 Mission Gorge 161		7549	907.12		☐	☐

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
East County Tile & Marble	9855 Prospect		1743	907.13		☐	☐
East County Transmission	10227 Prospect B		7537	907.13		☐	☐
EcoGreen Recycling	9540 Pathway 105		1731	907.13		☐	☐
EDM Business	9539 Maureen		1799	907.12		☑	☐
EL CAJON NAMEPLATE	10054 PROSPECT K		3479	907.13		☐	☐
El Sombrero Cookie Co.	8301 Mission Gorge 169		5441	907.12		☑	☐
ELECTRONIC SHEET METAL PRODUCTS	9560 PATHWAY 5		3444	907.13		☐	☐
Elliott's Woods	9576 Rawlins		2434	907.12		☑	☐
EVENTZ	9412 MAST		7999	907.12		☑	☐
Executives Garage Inc	10438 Mission Gorge D		7549			☐	☐
EXOTIC MOTOR SPORTS	10079 SILVERADO COURT		5531	907.12		☑	☐
Express Automotive Enterprises	8711 Magnolia 300		7533	907.13		☐	☐
Express Tire	9535 Mission Gorge		5531	907.12		☐	☐
Fairway Cart Services	8622 Argent A		5962			☐	☑
Falcon Landscape	8707 LINDVERN COURT		1799	907.13		☑	☐
Fanita Liquor & Market	8663 Fanita		5921	907.12		☐	☐

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
FARACE ENTERPRISES, INC.	10759 WOODSIDE H		2269	907.12		☐	☐
FARRIS CONSTRUCTION COMPANY	8758 BUSHY HILL		1521	907.12		☑	☐
FEATHER ROCK DESIGNS	11316 WOODSIDE B		3911	907.12		☐	☐
FIBER-TECH AUTO PARTS INC	10809 PROSPECT		5531	907.13		☐	☐
FIBER-TECH ENGINEERING INC	10735 PROSPECT AVENUE		5531	907.13		☐	☐
Fiberwerx	8400 Magnolia H		3714	907.12		☐	☐
FICK & SON PLUMBING INC, R L	10740 KENNEY 405		1711	907.13		☐	☐
FINEST CITY WINDOW CLEANING	10032 MEADOW		7349	907.13		☑	☐
FLEXABLE CABLE	10314 PARK		1731	907.12		☑	☐
Flexdex Skateboards LLC	8534 Hubbles		3949			☐	☐
Ford Roofing	10009 Gem Tree		1761	907.12		☑	☐
FORDYCE CONSTRUCTION	9926 PROSPECT 122		1542	907.13		☐	☐
FORM FAB	11478 WOODSIDE		7699	907.12		☐	☐
Fox Racing Shox	10943 Wheatlands		3714	907.12		☐	☐
FRED PERRY	9211 BELLAGIO		1521	907.12		☑	☐

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
FREDDIE CASTLEMAN CONSTRUCTION	9312 CARITA		1521	907.12		☑	☐
FREEDOM VENDING	9554 DOMER		3581	907.12		☑	☐
FREEMAN'S CARPETS AND BINDING	10205 PROSPECT		1752	907.13		☐	☐
Frontier CNC	10728 Prospect C & D		3549	907.13		☐	☐
Frontier Motors	10335 Julio		7538	907.12		☑	☐
Frubble	9628 Carlton Hills		5812	907.12		☐	☐
FRUIT SMART MARKETING, INC.	8876 OLIVE LANE		5159	907.13		☑	☐
FRY SPECIALTY COMPANY	11316 WOODSIDE G		1521	907.12		☐	☐
FUEL ATV	8858 PASEO DE LOS CASTILLOS		5561	907.13		☑	☐
FUTURE MACHINE	9440 WHEATLANDS 2		3714	907.12		☐	☐
G A ELECTRIC CORP	10520 KENNEY		1731	907.13		☐	☐
G G Landscaping, Inc.	9737 Jeremy		782			☑	☐
GANDER COMPANY INC, THE	8665 MISSION GORGE B-2		1799	907.12		☐	☐
Generic Lift Parts (GLP)	9431 PROSPECT AVENUE		5015	907.13		☑	☐
GENTUE & SONS	9802 SETTLE		7217	907.12		☑	☐
GIAMANCO & SONS	8742 ATLAS VIEW		1731	907.13		☐	☐

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
Giant Paintball	11125 Woodside B		5941			☐	☐
GOLDEN STATE GARAGE DOORS	10540 KENNEY STREET		1799	907.13		☐	☐
GOLDSTEIN ELECTRICAL	8502 ORGANDY		1731	907.12		☑	☐
GORDON-PRILL SAN DIEGO INC.	8400 MAGNOLIA F		1521	907.13		☐	☐
GOULD MASONRY, THOMAS	8633 HACIENDA		1741	907.13		☑	☐
GRAPHICRETE (Q=Mila's Signs)	11571 WOODSIDE AVENUE		3993	907.12		☐	☐
GT DOOR, Inc.	10728 PROSPECT E		1751	907.13		☐	☐
Gumball Graphics	9419 Carlton Oaks		7336	907.12		☑	☐
HAAG RACING	10308 WOODPARK		7948	907.12		☑	☐
HACIENDA BUILDERS	10648 TRIGAL		1521	907.12		☑	☐
HAF Industries Inc.	10221 Buena Vista D		7336	907.12		☐	☐
HALE & SONS INC	8626 SIESTA		1711	907.13		☐	☐
HANSON MACHINE	10969 WHEATLANDS B		7353	907.12		☐	☐
HARPER CONSTRUCTION	7819 RANCHO FANITA C		1521	907.12		☐	☐
Healthy Family Carpet Cleaning	8445 Graves		7217			☑	☐
HELIX SPECIALTIES	11220 WOODSIDE AVENUE			907.12		☐	☐
HI-TECH CUSTOMS	9962 PROSPECT G		7538	907.13		☐	☐

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
HOME CARE BIOMEDICAL SERVICES	8406 MAGNOLIA C		7629	907.13		☐	☐
HOME DEPOT #673, THE	255 Town Center		5211	907.12		☐	☐
Horsman Automotive	8891 Railroad		7538	907.12		☐	☐
HOUSE OF BUGGIES	10308 MISSION GORGE D		5531	907.12		☐	☐
HOWLAND ENTERPRISES	10112 MAST		1731	907.12		☐	☐
HP WIRING	7341 PARK VIEW		7539	907.12		☑	☐
Hurn Mechanical Heating & Cooling	8711 Magnolia 200		1711	907.13		☐	☐
Husted Racing Fabrication	9011 WILLOWGROVE		3499	907.12		☑	☐
HUTTER'S POOL SERVICE	10534 FLORA VERDE COURT		7389	907.12		☑	☑
HYDRAULIC ELECTRIC	9938 PROSPECT 145		3714	907.13		☐	☐
IDEAL MECHANICAL	8524 ABLETTE		1711	907.13		☐	☐
Import Auto Service	7945 Mission Gorge 111		7538	907.12		☐	☐
Industrial Metal Processing	10145 Prospect		3471	907.13		☐	☐
INFUSED	9215 HOLMBY		3231	907.12		☑	☐
IN-MINUTES	10217 BUENA VISTA E		2759	907.12		☐	☐
INSTANT SIGNS OF SANTEE	10769 WOODSIDE 103		7389	907.12		☐	☐

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
INSTITUTIONAL CABINET & MILLWORK INC	10770 ROCKVILL B		2531	907.12		☐	☐
INTEGRITY COMMERCIAL FLOORING INC	9885 PROSPECT A		1752	907.13		☐	☐
Interstate Striping of California	8511 Ablette #B		1611	907.13		☐	☐
J & F MOBILE TIRE	9450 HORNBUCKLE DRIVE		7538	907.12		☑	☐
J & J Cabinets	30 Town Center C		1751	907.12		☐	☐
J & J DRAPERY WORKROOM	10054 PROSPECT L		2391	907.13		☐	☐
J & J FUMIGATION INC	10744 ROCKVILL 101		7342	907.12		☐	☐
J & M Mobile Detailing	9565 Tuthill		7542	907.12		☑	☑
J & M POWER WASH	7953 WOODPECKER WAY		8999	907.12		☐	☑
J A G CONSTRUCTION COMPANY	9602 WEST HARTLAND		1521	907.12		☐	☐
J G AUTO REPAIR	10468 MISSION GORGE		7538	907.12		☐	☐
J P Designs (Desert Fabrications dba ,)	11421 Woodside		3799	907.12		☐	☐
J.R. ELECTRONICS	10744 ROCKVILL 102		1731	907.12		☐	☐
Jack Randalls Automotive	10845 Wheatlands F		7536	907.12		☐	☐
JACKSON PUBLICATIONS	9209 DUNBARTON		2759	907.12		☑	☐

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
JACOR CONSTRUCTION	8614 SIESTA		1521	907.13		☐	☐
JAFCO BUILDING SERVICES INC	10728 PROSPECT 109		1511	907.13		☐	☐
JAMAR ELECTRIC	9830 PROSPECT D		1731	907.13		☐	☐
James A Miller Gardening	8515 Ellsworth		781	907.12		☑	☑
Jaw Industries	9410 Pike		7539			☑	☐
JAY MATHY ENGINEERING	9315 WHEATLANDS		3559	907.12		☐	☐
JCMS Landscape	10638 Prospect		781	907.13		☐	☐
Jeff's Superior Restoration	9321 Cadorette		1521	907.12		☑	☐
JENSEN ELECTRIC	9101 HEATHERDALE		1731	907.12		☑	☐
JENSEN SWING PRODUCTS	9327 WHEATLANDS		3949	907.12		☐	☐
JERRY'S HEATING AND AIR CONDITIONING	9717 AIRPORT VISTA		1711	907.13		☐	☐
Jim Blazen	10445 Mast		1711	907.12		☑	☐
JIM THOMAS WELDING	11005 HILLCREEK		1799	907.12		☑	☑
JIMCO RACING INC.	9426 WHEATLANDS		3711	907.12		☐	☐
JK DOORS & WINDOWS	10150 PALM GLEN 39		5211	907.12		☑	☐
JL Watson Distributing	10250 Prospect		7389	907.13		☑	☐

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
John Barwig Graphics	8618 Carlton Oaks		7319	907.12		☑	☐
Johnny's Lawn Service	10062 Woodpark		782	907.12		☑	☐
JOHN'S CUSTOM BLINDS	10800 WOODSIDE 201		1799	907.12		☐	☐
JOYCE'S EQUIPMENT SERVICE	10143 MARCELLA		7359	907.12		☑	☐
JV STEEL BUILDING	9619 MAST		1541	907.12		☐	☐
JWG CONSTRUCTION COMPANY	10925 HARTLEY H		1521	907.12		☐	☐
K C ARCHITECTURAL RESTORATIONS	8507 ABLETTE		1751	907.13		☐	☐
K C M CONSTRUCTION	10749 LEN		1521	907.12		☑	☐
K J GOLF INC	9899 MOLLIE		5091	907.12		☐	☐
Kack Plumbing	10368 Kerrigan		1711			☑	☐
KALIN ENTERPRISES INC	9540 PATHWAY 201		1542	907.13		☐	☐
KANGAROO VIDEO PRODUCTS	10845 WHEATLANDS C		2389	907.12		☐	☐
Kaylien Inc.	8520 Railroad		3999	907.13		☐	☐
KC'S Truck & Trailer Parts	10441 Cadwell		5961	907.12		☑	☐

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
KELLY'S CONCRETE PUMPING	10025 PINEWOOD		1771	907.12		☑	☐
Ken'S Pool Supply Inc	9218 Dalehurst		7389			☑	☐
KENVIK RESOURCES	9328 WHISPERING WILLOW		3669	907.12		☑	☐
K-KAR CENTER	8931 MAGNOLIA		7542	907.12		☐	☐
KRAGEN AUTO PARTS #727	9750 MISSION GORGE		3714	907.12		☐	☐
KRAGEN AUTOWORKS #1419/CSK Auto Parts	9675 MISSION GORGE ROAD		3714	907.12		☐	☐
KTM COATING TECHNOLOGIES, Inc	10020 PROSPECT A33-34		3479	907.13		☐	☐
L & S PRECISION CUTTER SERVICE	10925 WHEATLANDS O		7699	907.13		☐	☐
L.R. KNIGHT PAINTING	9744 VOMAC		1721	907.12		☑	☐
LA JOLLA BRASS	10911 WHEATLANDS C		7699	907.12		☐	☐
LARSON METERCRAFT INC	9328 WHEATLANDS A		3823	907.12		☐	☐
Le Caramel LLC	11220 Woodside		5812	907.12		☐	☐
LEW'S WOOD WORKS	9255 MAGNOLIA AVENUE		2499	907.12		☑	☐
LIBERTY BACKHOE	10612 STRATHMORE		7353	907.12		☑	☐
Living Water	235 Town Center G		5999	907.12		☐	☐

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
Lloyd's Collision Care	9936 Buena Vista		7532	907.12		☐	☐
Lock'S Lawn Care	10775 Tamar C		782			☑	☐
Logan Detailing	9670 Maccool 1		7532			☑	☐
Lotta Hardwood Floors & Const	10436 Cadwell		1752			☑	☐
LUHRS CUSTOM UPHOLSTERY, MARK	10557 PROSPECT		7549	907.13		☐	☐
M & J Restoration	10223 Mast		7532	907.12		☐	☐
M Z SHEET METAL	8520 ABLETTE ROAD		1761	907.13		☐	☐
MADRIDS AUTO BODY REPAIRS	10559 PROSPECT AVENUE		7532	907.13		☐	☐
MAGNOLIA MINI STORAGE	10805 KENNEY		4225	907.13		☐	☐
MAGNOLIA TEST ONLY STATION	8931 MAGNOLIA AVENUE		7533	907.12		☐	☐
MAJOR PERFORMANCE	10722 KENNEY C		3714	907.13		☐	☐
MANZANITA BREWING COMPANY	9962 Prospect E		5812	907.13		☐	☐
MARTEL ELECTRIC INC	9932 PROSPECT 140		1731	907.13		☐	☐
Mastercraft Inc.	11433 Woodside		7532	907.12		☐	☐
Mathy Machine Inc.	9315 Wheatlands		3559	907.12		☐	☐
Matt Gyvers Custom Werks	8733 Magnolia #117		3679	907.13		☐	☐

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
MAXIMA RACING OILS	9266 ABRAHAM		5172	907.12		☐	☐
Mayan Trade Inc.	9437 Wheatlands H		5199	907.12		☐	☐
MB CUSTOMS	11115 SUMMIT CREST		1521	907.12		☑	☐
MCCOY M1 MATCH CONDITIONING	9632 RYDER		7699	907.12		☑	☐
MCGUIRE ELECTRIC	9330 STEVENS A		1731	907.12		☐	☐
McKay Roofing Co. Inc.	10622 Kenney		1761	907.13		☐	☐
MCLEAN DOOR & TRIM	9260 ISAAC E		7542	907.12		☐	☐
MCLEAN POOL SERVICE	10147 Lakeland		7389			☐	☑
MEDICAL SOLUTIONS INC	8406 MAGNOLIA A		5047	907.13		☐	☐
Meet Me At The Park Grooming	8011 Mission Gorge G		752			☐	☐
METAL MAGIC OF SAN DIEGO	7932 POPLIN		7629	907.12		☑	☐
METAL TEK	11350 WOODSIDE		3444	907.12		☐	☐
METRIX AUTOBODY	10438 MISSION GORGE C		7532	907.12		☐	☐
MICHAGO'S BUILDING MAINTENANCE	8512 PASEO LADERA		1799	907.12		☐	☐
MIKE'S MOBILE REPAIR	10018 SHAGGYBARK DRIVE		7538	907.13		☐	☑
Mill Brothers Fine Woodworking	9356 Wheatlands C		2434	907.12		☐	☐

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
Misiano's Custom Cabinetry	9201 Isaac C		2434	907.12		☐	☐
MISSION GORGE AUTOMOTIVE	10332 MISSION GORGE		7538	907.12		☐	☐
MISSION VALLEY ROOFING INC	9908 PROSPECT		1761	907.13		☐	☐
Mobil Oil Corp	9750 Magnolia		5541	907.12		☐	☐
Mom's Sign Shop	7945 Mission Gorge 106		3993	907.12		☐	☐
MONTOYA HEATING & AIRCONDITIONING	8581 ATLAS VIEW		1711	907.13		☐	☐
MORELLO CONCRETE CONST. INC.	8534 HUBBLES		1771	907.13		☐	☐
MORELY & SONS SIGNS	10735 GREENCASTLE		3993	907.12		☑	☐
Most Truck Sales	8017 Mission Gorge		5511	907.12		☐	☐
MR. FIX IT HANDYMAN	9538 MEDINA DRIVE		1521	907.12		☑	☑
MT INSULATION, Inc.	10612 PROSPECT 105		1742	907.13		☐	☐
MUELLERS TRUCK & EQUIP SERV.	8500 ABLETTE		7538	907.13		☐	☐
MURL BRUTON RACING ENGINES	10728 KENNEY STREET		7538	907.13		☐	☐
NAILERS INC	10845 WHEATLANDS C		2389	907.12		☐	☐
NEO TECH IMPORTS	9962 PROSPECT I		5015	907.13		☐	☐

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
NEW CREATION FLOORING COMPANY	8543 ELLSWORTH		1752	907.13		☑	☐
NEW IMAGE EMBROIDERY & SIGNS	10659 PROSPECT B		7389	907.12		☐	☐
NEW IMAGE PAINTING DESIGN	10744 ROCKVILL 105		1721	907.12		☐	☐
NICHOLS CONCRETE	9506 DOMER		1771	907.12		☑	☐
NORTHWEST DEVELOPMENT COMPANY	10765 WOODSIDE A		1521	907.12		☐	☐
NOVA SECURITY	10744 ROCKVILL 104		1731	907.12		☐	☐
Oaks Market and Deli/Raini EH Enterprises, Inc	9266 CARLTON OAKS		5411	907.12		☐	☐
Ocean Supply and Manufacturing	10850 Hartley		3991	907.12		☐	☐
OLD SWEDE REPAIRS	8500 ABLETTE		1522	907.13		☐	☐
OLSON IRRIGATION SYSTEMS	10910 WHEATLANDS 39449		3069	907.12		☐	☐
ON THE BALL HANDYMAN SERVICES	9530 MANDEVIL ROAD		1521	907.12		☐	☑
PACIFIC COAST BUILDING ERECTION	9962 PROSPECT C		1521	907.13		☐	☐
PACIFIC COAST VALVE & SUPPLY	8614 ARGENT B		5074	907.13		☐	☐

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
Pacifica Glass Company Inc	10731 Woodside		5231			☐	☐
PACKAGING SOLUTIONS FOR TODAY'S INDUSTRY	9402 WHEATLANDS A		5113	907.12		☐	☐
PAMUS CONSTRUCTION	9915 BECK		1521	907.12		☑	☐
Papa Jims' BBQ	8595 Mesa 21		5812			☑	☐
PAPERCRAFT INC	9225 ISAAC		5113	907.12		☐	☐
PARADISE MECHANICAL, Inc. DBA PMI HEATING & AIR	9260 ISAAC STREET		1711	907.12		☐	☐
PECHTELS CUSTOM WOODWORKS	8733 MAGNOLIA 142		2511	907.12		☐	☐
Penguin Yogurt Factory	9621 Mission Gorge A		5812	907.13		☐	☐
Pep Boys Manny Moe & Jack	10041 Mission Gorge		5531	907.12		☐	☐
PERFECT SHINE AUTO DETAIL	10541 PROSPECT AVENUE		7542	907.13		☐	☑
PERFORMANCE TRANSMISSION	8501 ABLETTE ROAD		7537	907.13		☐	☐
Phantastic Auto Repair	10223 Mast		7538	907.12		☐	☐
PHENNYS PRINTING & MAILING SE	8402 MAGNOLIA F		2759	907.13		☐	☐
PHILIP THEARLES AUTOWERKS	8809 MISSION GORGE		7532	907.12		☐	☐

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
PLA-COR INC	10207 Buena Vista C-D		3089	907.12		☐	☐
Plex Products Unlimited	10744 Prospect C		3089	907.13		☐	☐
P-M Machining Inc.	8630 Argent C		3549	907.13		☐	☐
Pool Covers Unlimited	8606 Argent E		7389	907.13		☐	☐
Pool Dog And Spa Services	10800 Woodside		7389	907.12		☑	☐
POPP CONSTRUCTION, JIM"	9425 MANDEVILLE		1521	907.12		☑	☐
Pops Road Gear	445 Whispering Willow D		5699	907.12		☑	☐
PRAXAIR	10728 PROSPECT A		5084	907.13		☐	☐
PRECISION EXCAVATION	9713 MAST		1629	907.12		☐	☐
PRECISION PROJECTS KITCHEN & BATH	10235 PRINCE JED		1711	907.12		☑	☐
Precision Water Jetting, Inc.	10031 Prospect B & C		3499	907.13		☐	☐
Preferred Pump & Equipment	9201 Isaac A		5084	907.12		☐	☐
Prime Time Concrete Pumping	9451 Hornbuckle		1771	907.12		☑	☐
PRIMO GRAPHICS	9263 ABRAHAM B		2389	907.12		☐	☐
PRO CON CONCRETE INC	10638 PROSPECT		1771	907.13		☐	☐
Pro Filter Inc.	9266 Abraham		5085	907.12		☐	☐

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
PRO LINE FLOORING	11110 MEADOW TERRACE		1752	907.12		☑	☐
PRODUCTION TRUSS	9925 PROSPECT		3443	907.13		☐	☐
Pure-Flo	7737 Mission Gorge		4941	907.12		☐	☐
P-Wa's General Maintenance Services	9851 Mission Viejo		7699	907.13		☑	☐
Quality Floors Inc.	9206 Birchcrest		1752	907.12		☑	☐
QUALITY ROOTER'S PLUMBING	1798 PEPPER VILLA		1711	907.13		☐	☑
Qualpro Performance Inc. DBA Fuel ATV	9513 Paseo De Los Castillos		3714	907.13		☑	☐
R & D ENGINEERING	10704 PROSPECT C		3444	907.13		☐	☐
R B INDUSTRIES	9919 PROSPECT		3993	907.12		☐	☐
R H A	11425 WOODSIDE		7699	907.12		☐	☐
R H J HI-TECH AIR CONDITIONING	10107 PROSPECT B		1711	907.13		☐	☐
R J M DELIVERY SERVICES	10720 IRONWOOD		4215	907.12		☑	☐
R L FICK & SON PLUMBING INC	10740 KENNEY 405		1711	907.13		☐	☐
R L ROBLES DRYWALL	8625 RUMSON		1731	907.12		☑	☐
R M B CONSTRUCTION	9902 VIA NINA		1521	907.12		☑	☐

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
R S R PRECISION MACHINE	10020 PROSPECT G & H		3444	907.13		☐	☐
R T S ENTERPRISES	10965 HARTLEY U & V & X		5599	907.12		☐	☐
R.A. ENTERPRISES	9703 VOMAC		2499	907.12		☑	☐
R.E.S. Enterprises	10965 Hartley U		7532			☐	☐
RACER X MOTORSPORTS	10815 WHEATLANDS K		2396	907.12		☐	☐
RACEWAY ELECTRIC	10027 GEM TREE		1731	907.12		☑	☐
RADIANT BLINDS	10225 DAYBREAK 5		2591	907.12		☑	☐
Rafael Gardening	8843 Cottonwood		782	907.12		☑	☐
RAFA'S MOBILE AUTO ELECTRIC	10658 LEN		1731	907.12		☐	☑
RALLS PRECISION MACHINE	10027 PROSPECT C		3444	907.13		☐	☐
RCI Reinforcing Steel Contractor	9409 Abraham		1791	907.12		☐	☐
REBEL IRON WORKS	11521 WOODSIDE		7699	907.12		☐	☐
Reed Sports Buggies, Greg	9745 Airport Vista		7699	907.13		☑	☐
REFLEX INDUSTRIES INC	9530 PATHWAY 105		2834	907.13		☐	☐
Remsy's Inc. DBA Santy Auto Sales	10559 Prospect		5521	907.13		☐	☐
Renaissance Mechanical	9819 Pebble Beach		7629	907.12		☑	☐

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
REO Trash Out And Clean Out	10627 Sanfred		7349			☑	☐
REPUBLIC ITS	9932 PROSPECT 134		3646	907.13		☐	☐
RETRO TRUCK PARTS	9518 CECILWOOD		7538	907.12		☑	☐
REVOLUTION RACING SHOCKS	9434 ABRAHAM		7948	907.12		☐	☐
RGB Liquidators	8795 Railroad		0	907.12		☑	☐
RHINE AIR INC	10744 PROSPECT A		3334	907.13		☐	☐
RICE ELECTRIC	8747 GRAVES		1731	907.12		☑	☐
RICHARD'S CHEM DRY	9764 SAN REMO		7217	907.12		☑	☐
Richardson Cabinets	9201 Isaac		2434	907.12		☐	☐
RLB STABILIZERS	8616 MATTERHORN		3089	907.12		☑	☐
RN Pool Service	1237 Graves		7389	907.12		☐	☑
ROBERT A.PRATHER	10024 VIA LESLIE			907.12		☑	☐
ROBS R.V. APPLIANCE REPAIR	11366 WOODSIDE		5561	907.12		☐	☐
Rock Rental Inc.	10925 Wheatlands		7999	907.12		☐	☐
ROCK SOLID BRICK TILE AND MASONRY	9358 BURNING TREE		1521	907.12		☑	☐
ROELOF CONSTRUCTION CO	8781 CUYAMACA G		1799	907.13		☐	☐

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
ROGER DANIEL'S ALIGNMENT & BRAKE	8517 ABLETTE F		7539	907.13		☐	☐
RONS PLUMBING	9962 PROSPECT D		1711	907.13		☐	☐
ROSNER PUBLICATIONS	10329 PRINCESS MARCIE		2741	907.12		☑	☐
ROSSMAN ELECTRIC	10840 EL NOPAL		1731	907.12		☐	☑
Royal Handyman & Landscaping Services	9233 Ruffin		782			☑	☐
ROZENDAL ASSOCIATES INC	9530 PATHWAY 101		3812	907.13		☐	☐
RUBBER DUCKY POOL COMPANY	10201 Woodpark		7389			☑	☑
RUSH MOTORSPORT	10147 MISSION GORGE		7538	907.12		☐	☐
RUSSELL GLASS	9440 WHEATLANDS 13		1793	907.12		☐	☐
Russos Auto Body Inc	10410 Mission Gorge		7532	907.12		☐	☐
S & H ALL DAY CYCLES	9925 PROSPECT		5571	907.13		☐	☐
S & H ALLDAY HARLEY PARTS &SVC	9925 PROSPECT A		5571	907.13		☐	☐
S & J BUILDERS AND RESTORATION	10815 WHEATLANDS		1521	907.12		☐	☐
S & S WOODCRAFTS	8733 MAGNOLIA 128		2511	907.12		☐	☐
S M L INDUSTRIES	10965 HARTLEY P		3599	907.12		☐	☐

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
SAN DIEGO ELECTRIC COMPANY	7906 LINEN		1731	907.12		☑	☐
SAN DIEGO ELECTRIC WORKS	9135 CANYON PARK		1731	907.12		☐	☐
San Diego Flood Busters	9943 Prospect		7217	907.13		☐	☐
SAN DIEGO GLASS & PAINT AT0638	8828 CUYAMACA STREET		7532	907.12		☐	☐
SAN DIEGO PLUMBING AND HEATING	8775 RAILROAD		1711	907.12		☐	☐
SAN DIEGO POOL SERVICES	9221 FENWAY ROAD		1799	907.12		☐	☑
SAN DIEGO PROTECTIVE COATINGS	9344 WHEATLANDS A		3479	907.12		☐	☐
SAN DIEGO RV CENTER	8629 TUMBLEWEED		7538	907.13		☐	☐
SAN DIEGO SUPPLY SERVICES	8402 MAGNOLIA E		5113	907.13		☐	☐
SANDIA ENTERPRISES	10046 WOODGLEN VISTA		3479	907.12		☐	☐
Santana Liquor	8959 Carlton Hills		5921	907.12		☐	☐
SANTEE BUILDERS	9230 WETHERSFIELD		1521	907.12		☑	☐
SANTEE CAR WASH	8868 FANITA		7542	907.12		☐	☐
SANTEE CEILING SPECIALTIES	9221 FENWAY		1742	907.12		☑	☐

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
Santee Discount Market	11541 Woodside		5411	907.12		☐	☐
SANTEE FOREIGN CAR REPAIR	7969 MISSION GORGE		7539	907.12		☐	☐
SANTEE HEATING & AIR	8523 CHERUB		1711	907.12		☑	☐
Santee Landscape	9327 Whispering Leaves		782			☑	☐
SANTEE MINI STORAGE DEPOT	10835 WOODSIDE		4225	907.12		☐	☐
SANTEE PET HOSPITAL	8936 CARLTON HILLS		742	907.13		☐	☐
SANTEE POOLS	10015 BILTEER COURT		7999	907.12		☐	☑
Santee Roofing Co.	8035 Smokewood		1761	907.12		☑	☐
SANTEE SELF STORAGE	10336 BUENA VISTA		4225	907.12		☐	☐
SANTEE SMOG TEST ONLY	10529 MISSION GORGE		7549	907.12		☐	☐
SANTEE WELDING	9937 PROSPECT 4		7692	907.13		☐	☐
SCANTIBODIES CLINICAL	9236 ABRAHAM		2899	907.12		☐	☐
SCANTIBODIES LAB INC	9336 ABRAHAM		2835	907.12		☐	☐
SCHILLING CORPORATION	8634 HACIENDA 518		1629	907.13		☐	☐
SCHOONMAKER HEATING & AIR CONDITIONER	8733 MAGNOLIA 121		1711	907.12		☐	☐
SCMES, INC.	9625 MISSION GORGE ROAD		7629	907.13		☐	☑

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
Scooterbug Inc.	9260 Isaac C		7699	907.12		☐	☐
SEA VIEW GLASS	10307 CAREFREE		1793	907.12		☑	☐
SEAL ELECTRIC INC	9216 ABRAHAM C		1731	907.12		☐	☐
SEALTITE INC	10225 PROSPECT		3081	907.13		☐	☐
SEAMAN, JIM MOBILE AUTO REPAIR	10296 LARIAT DRIVE		7538	907.12		☐	☑
SECURITY LOCK & SAFE	10123 PEACEFUL		7699	907.12		☑	☐
SELECT CABINETS	9937 PROSPECT 8		2434	907.13		☐	☐
Senor Pancho Mexican Grill	10320 Mission Gorge		5812	907.12		☐	☐
SHAWZ METAL FABRICATION INC	10925 WHEATLANDS AVENUE		3444	907.12		☐	☐
SHAY BACKHOE SERVICE	9182 VIA DE AMOR		7353	907.12		☑	☐
SILVER STAR ENTERPRISES INC	8634 SIESTA		5511	907.13		☐	☐
SIMUNEC CONSTRUCTION INC	10208 PROSPECT		1521	907.13		☐	☐
Smith Yard Removal	10355 Lairwood		782			☑	☐
SMOKER'S HEAVEN	9882 MAGNOLIA		5993	907.12		☐	☐
Snoke Air Conditioning	9783 Medina		1711			☑	☐

TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
	1521	907.13		☐	☐
	5999			☐	☐
	1771	907.12		☑	☐
	1731	907.12		☐	☐
	7538	907.13		☐	☐
	1711	907.13		☐	☐
	5812	907.12		☐	☐
	3446	907.12		☐	☐
	5039	907.13		☐	☐
	7389			☑	☐
	7538	907.12		☐	☐
	7537	907.12		☐	☐
	5541	907.12		☐	☐
	3694	907.13		☐	☐
	1521	907.13		☑	☐

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Busine:
SPIRAL ASSEMBLY SYSTEMS	10658 PROSPECT A		3499	907.13		☐	☐
STANDARD ELECTRONICS	9340 STEVENS		1731	907.12		☐	☐
STAR ELECTRIC	9559 HINTON		1731	907.12		☐	☑
STAT PHARMACEUTICALS	9545 PATHWAY		5122	907.13		☐	☐
Steagall's Custom Cabinets	10911 Wheatlands #H		2434	907.12		☐	☐
Steve'S Mobile Auto Service	7949 Wistful Vista		7538			☑	☐
STEWARTS RACE WORKS	9419 ABRAHAM		3999	907.12		☐	☐
STONE HEAD COUNTER TOP	9851 MISSION GORGE ROAD		3281	907.12		☑	☐
STONEWORK TECHNOLOGIES	8754 GLEN VISTA		3281	907.12		☑	☐
SUNCRAFT SHUTTERS	9344 WHEATLANDS C		2591	907.12		☐	☐
SUPERIOR CONTRACTING	9529 HARTLAND		1521	907.12		☑	☐
SWAIN ENTERPRISES	10017 PROSPECT		1711	907.13		☐	☐
SYNERGY ELECTRIC INC	10740 KENNEY 401		1731	907.13		☐	☐
T M COBB CO	9175 MISSION GORGE		2431	907.12		☐	☐
T R E COMPANY	8733 MAGNOLIA 140		1731	907.12		☐	☐
T S C RESTORATION	8402 MAGNOLIA C		1521	907.13		☐	☐

TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
	3599	907.13		☐	☐
	3679	907.13		☐	☐
	7699	907.12		☑	☐
	1623	907.13		☐	☐
	8811	907.12		☑	☐
	1731	907.12		☐	☐
	3499	907.12		☐	☐
	3499	907.13		☐	☐
	1711	907.12		☐	☑
	4731	907.12		☐	☐
	3535	907.12		☐	☐
	7538	907.12		☐	☐
	7699			☑	☐
	5812			☐	☐
	7359	907.12		☐	☐
	7532	907.12		☑	☐

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Busines
THUNDERWORKS	10729 WHEATLANDS C		7538	907.12		☐	☐
TIMBER RIDGE FRAMING INC	10744 ROCKVILL 109		1521	907.12		☐	☑
TINASSY'S K-9 SPLASH-R-CISE INC.	10925 Hartley E		8999	907.12		☐	☐
TL Services, Inc.	405 Whispering Willow		1711	907.12		☑	☑
TLC ELECTRIC	9227 BIRD		1731	907.12		☑	☐
TOLESAKES	8025 LINEN		3999	907.12		☑	☐
Tony's Landscaping	9941 Lake Canyon		781	907.12		☑	☐
Top Notch Painting	9371 Starcrest		1721	907.13		☑	☐
TOTAL PERFORMANCE MACHINE	10133 PROSPECT		3859	907.13		☐	☐
TOTTEN TUBES INC	8540 ROLAND ACRES		3312	907.13		☐	☐
TOWN & COUNTRY CUSTOM POOLS	9926 PROSPECT 121		8811	907.13		☐	☐
TOWN & COUNTRY PRINTERS INC	9448 MISSION PARK		2759	907.13		☐	☐
Tri-City Locksmith	8781 Cuyamaca P		7699	907.13		☐	☐
Triple S Electric	8851 Prospect		1731	907.12		☐	☐
Tsunami Cables	9942 Halberns		3651	907.12		☑	☐
Ty & Bud Hitches & Welding	10229 Prospect		3799	907.13		☐	☐

TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
	1711	907.12		☑	☐
	1731	907.13		☑	☐
	7336			☑	☐
	7533	907.12		☐	☐
	1752	907.13		☐	☐
	4213	907.12		☐	☐
	3931	907.12		☑	☐
	7538	907.12		☐	☐
	5511	907.13		☐	☐
	3714	907.12		☐	☐
	3993	907.13		☐	☐
	3559	907.12		☐	☐
	5399	907.12		☐	☐
	1761	907.13		☐	☐
	2391	907.12		☐	☐
	3993	907.12		☑	☐
	3541	907.12		☐	☐

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
Wayne Miller's Mobile Tire Inc.	11424 Woodside		7538	907.12		☐	☑
Waynes Harley & Mavhine Shop	10020 Prospect A12		7699	907.13		☐	☐
Weekend Appliance Repair	10424 Second		7629	907.12		☑	☐
West Coast Appliance Co.	10728 Prospect B		7699	907.13		☐	☐
Western Innovated Services	10388 ROCHELLE		3446	907.12		☑	☐
Westline Woodcraft	9435 Wheatlands F-G		2511	907.12		☐	☐
Westwind Mechanical	10439 Prospect M		1711	907.13		☐	☐
William's Racing Developments	10928 WHEATLANDS A		7948	907.12		☐	☐
Woodmaster Windows	10965 Hartley Q		2439	907.12		☐	☐
Ye Village Inn	8929 Carlton Hills		5813	907.13		☐	☐
Zarick, Rob A	8520 Ablette		1711	907.13		☐	☐

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
Medium							
619 HYDROPONICS	7949 Mission Gorge		5261			☐	☐
7-Eleven 20611	9805 Prospect		5411	907.13		☐	☐
A1 Customs LLC	11491 Woodside		7532	907.12		☐	☐
A1 Performance Transmission	8501 Ablette		7537	907.13		☐	☐
Advertising Edge Inc.	9840 Prospect		2299	907.13		☐	☐
Albert Remolina	10020 Prospect		3993	907.13		☐	☐
Alberto's Mexican Food	9535 Mission Gorge A & B		5812	907.13		☐	☐
Albertsons #6727	9870 Magnolia		5411	907.12		☐	☐
ALL STAR POOL AND SPA	9358 BURNING TREE WAY		8811	907.12		☐	☑
Alloy Studios	9435 Wheatlands G		3711	907.12		☐	☐
Always Sparkling Pool & Spa	10158 Carefree		7389	907.12		☐	☑
AMY'S FINE BURGER	9862 Mission Gorge		5812	907.12		☐	☐
ANCHORS AWAY POOL SERVICE	10135 LAUREN WAY		7389	907.12		☐	☑
ANGLERS MARINE	10960 WHEATLANDS		5941	907.12		☐	☐
Angus Asphalt Inc.	9959 Prospect		1771	907.13		☐	☐
Anthony Lauren & Co., Inc.	8747 Magnolia		2511	907.12		☐	☐

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
Aquatic Expressions	8770 Blue Boy Lane		5092	907.12		☐	☑
B & A WIRE EDM	8402 MAGNOLIA AVENUE		3549	907.13		☐	☐
B& A Wire EDM	8402 MAGNOLIA		3549	907.13		☐	☐
Ban's Auto Repair II	8625 Cuyamaca		7538	907.13		☐	☐
BC Wire Rope And Rigging Inc.	10580 Prospect 102		5051	907.12		☐	☐
BEHLMAN ENTERPRISES	11002 LARKRIDGE		3999	907.12		☑	☐
Bilcan Inc. DBA El Camino Rentals	8795 Cuyamaca		7353	907.13		☐	☐
BOURGEOIS INC	9406 VIA ZAPADOR		782	907.13		☑	☐
BP West Coast Prod. DBA Arco	9009 Carlton Hills		5541	907.12		☐	☐
Buggy World	10350 Mission Gorge		5599	907.12		☐	☐
Burger King	9714 Mission Gorge		5812	907.12		☐	☐
C DALTON FLOORING	10811 LEN		1752	907.12		☑	☐
Casa Nueva Mexican Restaurant	10757 WOODSIDE		5812	907.12		☐	☐
Cascade Drilling LP	11440 North Woodside		1799			☐	☐
CHEVRON KALASHO	9312 MISSION GORGE		5989	907.13		☐	☐
CHILI'S GRILL & BAR	9804 MISSION GORGE		5813	907.12		☐	☐

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
CIRCLE K/76 #2702955/KAYO Oil CK	10219 Mast		5541	907.12		☐	☐
Coffee Corner, The	9608 Carlton Hills		5812	907.12		☐	☐
Cohen's Knishes	9730 Cuyamaca A		5812	907.12		☐	☐
COLD STONE CREAMERY	9868 MISSION GORGE A		5812	907.12		☐	☐
Collision Repair Specialists	10806 Prospect		7532	907.13		☐	☐
CONEN'S POOL SERVICE	10232 Buena Vista		7389			☐	☑
Countertops 4 Less	10704 Prospect B		1799			☐	☑
COUNTRY TIME FOOD MARKET	9613 CARLTON HILLS		5812	907.12		☐	☐
COUVRETTE BUILDING SYSTEMS	8665 ARGENT D		1542	907.13		☐	☐
COYOTE SERVICES LLC	8745 Magnolia		7532	907.12		☐	☐
CROSSMAN LANDSCAPE	8617 CUYAMACA		782	907.13		☐	☐
CURTIS LAND PATROL	8652 MAGNOLIA 16		781	907.13		☐	☐
Cuyamaca Animal Hospital	8802 Cuyamaca B		742	907.12		☐	☐
D & R AUTOMOTIVE	10517 PROSPECT		7538	907.13		☐	☐
DADDY'S LAWNS AND MAINTENANCE	9009 Fanita Rancho		782			☑	☑
DAIRY QUEEN	70 TOWN CENTER A		5812	907.12		☐	☐

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
DAN KRIVITZ LANDSCAPE ARCHITECT	8265 PROSPECT		781	907.13		☑	☐
Daphne's Greek Café	9828 Mission Gorge B		5812	907.12		☐	☐
DCXcavation	8614 Siesta		7353	907.13		☐	☐
DEL TACO #109	9822 MAGNOLIA AVENUE		5812	907.12		☐	☐
DENNYS RESTAURANT	140 TOWN CENTER PARKWAY		5812	907.12		☐	☐
DFM POOL & SPA SERVICE	8602 Paseo Del Rey		7389			☑	☑
Dion And Sons, Inc.	11427 Woodside		5541	907.12		☐	☐
DISCOUNT TIRE CO OF SAN DIEGO	9750 MISSION GORGE		7539	907.12		☐	☐
DIY Yogurt	9292 CARLTON HILLS D		5812	907.12		☐	☐
Doan Gardeners	9550 MAVIN DRIVE		782	907.12		☑	☑
Doggie Station	8951 Carlton Hills		752	907.12		☐	☐
DOGGIE-DOO DISPOSAL SERVICE	9717 RAMSGATE WAY		4959	907.12		☑	☐
Domo Sushi	9625 Mission Gorge		5812	907.13		☐	☐
Don Lucio's Taco Shop	9740 Mission Gorge D		5812	907.12		☐	☐
Don's Handy Service	9751 Vomac		782			☑	☑
Dragon Machine Shop	9435 Wheatlands G		3599			☐	☐

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
EAST COUNTY FEED AND SUPPLY	10845 WOODSIDE		5999	907.12		☐	☐
Eccentric International Chefs	8925 CARLTON HILLS BOULEVARD		5812	907.13		☐	☐
EINSTEIN BROS BAGELS #3325	9872 MISSION GORGE		5812	907.12		☐	☐
El Ranchito Taco Shop	9225 Carlton Hills 21		5812	907.12		☐	☐
Eliminator Motorsports	11418 Woodside		5012	907.12		☐	☐
Emma's Mexican Food	8781 Cuyamaca L		5812	907.13		☐	☐
Enterprise Rent-A-Car	10330 Mission Gorge		7514	907.12		☐	☐
Essential Grooming	9225 Carlton Hills 7		752	907.12		☐	☐
EXTRA SPACE STORAGE	10115 MISSION GORGE		4225	907.12		☐	☐
Factory Transmissions	10806 Prospect		7537	907.13		☐	☐
Filippi'S Pizza Grotto	10767 Woodside		5812	907.12		☐	☐
FOOD 4 LESS #349	9430 CUYAMACA		5411	907.12		☐	☐
Fortina Chocolate	172 River Rock		2066	907.12		☑	☐
Four Season Gardening & Landscaping	9328 ST ANDREWS DRIVE		782	907.12		☑	☐
Four Wheel Direct	10731 Woodside		7538	907.12		☐	☐
Fox's Pizza Den	8011 Mission Gorge		5812	907.12		☐	☐

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
Friendly Grounds Inc.	9225 Carlton Hills		5812	907.12		☐	☐
Full Throttle Powersports	9143 MISSION GORGE		7948	907.12		☐	☐
FUN IN THE SUN POOLS	10340 SANTANA STREET		7699	907.12		☑	☐
Furry Friends Resort	8802 Cuyamaca A		752	907.12		☐	☐
G COLE LABORING	9345 CADORETTE		1521	907.12		☑	☐
G E LUDWIG POOLS	9944 CARLTON PLACE PLACE		8811	907.12		☑	☐
GENSCHAW'S TREE SERVICE	10744 SAYERS		782	907.12		☑	☐
GEORGES SALOON	9179 MISSION GORGE		5813	907.12		☐	☐
GIANT NEW YORK PIZZA	8933 CARLTON HILLS		5812	907.13		☐	☐
GIANT PIZZA KING #10	9614 CARLTON HILLS		5812	907.12		☐	☐
GILES CONSTRUCTION CO	10131 ASHDALE		1511	907.12		☑	☐
GO GET YOGURT	9802 MAGNOLIA 1		5812	907.12		☐	☐
GOLDEN SPOON FROZEN YOGOURT	9640 MISSION GORGE C		5812	907.12		☐	☐
GRANNY GROZA'S HANDMADE ORIG.	10666 BRAVERMAN		5812	907.12		☑	☐
Grindz Coffee Co.	9608 Carlton Hills		5812	907.12		☐	☐

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
GTM Discount General Store	8967 CARLTON HILLS A & B		5411	907.12		☐	☐
HAMMER & NAILS HANDYMAN	9121 INVERNESS		1799	907.12		☑	☐
HCM Customs	11421 Woodside B		3714	907.12		☐	☐
Healthy Future 101	8631 CLIFFORD HEIGHTS		5411	907.12		☑	☐
HENRY'S FARMER'S MARKET	9361 MISSION GORGE		5411	907.12		☐	☐
HI-C-ERA	11541 WOODSIDE D		5812	907.12		☐	☐
HOMETOWN BUFFET #720	275 TOWN CENTER		5812	907.12		☐	☐
HONEY DONUTS	10718 WOODSIDE AVENUE		5812	907.12		☐	☐
INTER VALLEY POOL SUPPLY, INC.	8656 CUYAMACA STREET		7389	907.13		☐	☐
INTERNATIONAL AUTOREPAIR	10031 Prospect D		7538	907.13		☐	☐
INTERNATIONAL HOUSE OF PANCAKES	9708 MISSION GORGE		5812	907.12		☐	☐
Italia Ristorante	8918 Carlton Hills		5812	907.12		☐	☐
J S Bluing and Metal Refinishing	10416 LEN COURT		2899	907.12		☑	☐
J&M Mobile Detailing	9565 Tuthill		7542			☑	☑
JACK IN THE BOX #3056	8500 MAGNOLIA		5812	907.13		☐	☐

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
Jamba Juice Company #517	9828 MISSION GORGE		5812	907.12		☐	☐
JAMES A ZIEGLER	4055 CALLE DEL VERDE		4215	907.12		☑	☐
JAMES F. AUSTIN CONSTRUCTION	9540 PATHWAY 103		1521	907.13		☐	☐
Janet's Café & Deli	9225 Carlton Hills 20		5812	907.12		☐	☐
JERRY'S GOURMET JERKY	9950 MAGNOLIA AVENUE		2099	907.12		☑	☐
JIMMYS FAMILY RESTAURANT	9635 MISSION GORGE		5812	907.12		☐	☐
JIM'S MAINTENANCE	8015 WOODPECKER WAY			907.12		☑	☐
JP'S PERSONAL CHEF SERVICE	445 WHISPERING WILLOW F		5812	907.12		☑	☐
JR'S Jack Of All Trades	9440 Wheatlands		7699	907.12		☐	☐
Justin Herrera Carpet Cleaning	8063 Poplin		7217			☐	☑
KFC CORPORATION	8890 CUYAMACA		5812	907.12		☐	☐
Kleinsmith Stair & Trim Inc.	9435 Wheatlands H		1751	907.12		☐	☑
KW Cages Advanced Design	9565 Pathway		3496	907.13		☐	☐
L Seven 'n' Company, Inc.	8775 RAILROAD		1711	907.13		☐	☐
L&L Hawaiian BBQ	9621 Mission Gorge		5812	907.12		☐	☐

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
LA COSTA LANDSCAPE MAINT CO	10320 PROSPECT AVENUE		181	907.13		☑	☐
La Salsa	9828 Mission Gorge		5812	907.12		☐	☐
Lakes Market and Deli	9266 CARLTON OAKS		5921	907.12		☐	☐
LHV Power Corporation	10221 Buena Vista		3677	907.12		☐	☐
LITTLE CAESER'S PIZZA	9720 MISSION GORGE		5812	907.12		☐	☐
Loftin GTS	8500 Ablette		3089	907.13		☐	☐
LOS NACHOS TACO SHOP	9740 CUYAMACA C		5812	907.12		☐	☐
Lowland Services	10220 PRINCE JED		4953	907.12		☑	☐
LUCKY CHINESE FAST FOOD	9740 MISSION GORGE B		5812	907.12		☐	☐
MANUEL AND SON	10342 PARK		782	907.12		☐	☐
MARINE LIFE AQUATICS	11061 LEA TERRACE		1799			☑	☑
MAST BLVD PET CARE CENTER	9740 MAGNOLIA		742	907.12		☐	☐
MCDONALDS #2441	8876 CUYAMACA		5812	907.12		☐	☐
MCDONALD'S #29484	170 TOWN CENTER		5812	907.12		☐	☐
MEINEKE 1711	9551 Mission Gorge B		7538	907.12		☐	☐
MELLER LANDSCAPE INC.	10925 Wheatlands L		782			☐	☑

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
MICHAEL WAYNE FARRIL CONSTRUCTION CO	8758 BUSHY HILL		1521	907.12		☐	☐
MICHAELS GRILL	9621 MISSION GORGE 5		5812	907.12		☐	☐
Mikes Auto Body	10737 Woodside		7538	907.12		☐	☐
MIMI'S CAFÉ #86	9812 MISSION GORGE		5812	907.12		☐	☐
MISSION GORGE CARWASH	7751 MISSION GORGE		7542	907.12		☐	☐
Mission Gorge Market	7757 Mission Gorge		5812	907.12		☐	☐
MTS Sheet Metal & Fabrication Inc.	8400 Magnolia E		3444	907.12		☐	☐
Mueller's Machine Tool rebuilders	10945 Magnolia		7699	907.12		☑	☐
Nam Long Restaurants	9828 Magnolia		5812	907.12		☐	☐
O.R.G. RESTAURANT	9816 MISSION		5812	907.12		☐	☐
Oggi's Pizza & Brewing Co.	9828 Mission Gorge		5812	907.12		☐	☐
OISHII JAPANESE-THAI RESTAURANT	10251 MAST		5812	907.12		☐	☐
Okawa Steak House And Sushi	9720 Mission Gorge A		5812	907.12		☐	☐
OLIVE GARDEN	9800 MISSION GORGE		5812	907.12		☐	☐
OMELETTE FACTORY, THE	7941 MISSION GORGE		5812	907.12		☐	☐
ONE STOP AUTO TECH	9605 CARLTON HILLS BOULEVARD		7539	907.12		☐	☐

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
Osso Miller Pacific	8400 MAGNOLIA G		1521	907.13		☐	☐
PANDA COUNTRY RESTAURANT	9621 MISSION GORGE 104		5812	907.12		☐	☐
PANDA EXPRESS #739	9862 MISSION GORGE		5812	907.12		☐	☐
PANDA GARDEN BUFFET	70 TOWN CENTER C		5812	907.12		☐	☐
PAPA JOHN'S PIZZA #2255	9490 CUYAMACA		5812	907.12		☐	☐
PAT MARTIN CONSTRUCTION	9743 PEBBLE BEACH		1521	907.12		☑	☐
PAX WEST IMPORTS	7735 MISSION GORGE 59		181	907.12		☑	☐
PERPETUAL TREE CARE	9376 STARCREST		782	907.13		☑	☐
PETE HURTUBISE CONSTRUCTION	9464 PIKE		1521	907.12		☑	☐
PINNACLE PEAK STEAK HOUSE	7927 MISSION GORGE		5812	907.12		☐	☐
Pizza Hut / Wing Street	9420 Cuyamaca 100		5812	907.12		☐	☐
Precision Interiors	10612 Prospect 102		1742	907.13		☐	☐
PRIME CUT MOWING & EDGING	8957 NEW SEABURY DRIVE		782	907.12		☑	☑
PROFORMANCE ENGINEERING	10744 Rockville		7538	907.12		☐	☐
PROSCAPE	9440 LETICIA		782	907.12		☑	☐

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
QUIZNO'S CLASSIC SUBS	9862 MISSION GORGE 3F		5812	907.12		☐	☐
Qwik Korner	9035 Mission Gorge		5541	907.12		☐	☐
R J A MASONRY	10057 PEBBLE BEACH		1521	907.12		☑	☐
Ranch House Restaurant	11510 Woodside #F		5812	907.12		☐	☐
Rodder's Choice	9217 Security		7532	907.12		☐	☐
Roger's Biomedical Solutions LLC	11316 Woodside Suite D		7629	907.12		☐	☐
ROUND TABLE PIZZA	9824 MAGNOLIA		5812	907.12		☐	☐
Rubber Ducky Pool Company	10201 Woodpark		7389			☐	☐
Rubios Fresh Mexican Grill	130 Town Center		5812	907.12		☐	☐
RV Discount Center - Santee	8837 Magnolia		5561	907.12		☐	☐
RV EXPERT MOBILE SERVICE	208 PARKSIDE PLACE		7699	907.12		☐	☑
San Diego Custom Iron	8733 Magnolia 134		1799			☐	☑
SANTEE DONUTS	9740 CUYAMACA J		5812	907.12		☐	☐
Santee Market	11007 WOODSIDE AVENUE		5411	907.12		☐	☐
Santee Mini Market	8781 CUYAMACA I		5921	907.13		☐	☐
SANTEE MOTORCYCLE SUPPLY	9805 PROSPECT E		5571	907.13		☐	☐

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
SANTEE SMOKIN' JOE'S BBQ	9414 Kaschube		5963			☑	☑
SHOT BLASTERS INC.	9962 Prospect B		1799			☐	☐
SIGN AGE IDENTITY SYSTEMS	9962 PROSPECT J & K		1611	907.13		☐	☐
Smith Backflow	10113 Waynecrest		3432			☑	☐
Smoking Joe's Intl. BarBQue	205 Town Center A		5812	907.12		☐	☐
Smoothie King	9802 MAGNOLIA #2		5812	907.12		☐	☐
Sonic Car Wash	9015 Mission Gorge		7542	907.12		☐	☐
SORIANA'S MEXICAN FOOD	9470 CUYAMACA #130		5812	907.12		☐	☐
Southridge Builders Inc.	9540 Pathway		1521	907.13		☐	☐
Starbucks Coffee #14489	9325 Mission Gorge		5812	907.13		☐	☐
Starbucks Coffee #5912	9802 MAGNOLIA		5812	907.12		☐	☐
Starbucks Coffee #6636	9868 MISSION GORGE B		5812	907.12		☐	☐
Subway Sandwiches	9890 Magnolia		5812	907.12		☐	☐
Subway Sandwiches	7757 Mission Gorge		5812	907.12		☐	☐
Subway Sandwiches	50 Town Center D		5812	907.12		☐	☐
Subway Sandwiches	10538 Mission Gorge 130		5812	907.12		☐	☐

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
SUPERIOR ASPHALT	9211 SECURITY		1611	907.12		☐	☐
TACO BELL #9417	9825 MISSION GORGE		5812	907.12		☐	☐
Taco Loco	8667 Fanita		5812	907.12		☐	☐
Target Stores T-1485	9846 MISSION GORGE		5411	907.12		☐	☐
TASTY DONUTS	9802 MAGNOLIA 3		5812	907.12		☐	☐
TEAL PIPE AND SUPPLY, INC.	9489 MISSION PARK		5074	907.12		☐	☐
THE HAY GUY	10932 GRAND FORK		782	907.12		☑	☐
THE RED LOTUS	9888 Magnolia		5812	907.12		☐	☐
The Sandwich Bags	10769 WOODSIDE 108		5812	907.12		☐	☐
TOP NOTCH LANDSCAPE	8613 MATTERHORN DRIVE		1799	907.12		☑	☑
Tornell Motors	10554 Prospect		5521			☐	☐
TOTAL ELECTRONIC ASSEMBLY	9005 INVERNESS		7629	907.12		☑	☐
TOWER GLASS INC	9570 PATHWAY A		1793	907.13		☐	☐
Toyota Certified Of Santee	8891 Fanita		7538	907.12		☐	☐
TOYOTALIFT INC	11446 WOODSIDE		7353	907.12		☐	☐
Truly Nolen	8400 Magnolia M & N		7342	907.13		☐	☐
VIP Auto Sales	9207 Mission Gorge		5521	907.12		☐	☐
Vons #1897	9643 Mission Gorge		5411	907.12		☐	☐

Facility Name:	Address:	TTWQ:	SIC Code:	HSA:	WDID:	Home Base Business? :	Mobile Business? :
Wal-Mart Stores #1917	170 TOWN CENTER		5411	907.12		☐	☐
WC'S Wagon Wheel	8861 Magnolia		5812	907.12		☐	☐
Webb Designs Inc.	9920 Prospect 102		2591	907.13		☐	☐
Wendy's	9655 Mission Gorge		5812	907.12		☐	☐
Wienerschnitzel #424	9650 Mission Gorge		5812	907.12		☐	☐
William Capehart-Gidney Plumbing	9824 Shirley Gardens		1711			☑	☐
Woodruffs Trenching Inc	9735 Prospect		1623	907.13		☐	☐
Woodside Deli	10925 Hartley B		5812	907.12		☐	☐
Yogurt World	9331 Mission Gorge 110		5812	907.13		☐	☐

APPENDIX B SUMMARY OF DOCUMENTED COMPLAINTS

Appendix B
Summary of Documented Complaints

#	Date	Category	Type/Pollutant	Location	Notes
1	7/2/2009	Residential	Automotive Products	Northeast of Summit Avenue	Complaint about a motorhome leaking onto parking lot. Left courtesy notice directing owner to remove spill. On reinspection spill had been removed and motorhome was no longer there.
2	7/13/2009	Residential	Undetermined Discharge	10225 Molino Rd	Complaint about neighbor who leaves full trash bags on back fence near channel. Confirmed that this was occurring and code compliance sent a notice. Verified corrective action was completed.
3	7/20/2009	Residential	Power Washing	9713 Abbeyfield Rd	Complaint about remodel at this address. Specifically washing down stucco and other construction material into gutter. Observed residue and power washing equipment. Spoke to owner and directed him to remove the residue, which was done.
4	7/22/2009	Residential	Sediment	10363 Molino Rd	Complaint about discharge of swimming pool water into channel at rear of property. Discharge resulted in erosion of bank and discharge of sediment into channel. Property owner given a courtesy notice and told to remove it, which he did.
5	7/23/2009	Residential	Automotive Products	9529 Tuthill Wy	Call about a man washing an auto engine on his driveway. Visited site immediately. Activity had ceased. Resident said that he was just washing some dust from the inside of his car, not an engine. Gave him a courtesy notice advising him that it was a violation to allow discharges from

Appendix B
Summary of Documented Complaints

#	Date	Category	Type/Pollutant	Location	Notes
					engine cleaning to street.
6	7/31/2009	Residential	Pet Waste	9952 El Nopal Rd	City Staff observed water in gutter. Spoke to resident at origin. Had rinsed out pet boxes, as one had had an accident. Explained why this was unacceptable, described an alternative method of disposing the water and provided a courtesy notice.
7	8/10/2009	Residential	Construction Material	9644 Cecilwood Dr	Complaint about resident washing out concrete and colored concrete into gutter. City staff immediately went out to the address and verified that it was not occurring. However there was residue of colored concrete material downgradient of the address. A courtesy notice was left at the address explaining that this was an illegal discharge. Public works were contacted to ensure that the minor amount of debris remaining was removed, which it was.
8	8/18/2009	Residential	Oil	9960 El Nopal Rd	Complaint about vehicles parked on driveway and street. Some vehicles claimed to be inoperable. Some reported to be leaking oil onto the street. Visited location and spoke to resident about repairing any leaks and cleaning up leaks using absorbent. On reinspection treatment of these leaks was observed.

Appendix B
Summary of Documented Complaints

#	Date	Category	Type/Pollutant	Location	Notes
9	08/20/09	Commercial	Sediment	10023 Prospect Avenue	Concern expressed by City staff member regarding dust at this location. Facility operator advised of concern and requested to add more gravel to parking lot. City staff observed addition of more gravel.
10	8/24/2009	Commercial	Power Washing	10122 Buena Vista Ave	Call to public works from resident on Buena Vista Avenue concerned about powerwashing of eastern drive by Waste Management's contractor (Jaybright Environmental). Resident had approached contractor, but was unresponsive to concerns. Water running into storm drain. Visited property manager and contacted Jay Bright. Obtained documentation of training on spill clean up procedures from Waste Management and Jaybright Environmental.
11	8/28/10	Residential	Oil	10429 Prospect	Complaint from sheriff regarding RV leaking sewage onto the right-of-way. RV was immediately moved and public works removed the spill.
12	08/31/09	Residential	Swimming pool maintenance	Brelco Road and Elliott Lane	Complaint regarding discharge of swimming pool water Confirmed discharge of diatomaceous earth. Called property manager and sent NOV.

Appendix B
Summary of Documented Complaints

#	Date	Category	Type/Pollutant	Location	Notes
13	9/3/2009	Residential	Landscaping Activities	7213 Ocotillo St	Observed stockpile of soil/mulch on driveway. Left courtesy notice directing homeowner to remove or cover. Sweep after removal. This was verified during a follow up inspection.
14	9/3/2009	Residential	Construction Material	6012 Cala Lily	Observed stockpile of gravel on street. Left courtesy notice with resident directing them to remove it and to sweep up any residue. Notified code compliance too. Stockpile was removed.
15	9/3/10	Commercial	Hosing Down	9915 Magnolia Ave	Observed contractor hosing down at front of school. Contacted manager to advise him of incident and to ensure that contractors use BMPS.
16	9/4/2009	Commercial	Hosing Down	8501 Ablette Rd	Complaint about business owner washing his car down. Photos on cell phone shown, but not conclusively linking person, location, violation. Visited location. No fresh oil spills observed. Business owner said that he cleaned his windshield, should not have caused discharge.
17	09/11/10	Resident	Sewage	Corner of Heatherdale and Lea Terrace.	Complaint about RV discharging into "hole in sidewalk" at corner of Heatherdale and Lea Terrace. Hole was sewer cleanout in drive. No illicit connection to storm drain. Notified Padre Dam and Code Compliance.

Appendix B
Summary of Documented Complaints

#	Date	Category	Type/Pollutant	Location	Notes
18	9/16/2009	Residential	Grey Water	9228 Ruffin Rd	Complaint from Charlie Setter (Padre Dam) regarding this address. He had already talked to the residents and apparently the sheriff had stopped by the day before regarding the discharge of washing machine water to the street. Immediately visited site, told the resident that the discharge from the washing machine needed to be redirected to sanitary sewer and the discharge on the street needed to be cleaned up. Reinspected site to confirm that this was done.
19	9/17/2009	Commercial	Hosing Down	8795 Cuyamaca St	Observed water running off El Camino Rental property. Observed tank of water discharging through hose at back of yard. Spoke to manager, who said that they had been dealing with a swarm of bees in their equipment (bees had been observed). Explained that this was unacceptable and asked manager to switch off water, which he did.
20	9/17/2009	Residential	Swimming Pool Maintenance	9236 Ruffin Rd	City staff observed discharge of diatomaceous earth from swimming pool maintenance at this property. Spoke to resident and left a courtesy notice requesting that the debris be swept up. This was done.
21	9/25/09	Construction	Stored groundwater	Carlton Hills near Willowgrove Ave	Complaint from City of San Diego Industrial Wastewater Department.

Appendix B
Summary of Documented Complaints

#	Date	Category	Type/Pollutant	Location	Notes
					Release of pumped ground water during sewer line replacement by County of San Diego. Went to site after speaking to Don Meier of Padre Dam. Float problem in baker tank caused overflow. Spoke to foreman who was aware of stormwater regulations. Reminded him of need to implement BMPs, particularly by October 1st. He could not say if water reached storm drain, or how much, because he was focussed on the tank. Inspected path to storm drain. Small amount of sediment observed. Called Richard Diaz at the County of San Diego. Requested that curb and gutter and catch basin be cleaned. Said that BMPs (covering stockpiles, sweeping etc) needed at site. County staff responded to ensure that corrective action was completed.
22	9/29/2009	Commercial	Automotive Detailing (Mobile)	10806 Prospect Ave #5	Call regarding a number of code compliance issues, including illegal powerwashing. Code compliance officer immediately mobilized and stopped discharge. New business owner subsequently installed car washing facility at site, which was inspected by Stormwater staff and deemed acceptable.

Appendix B
Summary of Documented Complaints

#	Date	Category	Type/Pollutant	Location	Notes
23	10/12/2009	Residential	Construction Material	7249 Ocotillo St	Complaint about discharge from property. Visited location and spoke to new property owner. Had landscaping and swimming pool contractor working at property. Will speak to contractors, and ensure that materials are covered before rain. This was done.
24	10/26/2009	Residential	Paint	8684 Magnolia Ave	Complaint that individual was rinsing paint into storm drain. Immediately mobilized to location. No evidence of recent rinsing (wet patches in storm drain etc). Spoke to resident and explained appropriate method to dispose of paint rinsate and how storm drains are connected to the river.
25	11/05/09	Commercial	Auto Detailing	10601/10701 Magnolia Ave	Complaint regarding illegal carwashing in parking lot. Activity stopped.
26	11/10/2009	Residential	Sediment	9313 Galston Dr	Complaint about sandblasting of wrought iron fence at this location from various neighbors. Left courtesy notice. Reinspected. Had swept sediment on Carlton Hills side into landscaping, not removed on Galston Drive. Sent notice of violation and final notice of violation. Sediment was removed after final notice of violation had been sent.

Appendix B
Summary of Documented Complaints

#	Date	Category	Type/Pollutant	Location	Notes
27	11/30/2009	Residential	Power Washing	7108 Mariposa St	Complaint about contractors working at this address. Went to site, observed Artisan Landscaping employees hosing down hardscape. They stopped and cleaned up residue. Spoke to business owner who committed to using proper BMPs in future.
28	12/3/2009	Residential	Concrete	8701 Mesa Rd	Complaint via County website about construction crew working at the mobile home park and allowing concrete slurry to drain to storm drain. Visited location. Spoke with manager (Carlos Camacho 619 449-3300). He agreed to get it cleaned up without allowing it to be discharged into the storm drain system.
29	12/5/2009	Commercial	Hosing Down	11495 Woodside Ave	Contractors observed washing down the driveway at this location before 7 am on a Saturday morning. Site owner checked with contractor (Hamman) who reported that they had used BMPs.
30	12/8/2009	Residential	Landscaping Activities	9250 Bird St	Observed large stockpile of soil at front of property. Spoke to resident who said that it was needed for the demolition of a pool. Advised him that BMPs were needed. Left a courtesy notice. Stockpiles were removed.
31	12/8/2009	Residential	Hosing Down	9260 Shadow Hill Rd	Observed resident hosing down sidewalk after rain. Told him to stop, provided him with a courtesy notice and explained why this was unacceptable.

Appendix B
Summary of Documented Complaints

#	Date	Category	Type/Pollutant	Location	Notes
32	12/08/10	Residential	Sediment	8951 Diamondback Place	Complaint from resident about neighbor's yards washing into his residence. Cross-boundary dispute which neighbors need to resolve between them, however issue seemed to originate from excessive fire prevention measures. Contacted neighbors about their fire prevention activities and educated them on a more appropriate way to do it.
33	12/10/2009	Residential	Power Washing	9124 Shadow Hill Rd	Call about oily water running down Bird Street. Followed water up to this address. Person at residence said that there had been a powerwashing crew cleaning up after the storm. Left a courtesy notice.
34	12/14/09	Residential	Sediment	Mesa Road	Complaint about sediment on sidewalk. Investigated location and identified minor amount on sidewalk. Advised public works of issue as it appeared to originate from an area for which the City is responsible.
35	12/23/2009	Residential	Hosing Down	10384 Seth Way	Complaint about kids washing down an engine on a car in lot 160. Inspector immediately mobilized. Minor amount of water generated washing off after changing a tire. Water did not discharge to storm drain. City staff provided a courtesy notice and educated those present on how this type of discharge could affect water quality and how BMPs

Appendix B
Summary of Documented Complaints

#	Date	Category	Type/Pollutant	Location	Notes
					should be used when undertaking this type of activity.
36	12/29/10	Residential	Gravel	9234 Carita Road	Complaint about gravel deposited outside this address, claim that it was from a neighbor, likely mobilized from various locations during rain. City staff checked location and concluded that it did not come from neighbor. Notified Public Works that extra street sweeping efforts were needed in that area when it was swept that week.
37	01/04/10	Commercial	Oil	Highland Park	Call from resident regarding ongoing complaint regarding waste management trucks. Photographs provided show minor spotting. Advised City contractor manager on need to avoid discharges to the street by using well-maintained vehicles. City contract manager to continue to try to resolve the situation by monitoring service at this location and working with contractor.
38	01/06/10	Commercial	Auto Detailing	Pathway St	City staff observed illegal auto-detailing in industrial area. Stopped activities and directed operator to clean up material. Educated operator on what BMPs are needed for this activity and why.

Appendix B
Summary of Documented Complaints

#	Date	Category	Type/Pollutant	Location	Notes
39	1/14/2010	Residential	Undetermined Discharge	8544 Rumson Dr	Complaint regarding open code compliance case regarding swimming pool water being discharged through trash stored at site. Visited site, small amount of packaging on ground in front of apparent discharge pipe, some minor sediment further down the drive. Left courtesy notice explaining that swimming pool discharges should not include sediment or be discharged through trash. Follow up inspections were included as part of the code compliance case.
40	01/15/10	Residential	Soil	9456 Cathywood	Neighbor inquired about permits for remodel and stated that there was soil stockpiled in the street. Immediately visited site. Resident had talked to building and engineering counter officials to verify whether permits were needed. No soil in street. Educated resident on preparation for rains next week to prevent any discharges.
41	01/22/10	Residential	Soil	8655 Graves Ave	Complaint about soil washing from adjacent property onto this address. City engineering and stormwater staff mobilized to site to assess situation. Discharge appeared to occur due to high volume of recent rain, resulting in the bank of a channel being cut and soil being discharged. City notified upgradient property owner of issue and provided

Appendix B
Summary of Documented Complaints

#	Date	Category	Type/Pollutant	Location	Notes
					contact information to property management company at 8655 Graves Avenue. Property management company educated on need to prevent discharges of soil to storm drain. Multiple inspections were conducted and a courtesy notice issued to ensure that the property management company complied with this requirement.
42	02/16/10	Resident	Potable water	9753 Settle	Complaint about water running across sidewalk. Investigated and concluded that it was likely a leaking lateral pipe. Referred complaint to Padre Dam.
43	02/24/10	Commercial	Powerwashing	Trolley Square	Inquiry regarding powerwashing activities near Jamba Juice (no specific discharge to storm drain observed). Contacted property manager who assured City staff member that proper powerwashing procedures were followed. Referred City staff to superintendent so that powerwashing activities could be observed. These procedures were deemed satisfactory and complainant was notified of outcome of inquiry.
44	2/5/2010	Residential	Sediment	7213 Ocotillo St	Complaint regarding stockpiles of soil on driveway. Spoke to tenant, who said that soil should have been removed. Agreed to have the soil covered or removed. City verified that this had occurred.

Appendix B
Summary of Documented Complaints

#	Date	Category	Type/Pollutant	Location	Notes
45	2/15/2010	Residential	Hosing Down	10121 Woodrose Ave	Complaint about hosing down RV and desert vehicles. Stench of gasoline and rainbow sheen on water. Neighbor approached resident who was unresponsive to the complaint. Went to site and left courtesy notice at residence, no evidence of discharge during site visit.
46	2/17/2010	Residential	Hosing Down	9115 Canyon Park Terrace	City staff observed water running down the curb and gutter. Traced it back to this address. Resident rinsed off bike in sideyard and water drained to street. Notified resident that discharge should be avoided and that debris on driveway and sidewalk should be swept up. Resident agreed to do this, City verified that this was done.
47	02/19/10	Construction	Sediment	North of Wenatchee	Complaint routed from County regarding erosion downgradient of the Sky Ranch development. Area investigated and complaint forwarded on to Lennar (developer at Sky Ranch). Developer met with resident and implemented corrective action. Call received from another County employee on 02/25/10 relating to this area.

Appendix B
Summary of Documented Complaints

#	Date	Category	Type/Pollutant	Location	Notes
48	02/25/10	Resident	Sediment	Mariposa Street	Complaint regarding residents with insufficient erosion prevention and sediment control measures. Incorrect addresses provided, however City staff left courtesy notices where appropriate. On reinspection, it was observed that fiber rolls had been installed where needed.
49	2/26/2010	Residential	Landscaping Activities	5156 Iris St	Observed what appeared to be pool construction activities at rear of property. Excavated soil being thrown on slope that drains down hillside. Rain imminent. Lennar also forwarded complaint regarding materials stored on driveway. Left a courtesy notice with the resident advising them of corrections that needed to be made before rain. Corrections were made.
50	2/26/2010	Residential	Construction Material	7105 Mariposa St	Most of materials on driveway covered. Small area that needed stabilization (less than 3 feet wide). Left courtesy notice. Spoke to homeowner who agreed to make corrections before rain.
51	3/23/2010	Residential	Swimming Pool Maintenance	10015 Beck Dr	Complaint about discharge to street and storm drain system. Visited location, explained to resident why this was an issue. She agreed to remove the residue (likely diatomaceous earth) from the street. City verified that this residue was

Appendix B
Summary of Documented Complaints

#	Date	Category	Type/Pollutant	Location	Notes
					removed.
52	03/23/10	Residential	Waste oil	8727 Granite House Lane	Complaint referred to code complaint regarding storage of oil and water in 30-40 gallon containers that could spill into the stormdrain. Code compliance referred the complainant to County Department of Environmental Health. Stormwater staff immediately visited location, but could not find containers meeting the description at the address.
53	04/21/10	Commercial	Sediment	11385 Woodside Avenue	Complaint from City director regarding a property used for truck parking that did not have any BMPs and was tracking sediment onto Woodside Avenue. Sent a courtesy notice to the property owner who installed BMPs to prevent tracking and removed the sediment at the property entrance.
54	4/5/2010	Residential	Sediment	9627 Cecilwood Dr	Complaint about landscaping work with no BMPs. Visited location, spoke to resident, told them to apply BMPs and to sweep their discharge from street/sidewalk, which they agreed to do.
55	4/22/10	Construction	Sediment	9126 Shadow Hill Road	Complaint regarding sediment tracking from construction site. Site inspected and superintendent directed to remove the small amount of soil on driveway.

Appendix B
Summary of Documented Complaints

#	Date	Category	Type/Pollutant	Location	Notes
56	04/29/10	Residential	Construction Waste	8701 Mesa Road	Complaint referred from County regarding construction waste being discharged to the storm drain. City staff visited site, confirmed observations and wrote a notice to the property manager requiring that the material be cleaned up. A similar complaint had been made during December 2009, therefore a NOV was sent to the property manager advising him of the multiple complaints and requiring that staff be trained in relevant stormwater BMPS. The training was completed and the material removed.
57	05/05/10	Construction	Construction Waste	Intersection of Graves and Prospect Avenues	City staff observed debris (concrete/asphalt) on property. Unlikely to enter storm drain system, but inconsistent with City ordinance. Sent courtesy notice to property owner advising them to remove material or use BMPs.
59	5/11/2010	Residential	Power Washing	9573 Mast Blvd	City staff observed someone hosing the sidewalk. Stopped, spoke to property owner who was hosing off grass clippings from his lawn. Explained why this is illegal and asked him to sweep it up. The resident agreed to do so.

Appendix B
Summary of Documented Complaints

#	Date	Category	Type/Pollutant	Location	Notes
60	5/12/2010	Residential	Swimming Pool Maintenance	9464 Pryor Dr	Complaint from residents on private road adjacent to this address. Strong smell of chemicals and white material in discharge. Contractor had left. Property owner called and agreed to clean up material using sweeping or mopping. Sent NOVs to property owner and contractor requiring them to provide evidence of training in stormwater compliance. Notified City of Escondido of incident, as contractor based there.
61	5/19/10	Construction	Irrigation Runoff	9126 Shadow Hill Road	Complaint regarding running sprinklers. There had been a break on a sprinkler head which had been repaired when it was discovered. No evidence of a discharge (such as sediment) observed. Complaint appears to be result of neighborhood dispute.
62	5/21/2010	Residential	Paint	9425 Mandeville Rd	Complaint routed from County of San Diego. Visited location, spoke to resident who explained that they were emptying their jacuzzi and accidentally knocked over a can of paint. They tried to clean up the spill at the time. Directed homeowner to clean up the residue, which they did.

Appendix B
Summary of Documented Complaints

#	Date	Category	Type/Pollutant	Location	Notes
63	5/26/2010	Residential	Landscaping Activities	10152 Holborn St	Complaint from anonymous caller regarding washing of concrete into gutter. Visited site, met contractor Brewer's Concrete, contractor's license number 669988, telephone (858) 271-4091. Looked like discharge was mostly soil. Contractor agreed to clean up residue, which they did.
64	5/28/2010	Residential	Landscaping Activities	5519 Claret St	Complaint regarding stockpiles of gravel and soil associated with landscaping being stored in the street. City staff visited the location and spoke to occupant requesting that the stockpiles be removed prior to the end of day. Revisited to confirm that this was done.
65	5/31/2010	Residential	Construction Material	17 Via Montisi	Complaint about person wet-cutting tile in garage and washing into storm drain. Visited site, educated occupant. He started removing debris immediately.
66	6/16/2010	Commercial	Grey Water	9155 Mission Gorge Rd	Call regarding a County DEH inspection. Concerns about grease trap and mop bucket water disposal. Visited location. Confirmed that mop bucket water was disposed of to sink. Grease trap overtopping with liquid, but was being corrected that day. Referred concern relating to grease trap to Padre Dam FOG inspector.
67	6/24/2010	Residential	Sediment	10528 Santana St	Stockpiles on street. Inspector directed them to remove them and sweep them up.

Appendix B
Summary of Documented Complaints

#	Date	Category	Type/Pollutant	Location	Notes
					This was done.
68	6/27/2010	Residential	Automotive Products	10504 Santana St	Complaint from neighbors about oil spill and smell. Code compliance and stormwater staff visited the location and left a courtesy notice with resident advising them to use absorbent on minimal spill. City reinspected to verify that this was done. Property subject of ongoing dispute with neighbors.

APPENDIX C JURMP ANNUAL REPORT REQUIREMENTS CHECKLIST

Appendix C
JURMP Annual Report Requirements Checklist

Development Planning Component

Permit Annual Reporting Requirement—Section J.3.a.(3).(a)	Location in Report
i. A description of any amendments to the General Plan, the environmental review process, development project approval processes, or development project requirements.	2.2, 2.3
ii. Confirmation that all development projects were required to undergo the Copermittee's urban runoff approval process and meet the applicable project requirements, including a description of how this information was tracked.	2.4.4
iii. A listing of the development projects to which SUSMP requirements were applied.	Table 2-1
iv. Confirmation that all applicable SUSMP BMP requirements were applied to all priority development projects, including a description of how this information was tracked.	2.4.4.2
v. At least one example of a priority development project that was conditioned to meet SUSMP requirements and a description of the required BMPs.	2.4.4.2
vi. A listing of the priority development projects which were allowed to implement treatment control BMPs with low removal efficiency rankings, including the feasibility analyses which were conducted to exhibit that more effective BMPs were infeasible.	2.4.4.2
vii. An updated treatment control BMP inventory.	Appendix A (inventory)
viii. The number of treatment control BMPs inspected, including a summary of inspection results and findings.	2.4.4.3, Table 2-2, and 2-3
ix. A description of the annual verification of operation and maintenance of treatment control BMPs, including a summary of verification results and findings.	2.4.4.3
x. Confirmation that BMP verification was conducted for all priority development projects prior to occupancy, including a description of how this information was tracked.	2.4.4.2
xi. A listing of any projects which received a SUSMP waiver.	2.4.4.2
xii. A description of implementation of any SUSMP waiver mitigation program.	2.4.4.2
xiii. A description of Hydromodification Management Plan (HMP) development collaboration and participation.	2.4.4.2
xiv. A listing of development projects required to meet HMP requirements, including a description of hydrologic control measures implemented.	2.4.4.2
xv. A listing of priority development projects not required to meet HMP requirements, including a description of why the projects were found to be exempt from the requirements.	2.4.4.2

Development Planning Component

Permit Annual Reporting Requirement—Section J.3.a.(3).(a)	**Location in Report**
xvi. A listing of development projects disturbing 50 acres or more, including information on whether Interim Hydromodification Criteria were met by each of the projects, together with a description of hydrologic control measures implemented for each applicable project.	2.4.4.2
xvii. The number of violations and enforcement actions (including types) taken for development projects, including information on any necessary follow-up actions taken. The discussion should exhibit that compliance has been achieved, or describe actions that are being taken to achieve compliance.	2.4.4.3, Table 2-3
xviii. A description of notable activities conducted to manage urban runoff from development projects.	2.1.1

Construction

Permit Annual Reporting Requirement—Section J.3.a.(3).(b)	Location in Report
i. Confirmation that all construction sites were required to undergo the Copermittee's construction urban runoff approval process and meet the applicable construction requirements, including a description of how this information was tracked.	3.5
ii. Confirmation that a regularly updated construction site inventory was maintained, including a description of how the inventory was managed.	3.2
iii. A description of modifications made to the construction and grading ordinances and approval processes.	3.3
iv. Confirmation that the designated BMPs were implemented, or required to be implemented, for all construction sites.	3.5.2
v. Confirmation that a maximum disturbed area for grading was applied to all applicable construction sites.	3.5.2
vi. A listing of all construction sites with conditions requiring advanced treatment, together with confirmation that advanced treatment was required at such construction sites.	3.5
vii. For each construction site within each priority category (high, medium, and low), identification of the period of time (weeks) the site was active within the rainy season, the number of inspections conducted during the rainy season, and the number of inspections conducted during the dry season, and the total number of inspections conducted for all sites.	3.5, Appendix A (inventory)
viii. A description of the general results of the inspections.	3.5
ix. Confirmation that the inspections conducted addressed all the required inspection steps to determine full compliance.	3.5
x. The number of violations and enforcement actions (including types) taken for construction sites, including information on any necessary follow-up actions taken. The discussion should exhibit that compliance has been achieved, or describe actions that are being taken to achieve compliance.	3.5 Table 3-1
xi. A description of notable activities conducted to manage urban runoff from construction sites.	3.1.1

Municipal

Permit Annual Reporting Requirement—Section J.3.a.(3).(c)	**Location in Report**
i. Any updates to the municipal inventory and prioritization.	Appendix A (inventory)
ii. Confirmation that the designated BMPs were implemented, or required to be implemented, for municipal areas and activities, as well as special events.	4.2.4, 4.3.4, 4.4.4, 4.5.4, 4.6.4, 4.7.4
iii. A description of inspections and maintenance conducted for municipal treatment controls.	2.4.4.3
iv. Identification of the total number of catch basins and inlets, the number of catch basins and inlets inspected, the number of catch basins and inlets found with accumulated waste exceeding cleaning criteria, and the number of catch basins and inlets cleaned.	4.4.4
v. Identification of the total distance (miles) of the MS4, the distance of the MS4 inspected, the distance of the MS4 found with accumulated waste exceeding cleaning criteria, and the distance of the MS4 cleaned.	4.4.4
vi. Identification of the total distance (miles) of open channels, the distance of open channels inspected, the distance of open channels found with anthropogenic litter, and the distance of open channels cleaned.	4.4.4
vii. Amount of waste and litter (tons) removed from catch basins, inlets, the MS4, and open channels, by category.	4.4.4
viii. Identification of any MS4 facility found to require inspection less than annually following two years of inspection, including justification for the finding.	(N/A for 09-10)
ix. Confirmation that the designated BMPs for pesticides, herbicides, and fertilizers were implemented, or required to be implemented, for municipal areas and activities.	4.2.3
x. Identification of the total distance of curb-miles of improved roads, streets, and highways identified as consistently generating the highest volumes of trash and/or debris, as well as the frequency of sweeping conducted for such roads, streets, and highways.	4.3.4 Table 4-1
xi. Identification of the total distance of curb-miles of improved roads, streets, and highways identified as consistently generating moderate volumes of trash and/or debris, as well as the frequency of sweeping conducted for such roads, streets, and highways.	4.3.4 Table 4-1
xii. Identification of the total distance of curb-miles of improved roads, streets, and highways identified as consistently generating low volumes of trash and/or debris, as well as the frequency of sweeping conducted for such roads, streets, and highways.	4.3.4 Table 4-1
xiii. Identification of the total distance of curb-miles swept.	4.3.4

Municipal

Permit Annual Reporting Requirement—Section J.3.a.(3).(c)	**Location in Report**
xiv. Identification of the number of municipal parking lots, the number of municipal parking lots swept, and the frequency of sweeping.	4.3.4
xv. Amount of material (tons) collected from street and parking lot sweeping.	4.3.4
xvi. A description of efforts implemented to prevent and eliminate infiltration from the sanitary sewer to the MS4	4.5.4
xvii. Identification of the number of sites requiring inspections, the number of sites inspected, and the frequency of the inspections.	4.2.4, 4.3.4
xviii. A description of the general results of the inspections.	4.2.4
xix. Confirmation that the inspections conducted addressed all the required inspection steps to determine full compliance.	4.2.4
xx. The number of violations and enforcement actions (including types) taken for municipal areas and activities, including information on any necessary follow-up actions taken. The discussion should exhibit that compliance has been achieved, or describe actions that are being taken to achieve compliance.	4.2.4
xxi. A description of notable activities conducted to manage urban runoff from municipal areas and activities.	Throughout Section

Industrial and Commercial

Permit Annual Reporting Requirement—Section J.3.a.(3).(d)	**Location in Report**
i. Any updates to the industrial and commercial inventory.	5.2.2 (stationary), 5.3.2 (mobile), Appendix A (inventory)
ii. Confirmation that the designated BMPs were implemented, or required to be implemented, for industrial and commercial sites/sources.	5.2.4, 5.3.4
iii. A description of efforts taken to notify owners/operators of industrial and commercial sites/sources of BMP requirements, including mobile businesses.	5.2.4, 5.3.4
iv. Identification of the total number of industrial and commercial sites/sources inventoried and the total number inspected.	5.2.2, 5.3.2; 5.2.4, 5.3.4; Table 5-2
v. Justification and rationale for why the industrial and commercial sites/sources inspected were chosen for inspection.	5.2.4
vi. Confirmation that all inspections conducted addressed all the required inspection steps to determine full compliance.	5.2.4
vii. Identification of the number of third party inspections conducted.	5.2.4 (will be N/A)
viii. Identification of efforts conducted to verify third party inspection effectiveness.	5.2.4 (will be N/A)
ix. A description of efforts implemented to address mobile businesses.	5.3.4
x. The number of violations and enforcement actions (including types) taken for industrial and commercial sites/sources, including information on any necessary follow-up actions taken. The discussion should exhibit that compliance has been achieved, or describe actions that are being taken to achieve compliance.	5.2.4, 5.3.4 , Tables 5-1 and 5-2
xi. A description of steps taken to identify non-filers and a list of non-filers (under the General Industrial Permit) identified by the Copermittees.	5.2.4, Table 5-1
xii. A description of notable activities conducted to manage urban runoff from industrial and commercial sites/sources.	Throughout Section

Residential

Permit Annual Reporting Requirement—Section J.3.a.(3).(e)	**Location in Report**
i. Identification of the high threat to water quality residential areas and activities that were focused on.	6.2
ii. Confirmation that the designated BMPs were implemented, or required to be implemented, for residential areas and activities.	6.4
iii. A description of efforts implemented to facilitate proper management and disposal of used oil and other household hazardous materials.	6.4
iv. Types and amounts of household hazardous wastes collected, if applicable.	6.4.2
v. A description of any evaluation of methods used for oversight of residential areas and activities, as well as any findings of the evaluation.	6.4 (see discussion in JURMP)
vi. The number of violations and enforcement actions (including types) taken for residential areas and activities, including information on any necessary follow-up actions taken. The discussion should exhibit that compliance has been achieved, or describe actions that are being taken to achieve compliance.	6.4
vii. A description of collaboration efforts taken to develop and implement the Regional Residential Education Program.	6.4
viii. A description of notable activities conducted to manage urban runoff from residential areas and activities.	6.4 and Table 6-1

IDDE – Will be presented in the Report Due December 2009

Education

Permit Annual Reporting Requirement—Section J.3.a.(3).(g)	Location in Report
i. A description of education efforts conducted for each target community.	8.3
ii. A description of how education efforts targeted underserved target audiences, high-risk behaviors, and "allowable" behaviors and discharges.	8.3
iii. A description of education efforts conducted for municipal departments and personnel.	8.2
iv. A description of education efforts conducted for the new development and construction communities.	8.3
v. A description of jurisdictional education efforts conducted for residents, the general public, and school children.	8.3

Public Participation

Permit Annual Reporting Requirement—Section J.3.a.(3).(h)	Location in Report
i. A description of public participation efforts conducted.	9.2

Effectiveness Assessment

Permit Annual Reporting Requirement—Section J.3.a.(3).(i)	Location in Report
i. An assessment of the effectiveness of the Jurisdictional Urban Runoff Management Program which meets all requirements of section I.1 of this Order.	11

Fiscal Analysis

Permit Annual Reporting Requirement—Section J.3.a.(3).(j)	Location in Report
i. A fiscal analysis of the Copermittee's urban runoff management programs which meets all requirements of section G of this Order. (For 2007-2008, the requirements that apply are essentially the same as those found in Order No. 2001-01)	10

Same as old Permit for 2007-2008

Special Investigations

Permit Annual Reporting Requirement—Section J.3.a.(3).(k)	Location in Report
i. A description of any special investigations conducted.	12

Non-Emergency Firefighting

Permit Annual Reporting Requirement—Section J.3.a.(3).(l)	Location in Report
i. A description of efforts conducted to reduce pollutant discharges from non-emergency fire fighting flows.	4.2.3, 13

JURMP Revisions

Permit Annual Reporting Requirement—Section J.3.a.(3).(m)	Location in Report
i. A description of any proposed revisions to the JURMP.	14 and each program component section

ATTACHMENT 3.1 ADDENDUM TO RAINY SEASON LETTER

Addendum to Rainy Season Notification Letter

To ensure effective communication with the City during the rainy season, all operators of construction sites are required to complete this form and return to Helen Perry by **October 1st.**

Fax: (619) 562-9376 Telephone: (619) 258-4100 x177
Mailing Address: 10601 Magnolia Avenue, Santee, CA 92071.

Grading Permit Number: _____ Project Name:_____

☐ My site is covered under the State Construction Permit. *Note that there are specific requirements including completion of annual certification of compliance (due July 1); designated inspection rates before, during and after rain events; a requirement to report any discharges to the RWQCB within a designated timeframe; and a requirement to collect samples of runoff for laboratory analysis.* ***Please review your SWPPP to ensure that you are prepared to meet these requirements.***

Routine Inspection and Maintenance

Contact information for person responsible for overseeing inspection and maintenance of stormwater best management practices (BMPs):

Name _____

Office Telephone: _____

Cell Phone: _____

Email: _____

Alternative contact for overseeing inspection and maintenance of BMPs (to be used when primary contact is unavailable):

Name _____

Office Telephone: _____

Cell Phone: _____

Email: _____

Contact information for contractor or laborer responsible for day-to-day maintenance of BMPs:

Name _____

Cell Phone: _____

Management of Runoff

Will water be detained onsite? Yes ☐ No ☐

What type of detention structure will be used (check those that apply)?

Temporary structure _____ Concrete-lined _____
Permanent Structure _____ Unlined _____
Other _____

Note that calculations need to be provided by a licensed Engineer demonstrating that the proposed detention structure is sufficient to retain water onsite. Note that this applies to permanent structures which are typically designed for post-construction flow capacities.

How will water in the detention facility be managed? Note that detention facilities are required to be drained and cleaned after each rain event.. The need for dust control will be limited after a rain event, therefore alternatives for cleaning the basin are required:

Advanced Treatment will be used: Yes ☐ No ☐
(chemical treatment of runoff)

Note that discharges of sediment-bearing water to the storm drain system (including the curb and gutter) are prohibited. If water is to be released from the site (such as from a detention basin), then the construction site operator needs to monitor the discharge closely as conditions can quickly change.

The condition of the discharge needs to be documented using a mixture of photographs, field analysis and laboratory sampling and analysis. This information should be provided on request of the City.

Contact information for person responsible for monitoring the discharge of runoff from the site:

Name _____

Cell Phone: _____

Email: _____

The information provided is current to the best of my knowledge. I have read and understood the contents of this form. I will update the City on this information as soon as any change is made.

Signed: _____

Print Name: _____

Date: _____

ATTACHMENT 4.1 SANTEE FACTSHEET SERIES

CITY OF SANTEE

STORMWATER INFORMATION

STORMWATER FACT SHEET 01

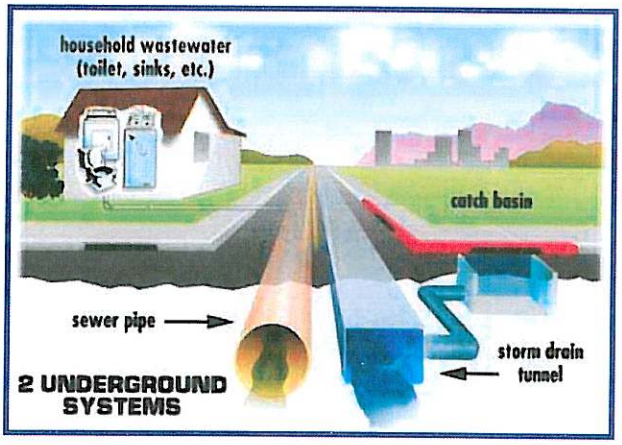
What is Stormwater Pollution?

WHAT IS STORMWATER POLLUTION?

Stormwater pollution is the untreated, contaminated water that drains from streets, parking lots, industrial yards, driveways, sidewalks and other impervious surfaces. Water from such sources as rain, hoses, power washers, sprinklers, and car-washing activities carry pollutants to the storm drain system.

WHERE DOES IT GO?

The storm drain system is made up of a series of curbs, gutters, drainage channels, culverts, inlets and pipes. All water that drains off of the streets, parking lots, driveways and sidewalks, and through the storm drain system ends up in our creeks, rivers, and ultimately the Pacific Ocean completely untreated! Just remember, the storm drain system is SEPARATE from the sanitary sewer system.



WHY IS IT A PROBLEM?

It is important to remember that the City of Santee is host to the San Diego River as it flows towards the Pacific Ocean. The River offers tremendous biological resources within its reach through Santee and beyond, supporting a diverse population of plant and animal life. The health and the beauty of the San Diego River is directly dependent on the actions of all Santee residents, and deserving of our protection from stormwater pollution!

WHAT CAN I DO TO HELP?

Everyone can be part of the solution to stormwater pollution. We can have a positive impact on water quality by changing the way we go about some of our most basic day to day activities.

- Pick Up After Your Pets
- NO DUMPING!
- Sweep It, Don't Hose It Down.
- Wash Paint Brushes in the Sink
- Properly Dispose of Trash
- Report Illegal Dumping.

TO REPORT STORMWATER POLLUTION IN SANTEE CALL (619) 258-4100 x168

STORMWATER INFORMATION

CITY OF SANTEE

STORMWATER INFORMATION

STORMWATER FACT SHEET 02

Water Quality Impacts

POLLUTANT TYPE	POLLUTANT SOURCES AND IMPACTS
SEDIMENT	Sediment is a common component of stormwater, and can be a significant pollutant. Sources of sediment in stormwater include construction activities and slope erosion. Sediment can be detrimental to aquatic life by impeding such natural functions as photosynthesis, respiration, growth, reproduction and oxygen exchange in the water column. Additionally, sediment in stormwater will carry other pollutants such as oil, grease, and metals.
NUTRIENTS	Nutrients including nitrogen and phosphorous are commonly found in fertilizers used in landscaping. Nutrients are found in stormwater through over irrigation of lawns and other landscaped areas. Nutrients in local water bodies will result in excessive growth of aquatic vegetation such as algae, and a rapid reduction in oxygen that supports fish populations.
BACTERIA & VIRUSES	Sources of bacteria and viruses in stormwater include improperly disposed pet waste, illegal sewer connections, and sanitary sewer overflows. High levels of indicator bacteria lead to the closure of beaches, lakes, rivers, and bays throughout the County of San Diego.
OIL & GREASE	Oil and grease compounds may be toxic to aquatic environments, compromising the survival of aquatic plant and animal species. Sources of oil and grease include illegal dumping, oil spills, automotive fluid leaks, and restaurant grease.
METALS	Metals including lead, zinc, cadmium, copper, chromium, and nickel are commonly found in stormwater runoff. Materials such as galvanized metal, brake pads, corroded paints, and automobiles contribute to the metals found in stormwater. Heavy metals are of concern to the aquatic environment as they can be potentially toxic to organisms, and accumulate to toxic levels in fish.
PESTICIDES	Including herbicides, fungicides, rodenticides, and insecticides are frequently detected in stormwater at toxic levels. Excessive use of these chemicals at home or in commercial settings, will have a detrimental impact on human as well as environmental health.

STORMWATER INFORMATION

CITY OF SANTEE

STORMWATER INFORMATION

STORMWATER FACT SHEET 03

Wet Weather...Are You Ready?

What is stormwater pollution?

Stormwater pollution is the untreated water that drains from streets, parking lots, industrial yards, driveways, sidewalks and other impervious surfaces. Stormwater runoff containing pollutants can contaminate our local creeks, rivers, streams and ultimately the Pacific Ocean.

REMEMBER

The Rainy Season lasts from October 1 - April 30

Is your home or business ready for wet weather?

Use the following wet weather checklist to prepare for the rain, and to do your part to prevent pollution in runoff.

WET WEATHER CHECKLIST

- ☑ COVER exposed material stockpiles including soil, sand, gravel, fertilizers, auto parts, tires, batteries, storage containers, etc.
- ☑ CLEAN significant fluid spills (oil, grease, paint, solvents) from drive ways, parking lots, parking spaces, and sidewalks. Use a mop and bucket and dispose of the water in a sanitary sewer drain (sink, toilet, floordrain).
- ☑ CLEAR earthen channels, culverts, brow ditches, and other drainage structures within and surrounding your property.
- ☑ REMOVE and PROPERLY DISPOSE of waste materials.
- ☑ INSPECT the property for potential sources of pollution.
- ☑ AVOID using chemicals (pesticides, herbicides, and fertilizers) and irrigation when rain is forecast within 48 hours.
- ☑ CALL the City of Santee at (619) 248-4100 x177 with any questions.

TO REPORT STORMWATER POLLUTION IN SANTEE CALL (619) 258-4100 x168

STORMWATER INFORMATION

CITY OF SANTEE

STORMWATER INFORMATION

STORMWATER FACT SHEET 04

Restaurants & Bars

RESTAURANTS & WATER QUALITY IMPACTS

The City of Santee has adopted the Stormwater Management and Discharge Control Ordinance (SMC 13.42) to regulate the discharge of pollutants to the storm drain system. Pollutants typically associated with food establishments include grease, food waste, cleaners, trash and debris. As a business owner or operator, you are legally responsible for ensuring that stormwater pollutants are properly managed.

BEST MANAGEMENT PRACTICES (BMPs)

Best Management Practices are practical and cost effective approaches to day to day business operations that reduce, control, or prevent water pollution. The following is a list of minimum Best Management Practices that are required at all food establishments in the City of Santee.

- ☑ Employee Training.
- ☑ Clean Floor Mats Inside.
- ☑ Maintain Outdoor Grease Bins.
- ☑ Keep Dumpster Lids Closed.
- ☑ Maintain Dumpster Areas Using Dry Cleanup Techniques.
- ☑ Use a Mop and Bucket for Outdoor Cleaning Activities. Dispose of Mop Water in a Sanitary Drain. (sink, toilet)
- ☑ Sweep It, Never Hose It Down.
- ☑ Keep Absorbent Material or Other Spill Response Materials On Site.
- ☑ Maintain Good Housekeeping Practices.
- ☑ Contain, Control & Capture All Water Used in Cleaning Activities.
- ☑ Dispose of All Wastewater into a Sanitary Sewer Connection. (Sink, Floor Drain, Toilet)
- ☑ Adjust Sprinklers to Avoid Overspray from Irrigation of Landscaped Areas.
- ☑ Ensure that Pressure Washing of Sidewalks, Drive Thrus, or Parking Lots is Conducted with Adequate Controls in Place.
- ☑ Direct Runoff to Landscaped Areas.
- ☑ Clean Outdoor Spills Immediately.
- ☑ Properly Maintain Sinks and Drains to Avoid Sewer Overflows.

TO REPORT STORMWATER POLLUTION IN SANTEE CALL (619) 258-4100 x168

STORMWATER INFORMATION

CITY OF SANTEE

STORMWATER INFORMATION

STORMWATER FACT SHEET 05

Automotive Industry



AUTOMOTIVE INDUSTRY & WATER QUALITY IMPACTS

The City of Santee has adopted the Stormwater Management and Discharge Control Ordinance (SMC 13.42) to regulate the discharge of pollutants to the storm drain system. Pollutants typically associated with automotive maintenance and repair include antifreeze, fuels, waste oils, solvents and paints. As a business owner or operator, you are legally responsible for ensuring that stormwater pollutants are properly managed.

BEST MANAGEMENT PRACTICES (BMPs)

Best Management Practices are practical and cost effective approaches to day to day business operations that reduce, control, or prevent water pollution. The following is a list of minimum Best Management Practices that are required at all automotive repair, servicing, and maintenance facilities in the City of Santee.

- ☑ Employee Training.
- ☑ Service Indoors When Applicable.
- ☑ Ensure that Floor Drains Are Plumbed to the Sanitary Sewer.
- ☑ Place Drip Pans Under Vehicles in Exposed Outdoor Areas.
- ☑ Keep Absorbent Materials / Pads Readily Accessible at All Times.
- ☑ Properly Dispose of Hazardous Wastes.
- ☑ Drain all Fluids Indoors.
- ☑ Wash Equipment & Vehicles in Designated Areas to Avoid Discharge to the storm drain.
- ☑ Maintain Good Housekeeping Practices.
- ☑ Utilize "Dry" Cleanup Methods. (Sweep, Vacuum)
- ☑ Dry Sweep All Work Areas Before Mopping.
- ☑ Use a Mop and Bucket to Clean Shop Floors and/or Outdoor Areas. Dispose of mop water in a sanitary drain.
- ☑ Collect All Dust, Grindings and Shavings at Work Stations.
- ☑ Remove or Cover All Materials Stored in Outdoor Areas.
- ☑ Recycle Oil, Antifreeze, Batteries, etc.

TO REPORT STORMWATER POLLUTION IN SANTEE CALL (619) 258-4100 x168

STORMWATER INFORMATION

CITY OF SANTEE

STORMWATER INFORMATION

STORMWATER FACT SHEET 06

Mobile Auto Detailing



MOBILE AUTO DETAILING & WATER QUALITY IMPACTS

The City of Santee has adopted the Stormwater Management and Discharge Control Ordinance (SMC 13.42) to regulate the discharge of pollutants to the storm drain system. Pollutants typically associated with mobile auto detailing include oil, grease, heavy metals (brake dust), and detergents. As a business owner or operator, you are legally responsible for ensuring that stormwater pollutants are properly managed.

BEST MANAGEMENT PRACTICES (BMPs)

Best Management Practices are practical and cost effective approaches to day to day business operations that reduce, control, or prevent water pollution. The following is a list of minimum Best Management Practices that are required at all mobile auto detailing activities in the City of Santee.

- ☑ Contain, Control and Capture ALL Wash Water.
- ☑ Train Employees to Use Practices that will Eliminate Discharge to a Storm Drain.
- ☑ Locate and Protect All Nearby Storm Drains or Water Bodies.
- ☑ Utilize a "Shop Vacuum" to Capture all Wash Water.
- ☑ Service Vehicles on or Near Vegetated Areas.
- ☑ Minimize or Eliminate the Use of Soaps or Detergents.
- ☑ Confine Washing and Cleaning Activities within a burmed Area.

REMEMBER

- **Biodegradable Soaps Only Degrade Faster, And May Be Detrimental to Water Quality.**
- **Curbs, Gutters, Drainage Channels, Curb Inlets, Brow Ditches, Channels and Culverts are ALL Connected to the San Diego River and Ultimately the Pacific Ocean.**
- **ONLY RAIN BELONGS IN THE STORM DRAIN!**

TO REPORT STORMWATER POLLUTION IN SANTEE CALL (619) 258-4100 X168

STORMWATER INFORMATION

CITY OF SANTEE

STORMWATER INFORMATION

STORMWATER FACT SHEET 07

Power Washing Activities



POWER / PRESSURE WASHING & WATER QUALITY IMPACTS

The City of Santee has adopted the Stormwater Management and Discharge Control Ordinance (SMC 13.42) to regulate the discharge of pollutants to the storm drain system. Pollutants typically associated with power washing activities include sediment, grease, oil, food waste, and trash. As a business owner or operator, you are legally responsible for ensuring that stormwater pollutants are properly managed.

BEST MANAGEMENT PRACTICES (BMPs)

Best Management Practices are practical and cost effective approaches to day to day business operations that reduce, control, or prevent water pollution. The following is a list of Minimum Best Management Practices that are required at all power washing activities in the City of Santee.

POWER WASHING REQUIREMENTS

The following BMPs are REQUIRED for ALL Power Washing Activities including but not limited to vehicle maintenance & fuel dispensing areas, power washing buildings, sidewalks, parking lots, loading docks and common areas.

1. Block all storm drain inlets and collect water/waste for disposal to the sanitary sewer. No water can drain to the street or catch basins.
2. Prior to washing activities, clean and/or sweep all loose debris from the area.
3. Clean any significant oil / auto fluid spills with an appropriate dry method prior to cleaning.
4. If possible, direct divert runoff to a vegetated area where water can absorb into the ground.
5. If visual observation of runoff indicates contamination (cloudy, discolored, presence of suspended materials), stop activities immediately, and use additional BMPs (i.e. filtration) to eliminate polluted runoff to vegetation.

REMEMBER THE THREE C's

Contain , Control , & Capture
All Waste & Wash Water

TO REPORT STORMWATER POLLUTION IN SANTEE CALL (619) 258-4100 X168

STORMWATER INFORMATION

CITY OF SANTEE

STORMWATER INFORMATION

STORMWATER FACT SHEET 08

Industrial & Commercial Activities

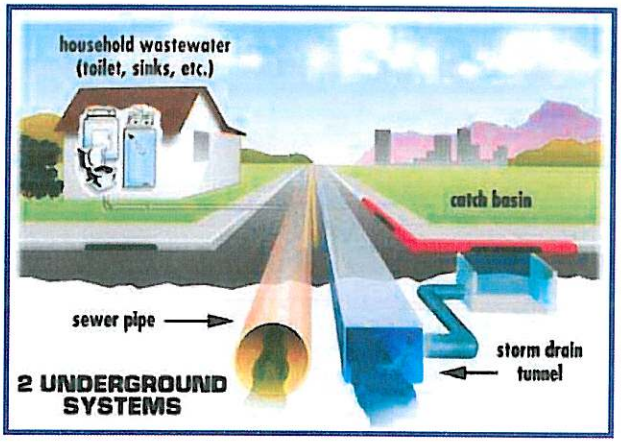
STORMWATER INFORMATION

WHAT IS STORMWATER POLLUTION?

Stormwater pollution is the untreated, contaminated water that drains from streets, parking lots, industrial yards, driveways, sidewalks and other impervious surfaces. Water from such sources as rain, hoses, power washers, and other maintenance activities carry pollutants to the storm drain system.

WHERE DOES IT GO?

The storm drain system is made up of a series of curbs, gutters, drainage channels, culverts, inlets and pipes. All water that drains off of the streets, parking lots, driveways and sidewalks, and through the storm drain system ends up in our creeks, rivers, and ultimately the Pacific Ocean completely untreated! Just remember, the storm drain system is SEPARATE from the sanitary sewer system.



WHAT IS REQUIRED OF INDUSTRIAL & COMMERCIAL FACILITIES?

Essentially, the use of applicable Best Management Practices (BMPs) are required of all industrial and commercial activities in the City. As such activities are varied, a set of minimum BMPs have been established in order to minimize polluted runoff. Additionally, activity-specific BMPs have been established for various business sectors, which will be reviewed and/or recommended through the industrial and commercial facility inspection process.

MINIMUM BEST MANAGEMENT PRACTICES (BMP)

Minimum BMPs for industrial and commercial activities in the City are broken into 3 categories. The following list provides a summary of required BMPs:

1. **Good Housekeeping BMPs**: Regular Sweeping, Dry Cleanup, Proper Waste Disposal, Employee Training, Spill Cleanup.

2. **Materials Handling BMPs**: Hazardous Materials Storage, Outdoor Material Storage, Proper Labeling, Spill Prevention.

3. **Equipment Maintenance BMPs**: Perform Work Indoors, Repair Leaks, Designated Wash Areas, Drip Pan Use, Proper Cleaning Techniques.

CITY OF SANTEE

STORMWATER INFORMATION

STORMWATER FACT SHEET 09

Swimming Pool & Spa Maintenance

SWIMMING POOL DISCHARGE

The City of Santee has adopted the Stormwater Management and Discharge Control Ordinance (SMC 13.42) to regulate the discharge of pollutants to the storm drain system. Pollutants typically associated with swimming pool and spa maintenance activities include chlorine, pH, organic matter (decaying plants & algae), and copper.

WHERE DOES IT GO?

All water that drains off of the streets, parking lots, driveways and sidewalks, and through the storm drain system ends up in our creeks, rivers, and ultimately the Pacific Ocean, completely untreated! Just remember, the storm drain system is SEPARATE from the sanitary sewer system.

CAN IT BE DISCHARGED INTO THE STORM DRAIN?

If it is not a saline pool, you can discharge water with NO chemicals into the storm drain. The water must:

1. Be water only (no debris)
2. Be de-chlorinated
3. Have a pH range of 7-8.
4. Have no algae present
5. Be a controlled flow to avoid erosion problems or cause a traffic hazard.

Can I get rid of chlorine?

Chlorine will naturally dissipate, and pool water will become de-chlorinated over time. Monitor the pool over a period of 3-5 days until NO chlorine is detected.

How do I Clean Pool Filters?

It's best to clean pool filters over a lawn, dirt, planter box, vegetated hillside, or something to absorb the discharge. Collect materials on filter cloth, then throw the filter cloth away. Rinse cartridge and diatomaceous earth material onto a dirt area, and spade filter residue into soil.

If you retain a pool company to take care of your pool, please make sure that they comply with these regulations. By doing your part, you will help reduce the pollution problems in the community where your family lives, works and plays.

TO REPORT STORMWATER POLLUTION IN SANTEE CALL (619) 258-4100 x168

CALL PADRE DAM MUNICIPAL WATER DISTRICT ON (619) 258-4664 FOR INFORMATION ON DISCHARGES TO SEWER.

CITY OF SANTEE

STORMWATER INFORMATION

STORMWATER FACT SHEET 10

Residences

Although many residents may not realize it, everyday activities that we conduct at home have the potential to impact the quality of water which drains from the street into our municipal storm drain. This eventually discharges UNTREATED into the San Diego River. The cumulative impact of discharges from each residence has the potential to directly impact the San Diego River. Here are some examples of common household activities of concern:

PET WASTE

This may be considered "natural," but did you know that the water quality of San Diego River is considered to be impaired due to the presence of bacteria from fecal discharges? *ALWAYS pick up after your pet, even at home, and dispose of pet waste in the trash.* Don't throw pet waste in any drainage channel, culvert, gutter or drain.

AUTOMOTIVE

Reduce or eliminate the release of motor oil from leaking cars, detergents from washing and gasoline from fuel drips. Do not maintain your vehicle in the street and clean up fluid spills and leaks immediately. *Use drip pans under leaking vehicles and properly dispose of automotive fluids.*

HOME IMPROVEMENT AND GARDEN CARE

Many home improvement projects may involve the use of hazardous materials (paints, solvents etc.). Powder materials (e.g.,concrete, sand, and grout) can form harmful sediment if washed into the San Diego River via the storm drain. Rinse concrete or grout residue into a hole dug into a dirt area. Let the water infiltrate into the ground and throw away the residue. *Sweep, do not hose down* when cleaning and *do not blow plant debris into the storm drain.* Dispose of household hazardous wastes including paint, cleaners, and batteries for FREE at one of the following locations:

Clean Harbors Environmental Services, 12325 Crosthwaite Circle, Poway, CA 92064. 1-800-444-4244. Saturdays 9 am to 3 pm.

Waste Management, City of El Cajon, end of O' Conner Street, El Cajon CA 619-596-5100. Household pickup by appointment.

- Pick Up After Your Pets
- NO DUMPING!
- Sweep It, Don't Hose It Down.
- Wash Paint Brushes in the Sink
- Do not overwater
- Report illegal dumping

TO REPORT STORMWATER POLLUTION IN SANTEE CALL (619) 258-4100 x168

STORMWATER INFORMATION

CITY OF SANTEE

STORMWATER INFORMATION

STORMWATER FACT SHEET 11

Demolition & Construction

Non-rainwater discharges from demolition and construction sites are illegal and could be subject to clean up costs, as well as fines and other penalties. With a few simple steps contractors on these sites can prevent illegal discharges.

WHERE DOES IT GO?

All water that drains off of the streets, parking lots, driveways and sidewalks enters the storm drain and is discharged into the San Diego River completely untreated!

KEEP YOUR SOIL ON YOUR PROPERTY

It is illegal to allow soil discharges into the street. Plan to use measures to prevent erosion (for example, preservation of current landscaping, expedited planting, blankets, hydroseeding, or bonded fiber matrix); and sediment control measures (silt fence, gravel bags, and fiber rolls) to prevent discharges, particularly between the months of October and May. Use silt-free gravel, not sand, in gravel bags. Be prepared to stop liquid discharges during demolition.

MANAGE A TIDY SITE

It is a violation of City ordinance to discharge airborne dust or allow the tracking of soil onto the street. Sweep or vacuum, DO NOT HOSE DOWN, any material that strays onto the street. Keep liquid materials in a covered second container. Do not discard waste materials to the ground. Instead, immediately place it into a trash container. Order an extra trash pickup if more waste is generated than usual. Dispose of hazardous materials properly. Use drip pans under vehicles and promptly remove spills.

CONCRETE AND POWDER MATERIALS

The pH content of cement mix can be high enough to classify it as hazardous waste! When concrete waste gets into a gutter and then the storm drain, it eventually ends up in the San Diego River. If allowed to dry in gutters or catch basins, it can disrupt the proper flow of rainwater. Other powdery material (stone dust, grout, and masonry), if discharged to the storm drain, will result in increased sediment in the San Diego River, having a negative effect on aquatic life. Place concrete waste into a container, and let it dry before disposal.

KEEP OUT OF THE GUTTER!

The gutter is not the place to clean any piece of equipment, large or small. It is a violation of the City's ordinance to park heavy vehicles in the street.

TO REPORT STORMWATER POLLUTION IN SANTEE CALL (619) 258-4100 x168

STORMWATER INFORMATION

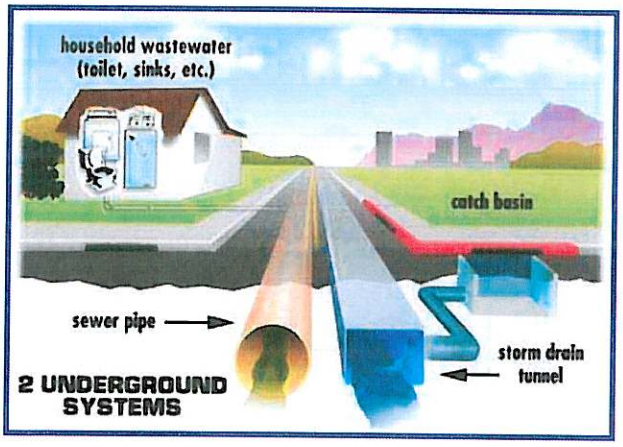
Pollution Prevention at Special Events

WHAT IS STORMWATER POLLUTION?

Stormwater pollution is the untreated, contaminated water that drains from streets, parking lots, industrial yards, driveways, sidewalks and other impervious surfaces. Water from such sources as rain, hoses, power washers, sprinklers, and car-washing activities carry pollutants to the storm drain system.

WHERE DOES IT GO?

The storm drain system is made up of a series of curbs, gutters, drainage channels, culverts, inlets and pipes. All water that drains off of the streets, parking lots, driveways and sidewalks, and through the storm drain system ends up in our creeks, rivers, and ultimately the Pacific Ocean completely untreated! Just remember, the storm drain system is SEPARATE from the sanitary sewer system.



HOW CAN A SPECIAL EVENT CAUSE STORMWATER POLLUTION?

An event can result in the generation of a large amount of litter. Plastic bags and other light material may be blown into creeks and channels. Other items may enter curb inlets, either blocking the structure, or being washed via runoff through the stormdrain system into nearby rivers and creeks. Food and pet waste can be sources of bacteria and nutrients. Protect water quality by using the following best management practices:

- Portable toilets shall have secondary containment.
- Have materials available (cloths, paper towels, a dustpan and brush, etc.) to promptly remove spills as they occur.
- Install temporary fencing to prevent trash from being dispersed.
- Use temporary screens on catch basins and storm drain inlets.
- Provide plenty of trash and recycling bins. Promptly dispose of trash into dumpsters with lids and do not allow dumpsters to overfill.
- Sweep the area after the event. Clean catch basins as necessary.

TO REPORT STORMWATER POLLUTION IN SANTEE CALL (619) 258-4100 x168

Carpet and Upholstery Cleaning

Carpets and upholstery are regularly cleaned in homes and commercial businesses to prolong the life of carpets and furniture, and to ensure a hygienic living and working space. Wastewater from carpet cleaning usually contains detergents, other potentially hazardous chemicals and extracted carpet residues, some of which are known pollutants.

It is illegal to discharge wastewater from these cleaning activities to the storm drain.

WHERE DOES IT GO?

All water that drains off of the streets, parking lots, driveways and sidewalks enters the storm drain and is discharged into the San Diego River completely untreated!

- Any wastewater poured into streets, gutters, or stormdrain inlets will make its way into sensitive waterways that support aquatic plants and animals. Carpet cleaning chemicals and other residues in carpet cleaning wastewater may damage fragile ecosystems.
- Many carpet cleaning agents are toxic to aquatic plant and animal life.
- Residues from carpet cleaning can contribute to nutrient loadings that will result in explosive algal growth and deplete waterbodies of oxygen.

WHAT ARE THE REQUIREMENTS?

Wastewater and residue from carpet cleaning must NEVER be discharged to any roadside gutter, parking lot drain, stormdrain, curb inlet, drainage channel, or watercourse.

- Wastewater and residue from carpet cleaning should be discharged to a sanitary sewer connection such as a sink, floor drain, toilet sewer cleanout, or septic tank.
- Clean or flush hoses to a vegetated or dirt area and let the water infiltrate the ground.
- Contain, control, and capture all wastewater or chemicals.

TO REPORT STORMWATER POLLUTION IN SANTEE CALL (619) 258-4100 x168

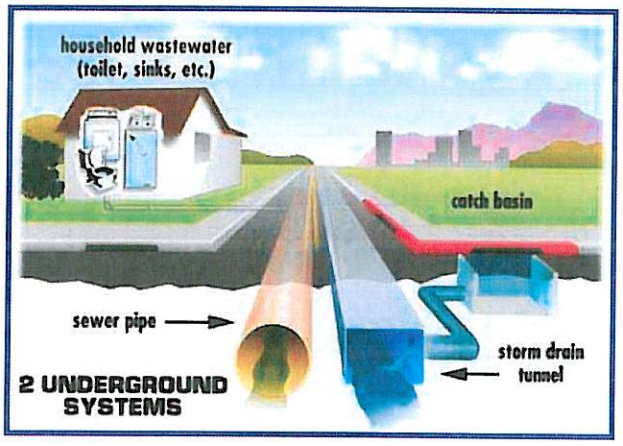
Pollution Prevention during Community Activities

WHAT IS STORMWATER POLLUTION?

Stormwater pollution is the untreated, contaminated water that drains from streets, parking lots, industrial yards, driveways, sidewalks and other impervious surfaces. Water from such sources as rain, hoses, power washers, sprinklers, and car-washing activities carry pollutants to the storm drain system.

WHERE DOES IT GO?

The storm drain system is made up of a series of curbs, gutters, drainage channels, culverts, inlets and pipes. All water that drains off of the streets, parking lots, driveways and sidewalks, and through the storm drain system ends up in our creeks, rivers, and ultimately the Pacific Ocean completely untreated! Just remember, the storm drain system is SEPARATE from the sanitary sewer system.



HOW CAN COMMUNITY ACTIVITIES CAUSE STORMWATER POLLUTION?

Any activity that results in runoff discharging into catch basins on private property or into the street (such as washing cars or cleaning up after an event) can cause stormwater pollution. These types of discharges are illegal. In addition, community events can result in the generation of litter which can get into the storm drain system. Simple steps can be take to prevent pollution and protect **a valuable community resource — our river.**

- Use trays under portable toilets (secondary containment).
- Have materials available at an outdoor event (cloths, paper towels, a dustpan and brush, etc.) to promptly remove spills as they occur.
- Promptly dispose of trash into dumpsters with lids and do not allow dumpsters to overfill.
- Sweep after an outdoor event and clean catch basins as needed.
- Contact the City for pollution prevention methods during special events and car washing activities (look at www.ci.santee.ca.us/For Residents).

TO REPORT STORMWATER POLLUTION IN SANTEE CALL (619) 258-4100 x168

Benefits of Low Impact Development and Site Design Practices

WHAT IS STORMWATER POLLUTION?

Stormwater pollution is the untreated, contaminated water that drains from streets, parking lots, industrial yards, driveways, sidewalks and other impervious surfaces. Water from such sources as rain, hoses, power washers, sprinklers, and car-washing activities carry pollutants to the storm drain system. The storm drain system discharges this water directly to our creeks, rivers, and ultimately the Pacific Ocean UNTREATED.



HOW DOES DEVELOPMENT AFFECT THIS?

The addition of impervious area removes the natural absorption and infiltration abilities of the land. This results in a greater volume, velocity, rate and duration of runoff from the property, than in its predevelopment condition. It can result in the mobilization of a wide range of pollutants that would normally remain on the property and transport these pollutants to surface waters. *This cocktail of pollutants can destroy aquatic life.*

WHAT IS THE SOLUTION?

Since 2002, all major development incorporated a mixture of best management practices (BMPs) to reduce its impact on stormwater quality. Site Design BMPs and Low Impact Development BMPs include the following:

- Reduce directly connected paved areas.
- Direct runoff to landscaping to reduce runoff from the property.
- Use grassed swales to facilitate infiltration.
- Use drought tolerant or native vegetation
- Conserve natural areas.
- Protect slopes (i.e. with vegetation) to prevent erosion.

The objective of this is to mimic the natural hydrologic conditions of the site to minimize the increase in volume, velocity, rate and duration of the property after development.

Please preserve these features on your property and protect our river! Do not destroy these features and maintain them to remain effective.

TO REPORT STORMWATER POLLUTION IN SANTEE CALL (619) 258-4100 x168

CITY OF SANTEE

STORMWATER INFORMATION

STORMWATER FACT SHEET 16

YARD & GARDEN MAINTENANCE



HOW CAN GARDENING HARM OUR WATERWAYS?

Yard maintenance can directly impact the quality of our local surface waters. When soil, organic wastes, dirt, leaves, grass clippings, and chemicals leave your yard, they flow directly into creeks and the ocean harming the health of humans and wildlife that swim in the waters, impacting the environment and water quality.

BEST MANAGEMENT PRACTICES (BMPs)

Whether you take care of your own yard or contract a professional service, you are responsible for ensuring that BMP's are implemented to reduce storm water pollution, protect water quality and conserve our valuable water and natural resources. By implementing the simple solutions in this fact sheet you can take part in protecting our local waterways and beaches.

- Use fertilizers sparingly and possibly consider using an organic fertilizer.
- Use an efficient irrigation method and try to avoid over-watering.
- Break watering down into five minute intervals, or less. This will allow water to soak in before the next application.
- Rather than applying a temporary, chemical only approach, try a natural method such as hand weeding and planting diverse native plants. This will result in a safer long term solution to weed and insect problems.
- Improve the health of your soil by adding compost and using organic mulches. You'll reduce the need for fertilizers and your plants will be healthier. You will also prevent soil erosion.

REMEMBER : When using a professional landscaping service

- **Make sure they sweep up clippings and dispose of them properly, rather than blowing them out into the street.**
- **If you decide to use pesticides, check to make sure the service is properly trained and licensed to apply them.**
- **Know how often fertilizers are used. Even professionals over-fertilize.**
- **The property owner is responsible for violations of the Clean Water Act.**

TO REPORT STORMWATER POLLUTION IN SANTEE CALL (619) 258-4100 X168

STORMWATER INFORMATION

Fire Prevention and Erosion

During dry and hot seasons, vegetation can pose a fire risk, and requires proper management.

WHICH FIRE PREVENTION MEASURES ARE RECOMMENDED?

Vegetation on open lots should be *mowed* to a height of approximately four inches. The clippings can be left on top of the stubble, providing additional fire suppression. Dead shrubs, dead trees or limbs, and rubbish should be removed. The City's Municipal Code requires property owners to mow and/or clear a distance of one hundred feet from any structure and up to thirty feet along each side of roadways or driveways. Fire prevention measures should be implemented during late spring and early summer.

When a rare, threatened, or endangered plant or wildlife may be present on the property to be cleared, it is the responsibility of the owner, occupant or person in charge of the property to obtain all required permits or approvals from all other governmental agencies prior to removal of the nuisance. This includes California State Fish and Game and the U.S. Fish and Wildlife Service can be contacted at (760) 4341-9440). If you have questions contact City Development Services at (619) 258-4100 x168 with any questions.

WHY SHOULDN'T I JUST CLEAR THE GROUND OF VEGETATION?

Not only is this unattractive and unnecessary, but you risk losing the most valuable component of your ground through erosion. The top layer of soil tends to be rich in organic matter providing nutrients and a soil matrix hospitable to plant life. Once that has been removed, it will be difficult for plants to grow in this soil without the addition of expensive soil amendments.

Cutting vegetation allows the plant roots to help hold the soil in place minimizing erosion. Erosion prevention is important to prevent loss of land, damage of property downgradient of the erosion and potential pollution through the discharge of sediment to the storm drain system. The storm drain system conveys runoff from streets and private property to the river *untreated*. Blockages of the storm drain system may result in property damage and are costly to remove. Sediment discharged into our creeks and rivers is harmful to river life, including plants, insects and fish. If you are concerned about potential erosion, install erosion prevention measures (see http://www.cabmphandbooks.com/Construction.asp for more information).

Call Fire Prevention at (619) 258-4100 x184 for additional information.





Area of eroded soil versus a slope stabilized with erosion prevention measures.

TO REPORT STORMWATER POLLUTION IN SANTEE CALL (619) 258-4100 x168

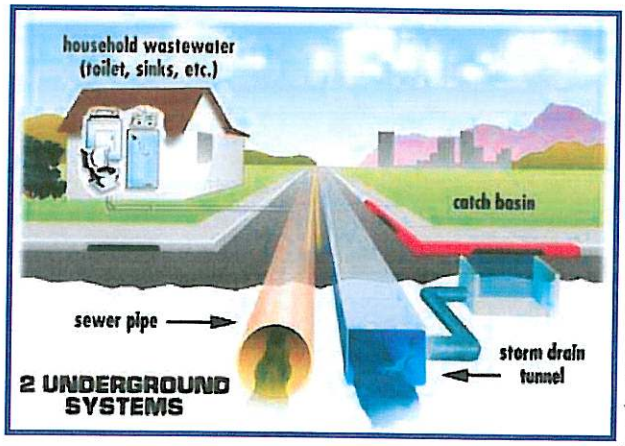
CITY OF SANTEE

STORMWATER INFORMATION

STORMWATER FACT SHEET 18

Responding to Sewage Spills

Many people mistakenly believe that storm drains are connected to Padre Dam's sanitary sewer system and that any wastewater dumped into an alley, street or storm drain is treated at Padre Dam's sewage treatment plant. This is not the case. Any material discharged or washed into the street ends up in the San Diego River.



Raw sewage is a biohazard to people, and adds pollutants such as sediment and nutrients to the environment. The source of any sewage spill must be immediately stopped, and the spill must be contained. The affected area must be isolated to keep the public from exposure to the hazard. Sewage must be removed and the area disinfected by a properly trained person. Raw sewage may be discharged into the wastewater system with permission from Padre Dam.

Any sewage discharge into the storm water conveyance system, even from a blocked lateral line, is a violation of federal, state and local laws. These laws apply to individuals, businesses and public agencies. There are no exceptions.

Please ensure that any contractor you hire to respond to a sewage spill understands these regulations and has the ability to comply with them. By doing this you help to protect your family, and the environment from exposure to the sewage spill.



TO REPORT STORMWATER POLLUTION IN SANTEE CALL (619) 258-4100 x168

ATTACHMENT 4.2 JURMP UPDATE TO PESTICIDE, HERBICIDE AND FERTILIZER HANDLING

Pesticide, Herbicide and Fertilizer Application and Handling

The federal Pesticide, Fungicide and Rodenticide Act and California Title 3, Division 6, Pesticides and Pest Control Operations place strict controls over pesticide application and handling. This Act also specifies training, annual refresher, and testing requirements. The regulations generally include: a list of approved pesticides and selected uses, updated regularly; general application information; equipment use and maintenance procedures and record keeping. The California Department of Pesticide Regulations and the County Agricultural Commission coordinate and maintain the licensing and certification programs. The following BMPs are implemented to reduce pollutants from pesticides, herbicides and fertilizers:

- City personnel who participate in the application of pesticides are trained and licensed (Qualified Applicator License) and follow guidelines set by the California Department of Pesticide Regulations and the County Agricultural Commission.
- Agricultural pest control businesses working for the City are supervised by a Qualified Applicator Licensee who holds a current Qualified Applicator Certificate.
- Every two years, Qualified Applicator Certificate holders must show proof that they have secured a minimum of 20 hours of continuing education.
- City staff records the applications of all chemical agents by noting the locations, type, and quantity of chemicals used. Records are added to the annual report submitted to the Department of Agriculture.
- The Qualified Applicator Certificate holder conducts monthly inspections to monitor storage, handling, and disposal of the pesticides.
- Personnel who participate in the application of herbicides for the City are trained and follow guidelines set by the County Agricultural Commission.
- Fertilizers are applied during the growing seasons: spring, summer, and fall.
- Trained City personnel perform irrigation of landscaped areas.
- Drip irrigation and overhead irrigation methods using timers are implemented, where appropriate, to avoid runoff from over-irrigation.
- The City upgrades the irrigation system as technology improves.
- The City identifies locations where over-spraying occurs and rearrange the sprinklers to minimize the runoff as needed.
- The City follows written recommendations prepared by a State Pesticide Advisor during pesticide application.
- Employees are trained to follow pesticide, herbicide, and fertilizer labels, and the material safety data sheet(s) (MSDS).
- All federal, state, and local regulations are followed in the use of pesticides, herbicides, and fertilizers.
- Pesticides, herbicides, and fertilizers are not applied during or directly prior to storm events unless specifically designed for application prior to rain (Oust for example).
- Only pesticides that are quickly absorbed into the soil or plants are used.

- Whenever practicable, integrated pest management techniques are implemented.
- Pesticides are not sprayed when there is a high possibility of the spray drifting into non-target areas or onto non-target vegetation, insects, or animals.
- The City maintains compliance with county and state reporting requirements for pesticide use.
- The City continues to minimize product use by using non-chemical methods to control weeds such as weeding by and by mechanical means.
- The City plants native vegetation, when applicable.

ATTACHMENT 6.1 STUDY ON PET WASTE MANAGEMENT BY RESIDENTS

Baseline Assessment of Current Residential Activities and Behavior Towards Pet Waste

City of Santee, Department Development Services-Stormwater Department
Study October 2008 through May 2009

Deven O'Neil

Abstract

A baseline assessment of current residential activities and knowledge was performed to help create guidelines for an educational outreach program. The study was conducted using both observations and surveys. The results found that middle-aged males are the most common group to not pick up after their pet. Many of the residents currently think that pet waste dissolves and fertilizes the grass at the park. The results will be used to determine an appropriate education outreach program that will increase the amount of people that do pick up after their pet.

Introduction

The San Diego based organization Think Blue performed a residential knowledge base survey concerning resident's current opinions about storm drains and explored different motivations and barriers that can reduce regular storm water pollution. The results of the survey showed that more than 75% of San Diego residents feel that pollution of the ocean, beaches, and bays are a "very important" issue that their city faces. Residents have a strong willingness to make changes to help prevent and limit storm water pollution. On a scale of 1 to 10 (10 being very serious) the Think Blue survey found that people gave that pet waste an average score of 6.94. The most important correlation to my study is that residents feel while they themselves care, that

their neighbors do not care if they directly impact and cause storm water pollution (Think Blue Survey 2008).

My internship involved working for the City of Santee, Department of Development Services-Stormwater Department to obtain a baseline assessment of current residential knowledge and behavior relating to activities that may impact water quality. The activities studied were those that increased bacteria, a high priority pollutant in San Diego River watershed, where Santee is located. The data collected will be used in developing a Community Based Social Marketing (CBSM)-type program. Specifically, I assessed the types of behavior associated with pet waste disposal and the perceived barriers and benefits of disposing pet waste appropriately.

The purpose of the assessment was to determine the present activities and knowledge of Santee pet-owning residents relating to pet waste management. This information will be used to determine an appropriate approach for implementing an environmental outreach program for pet owners in Santee. This baseline assessment will be compared with future studies to assess if any improvement has been made after the outreach has been implemented. An education "intervention" employed DePaul University in June 1980 resulted in a increase from the baseline assessment. The "intervention" was casually greeting the dog walker and asking them "If they knew it is illegal to not pick up after their pet" and then handed a dog waste bag and educational pamphlet. After the educational outreach was implemented many residents shifted from their normal behavior (Leonard et al 1980). The educational outreach program created by the City of Santee is anticipated to have a similar impact.

Storm drains are not linked to the sewer system and any contaminants or bacteria that are discharged into the drains will deposit into the watershed untreated. During the winter when southern California receives the majority of its rainfall, the water flowing into the rivers and creeks picks up bacteria, industrial waste, and other contaminants. The contaminants that drain into the watershed flow to the nearby oceans. The bacterial contaminants including fecal coliform and Esterococcus can exceed water quality levels set by the State of California and result in beach closures (Lee & He 2008). An estimated average of approximately one million gastrointenstinal illnesses occur every year due to increased bacteria levels in the ocean which is a burden on the healthcare system and effect recreational economic profits (Lee & He 2008). In San Diego alone there are six lagoons that discharge directly into popular beaches (Lee & He 2008). A program developed to better educate residents about watershed health and pet waste management will need to be designed in the future to determine the effectiveness of the outreach, which is mandated by municipal permit (r9-2007-0001).

A bacteria total maximum daily load (TDML) regulation has already been adopted by the San Diego Regional Water Quality Control Boards (RWQCB), although it may still be subject to revision in the future. This regulation, which would be addressed at the watershed level, will require affected municipalities to reduce the bacteria loading from their municipal separate sanitary sewer system (MS4s) to effectively zero. Therefore it is essential that all the tools available, including behavior change through education, be used to their full extent to reduce bacteria load runoff. During the course of the internship I learned the different methods that are employed by a city to improve environmental concerns through education practices. The two main parks that I focused

on were Big Rock Park (Figure 1)

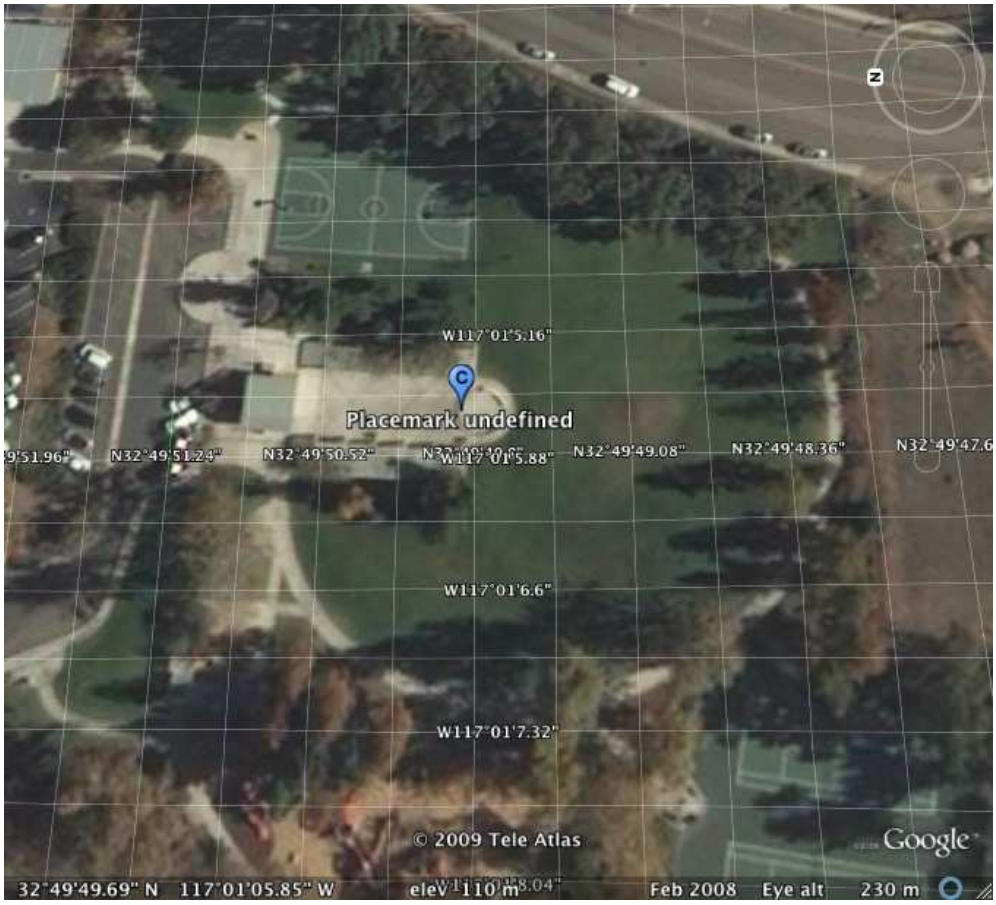


Figure 1. Big Rock Park

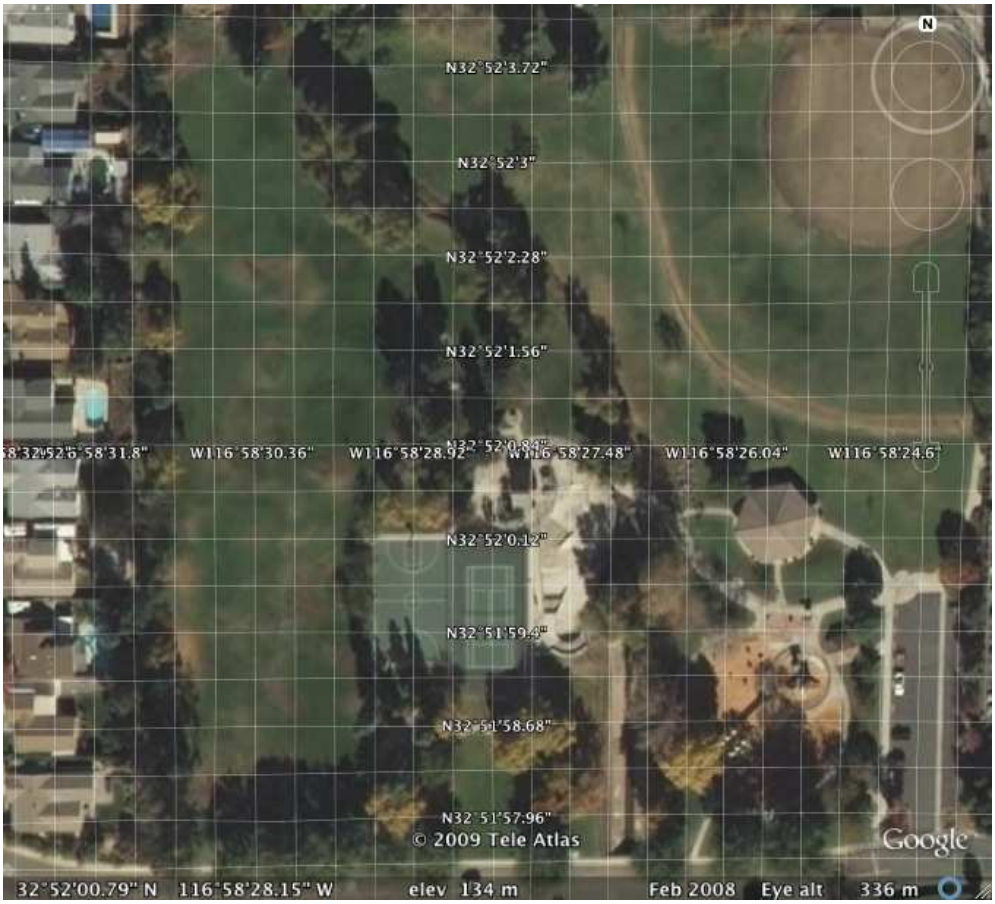


Figure 2. Woodglen Vista Park

and Woodglen Vista Park (Figure 2). These parks are on opposite sides of Santee and are surrounded by socioeconomic communities of different socioeconomic status (SES). Condominiums, apartments, and newer developed houses surround Woodglen Vista Park. There were younger, affluent people at Woodglen Vista Park then at Big Rock Park. Big Rock Park has many older houses and a large trailer park, and had more elderly people. Big Rock Park is edged by Mission Trails at the southern end of the park. Both parks have an episodic flowing creek through them. Big Rock Park's creek was dry more often than the small creek running through Woodglen Vista Park. This project was designed to

identify any barriers to owners who do not pick up after their pets and to assess if there are any identifiable characteristics in those who tend to not pick up after their pets. I looked at differences of dogs being leashed or offleash, size of dog, location within the park, age/gender, and the geography of the park.

Study Sites

The population of the City of Santee is about 57,000 people, comprised of 18,500 households, and 14,000 families. The city has 7 total parks not including Santee Lakes and Mission Trails (part of San Diego City). My focus was on a much smaller scale and focused on two parks. The parks that were assessed were Big Rock Park and Woodglen Vista Park. The creek running through Woodglen Vista has a cement channel running along a portion of the creek. Woodglen Vista Park has a large grass area on which many dog owners will play with their dog while Big Rock Park has a much smaller grass area and more of a circular path around the perimeter of the park. Big Rock Park is adjacent to Mission Trails Reserve with hills right on the edge of the park.

Previous dry weather monitoring studies had occasionally reported counts of indicator bacteria above the action level in samples collected in Woodglen Vista Creek. These counts had been attributed partly to pet waste generated by pets being walked inside and around Woodglen Vista Park (City of Santee, Stormwater Reports 2008).

Research Methods

I used two methods for sampling: observational surveys and individual interviews. The following variables were surveyed: geographic areas, time of day, age and sex of the residents, housing surrounding park, and weather. For the observational studies I would comment on a estimated age and sex of the owner, dog size, number of dogs, leashed or unleashed dogs, activity during walk, and if the owner picked up after the pet. Observations were conducted a total of 46 times at Woodglen Vista Park and Big Rock Park during the months of November through March. Each observational survey was conducted for about one and a half hours and every resident with a dog was commented on. A total amount of 135 people were observed during this time period. Actually witnessing an owner picking up versus not picking up after their pet was fairly troublesome because the parks had some visibility issues due to buildings, people, trees, and distance as well as trying to keep a low profile so that people in the park did not really notice me. The second method of obtaining data was from a survey conducted with people at the park. The survey included answering the same questions that were observed but also included questions about their current knowledge of stormwater pollution. Over a one month period a total of 117 surveys were completed and used. The survey had discrete answers and was not replicated, so no statistical deviation was able to be derived from the answers. I did encounter many people who did not want to fill out the survey, but many of the people that did fill out the survey would comment on a few other aspects of the park that they liked/disliked. The different answers were compared against

age, gender, and current knowledge of storm water issues, as well as the physical differences between dogs and leashes. A final method of sampling was making plots of observations of pet fecal material of a grid map of Big Rock Park and Woodglen Vista Park. The plots are going to be used to determine where more pet waste occurs. This can be used to determine what further action, if any, needs to be taken to prevent an abundance of bacteria in the streams running through the park.

Results

During observation studies it was noted that many of the people in the park would not pick up after their dogs when the dogs were not leashed. At Woodglen Vista Park the ratio of dogs leashed to unleashed was 1:5. Many times at Woodglen Vista Park, owners would play with their dogs or just let them roam within the large grass area off leash. This may have led to the owners not paying enough attention to the dogs defecating. When people were accompanied while walking their dogs, they were more likely to pick up after their pet, possibly due to peer pressure influencing their decision to pick up after their dog. Out of a total of 135 different people observed, 32 groups of two or more people picked up their dog's waste (23%). Out of the other 103 people that walked their dogs alone, 17 of them did not pick up after their pet (17%). Extra activities such as talking on a cell phone, having a child with them, or running for exercise did not show an increase in owners not picking up after their pet. During the observations the current weather was noted. The observations were completed in the winter from November to February. During the morning when it was much colder, there were very few, if any, people walking their dogs. Cloud covered days with persistent south winds had fewer

people compared to nice and sunny weather. The time of the day was also noted, and the majority of people were seen during the weekends and mid morning to the middle of the day. In the early morning to mid morning I never observed an owner not picking up after their pet. People of 30-40 years old were the most common group observed. This age group was also the most common group to not pick up after their pets. Owners that did not pick up after their pet occurred more often at Woodglen Vista Park then Big Rock Park. Out of the 135 different people observed, I only witnessed 17 people not picking up after their pet. Out of the 17 people, 13 of them were at Woodglen Vitsa and 4 of them were at Big Rock Park. The amount of people not picking up after their pets was only about 13% of the total amount observed, about 76% of the total amount of people that did not pick up after their pet were at Woodglen Vista Park.

The results in figures 3 through 13 are cumulative of the total answers received. The answers were compared to what a respondent stated for one answer while answering for another. For example, when a respondent answered that they always pick up after their dog it was compared to how many times they stated they would lease their dog while in the park.

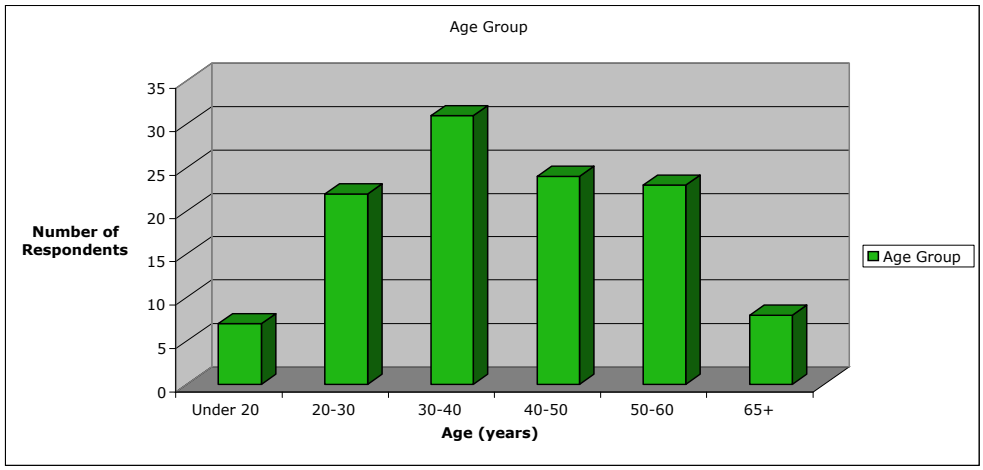


Figure 3. Distribution of all respondents (n = 115) across both parks

Figure 3 represents the age demographic that was sampled during the surveys. The most common age surveyed was between the ages 30 to 40.

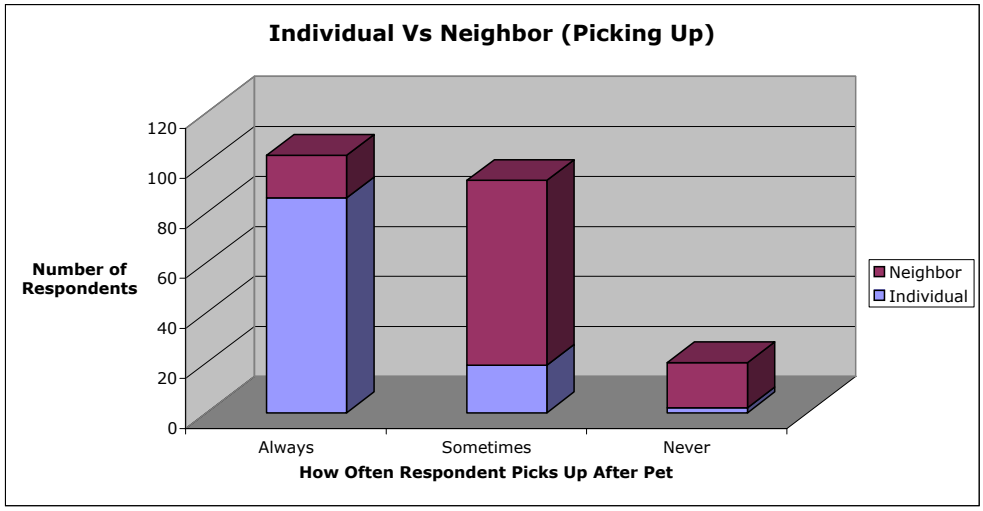


Figure 4. Individual answered how often they personally pick up after their pet versus how often the individual answered others at the park pick up after their pet.

Figure 4 shows the difference between how often respondents personally pick up after their pet compared to how often they notice others picking up after their pet. When answering how often people personally pick up after their pets 80 % answered always, 19% answered sometimes, and 1% people answered never, but when people answered how often others at the park picked up after their pets many only 10% people answered always, 67% people answered sometimes, and 23% people answered never.

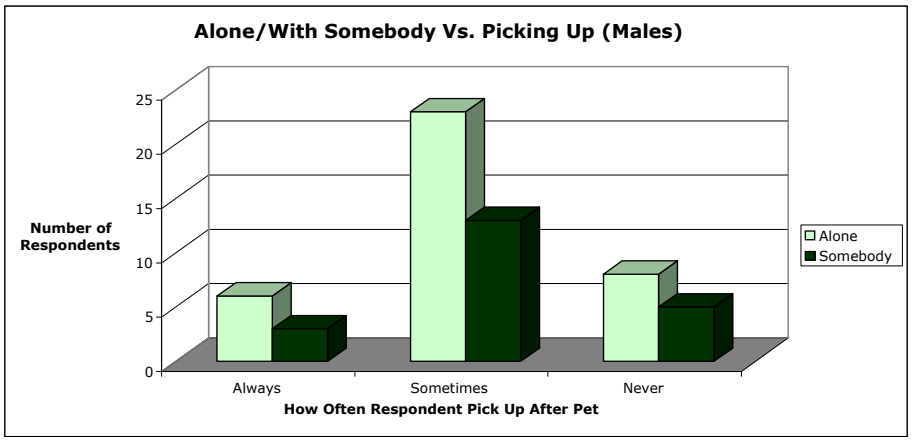


Figure 5. How often a male respondent answered they pick up after their pet when walking alone or with somebody.

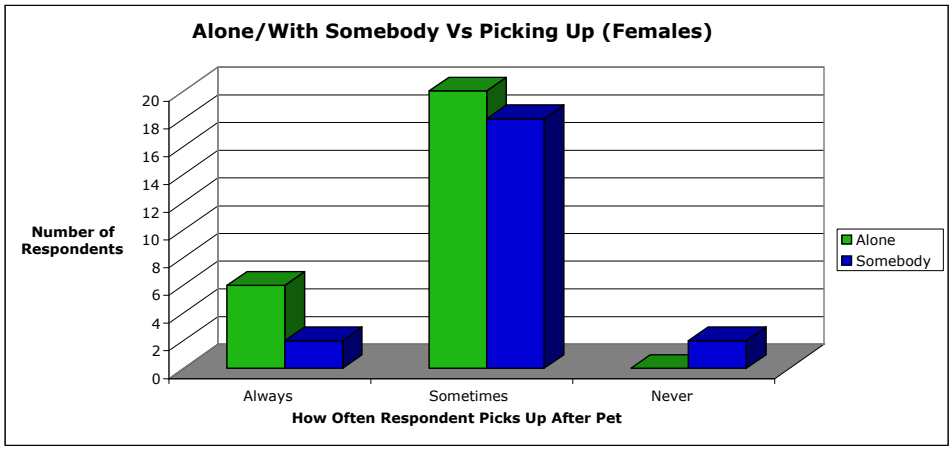


Figure 6. How often a female respondent answered they picked after their pet when walking alone or with someone

Figure 5 and Figure 6 show the difference of how respondents answered to the question: of whether they pick up after their pet if they walk their pet alone or with someone? Figure 5 represents how males responded and Figure 6 represents how females responded. When walking alone 10% of males and 13% of female respondents answered that they always pick up after their pet.

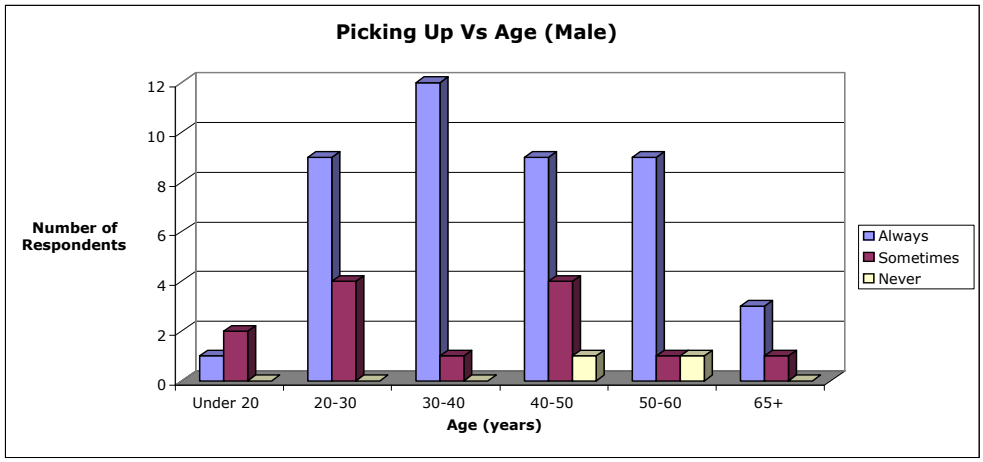


Figure 7 Distribution of age versus how often a male respondent states they pick up after their dog.

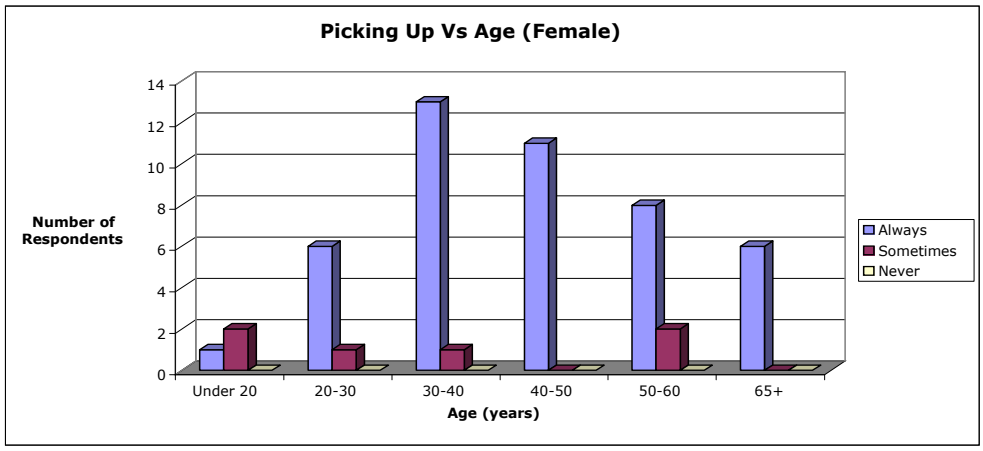


Figure 8 Distribution of age versus how often a female respondent states they pick up after their dog.

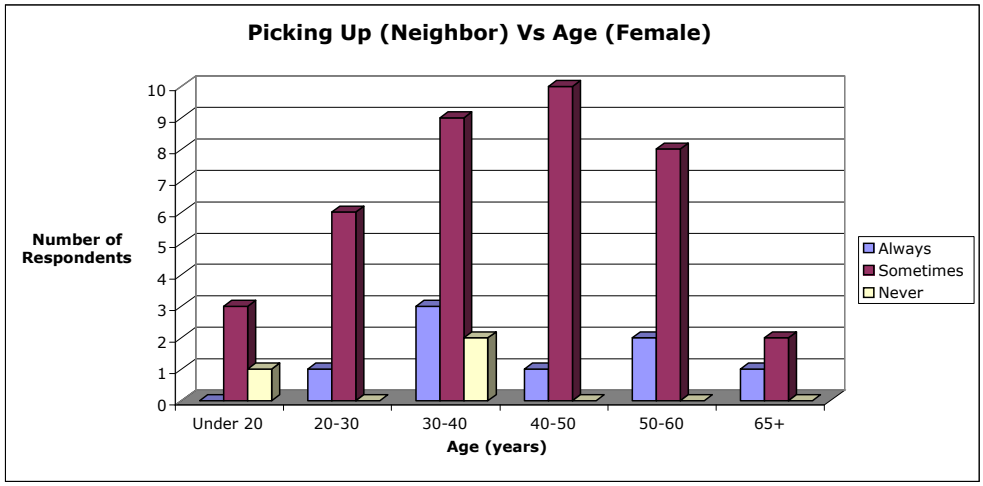


Figure 9 Distribution of ages versus how often a female states others at the park pick up after their dog.

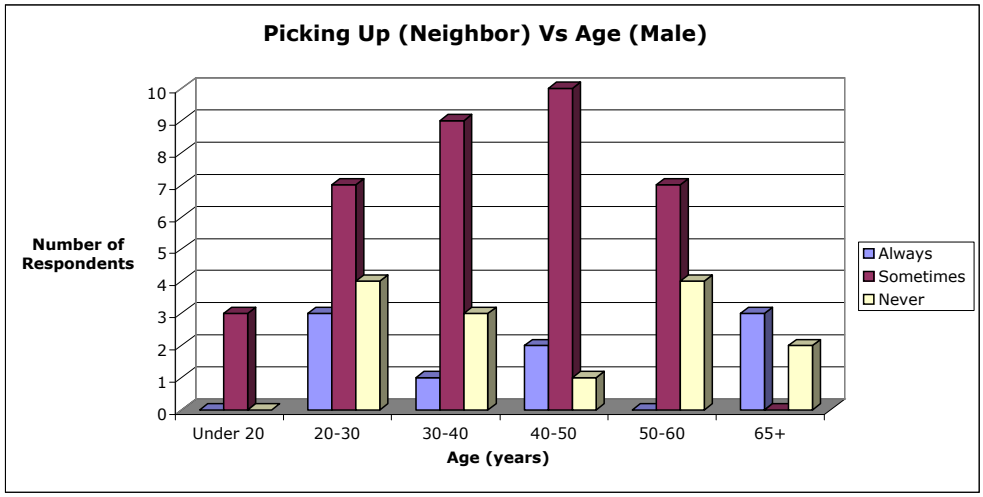


Figure 10 Distribution of ages versus how often a male respondent states others at the park pick up after their dog.

Figures 7 and 8 are showing how respondents answered how often they pick up after their pet according to their age. In figure 7 a total of 56 males filled out the survey. For males 20 and under that completed the survey, 33% "always" pick up after their pet and 60% "sometimes" pick up after their pet. For males between the ages of 20 to 30 years 69% answered "always" and 31 % answered "sometimes". Between the ages of 30 to 40 years male respondents answered "always" 92% times and answered "sometimes" 8%. Males between the ages of 40 to 50 years answered "always" 64%, "sometimes" 29% , and "never" 7%. Males between the ages 50 to 60 answered "always" 82%, "sometimes" 9%, and "never 9%. For males over the age of 65, 75% answered "always" and 25% answered "sometimes". In figure 8 a total of the 51 females completed the survey. Females under the age of 20 answered "always" 33% and "sometimes" 66%. Females between the ages of 20 to 30 years answered "always 86% and "sometimes" 14%. For females ages between the ages of 40 to 50 100% answered "always". Females between the ages of 50 to 60 years, 80% answered " always" and 20% answered "sometimes". Females over the age of 65 answered "always" 100%.

Figures 9 and 10 represent how respondents answered how often they see other people at the park pick up after their pet according to age. In Figure 9 a total of 49 females completed the survey. Under the age of 20 years 75% of females answered "sometimes" and 25% answered "never". Between the ages of 20 to 30, female respondents answered "always" 14% and answered "sometimes" 86%. Females between the ages 30 to 40 answered "always" 21%, "sometimes" 64% , and "never" 14%. For females between the ages of 40 to 50 9% answered "always" and 91% answered "sometimes". Ages 50 to 60 answered "always" 20% and answered "sometimes" 80%.

Females over the age of 65 answered “always” 33% and “sometimes” 66%. In figure 10 a total of 59 males completed the survey[1]. The majority of people who stated that they sometimes picked up after their pets were mostly male (Figures 7-8). Females picked up after their dogs twice as often than males in the sometimes category (Figures 7-8). When noticing what others do at the park both ages and gender are pretty even except in the “never” category where women stated that they noticed fewer people never picking up compared to men. Men stated they noticed “never” about 4 times as much (Figures 9-10).

The majority of people who stated that they sometimes picked up after their pets were mostly male (Figures 7-8). Females picked up after their dogs twice as often than males in the sometimes category (Figures 7-8). When noticing what others do at the park both ages and gender are pretty even except in the “never” category where women stated that they noticed fewer people never picking up compared to men. Men stated they noticed “never” about 4 times as much (Figures 9-10).

[1] There is a discrepancy between the amount of completed surveys in figures 7 –10 because some respondents answered no to having a dog (hence not answering how often they personally pick up) but still answered how often they noticed others picking up after their pet.

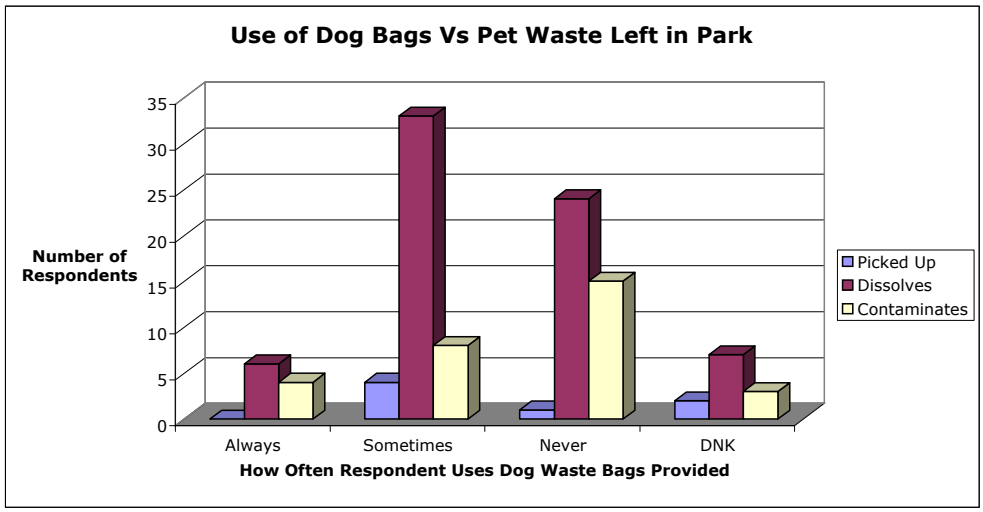


Figure 11 How often a respondent uses the dog waste bags provided by the City of Santee versus the what the respondent thinks happens to pet waste that is left in the park. DNK represents the answer "did not know the city provided bags." The choices are if the pet waste is "Picked Up" by a city employee, the pet waste "Dissolves" and fertilizes the park, or if the pet waste "Contaminates" local streams

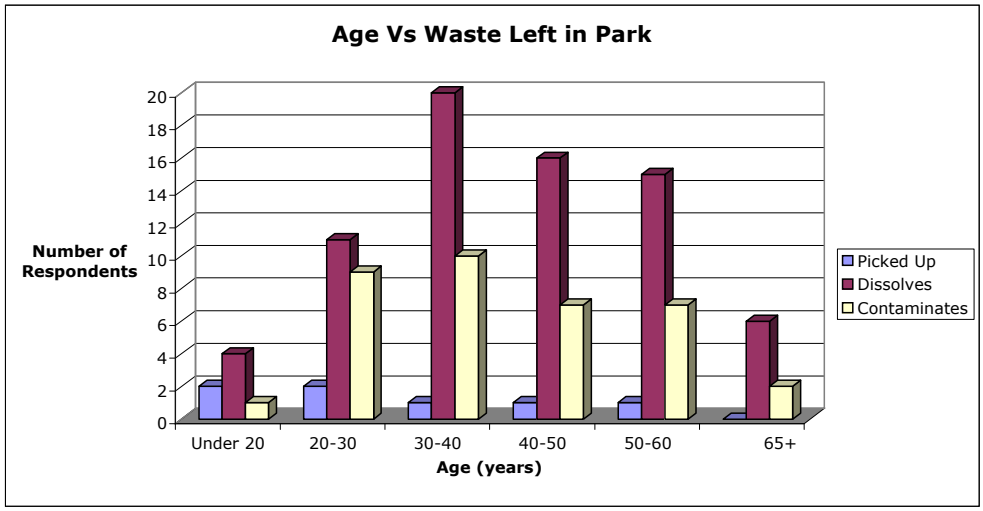


Figure 12 Distribution of age versus what a respondent thinks happens to pet waste left in the park. The choices are if the pet waste is "Picked Up" by a city employee, the pet waste "Dissolves" and fertilizes the park, or if the pet waste "Contaminates" local streams

Figure 11 and Figure 12 present current residential knowledge of what happens to pet waste left in the park. Figure 11 compares the how often the respondents use the dog waste bags provided at the park and what they think happens to pet waste that is left in the park. Respondents answered if they "always", "sometimes", "never", or "did not know that the city provided bags" for the use of the provided dog waste bags in the park. This answer was compared to what they think happens to pet waste left in the park, of the choices: "being picked up by the city", "dissolving and fertilizing the park", and " contaminating local streams". Pet waste dissolving was the most common answer (65%), contaminating local streams (28%), and the city picking up the pet waste (7%). Respondents that answered that pet waste dissolves and fertilizes also answered that they "sometimes" use the dog bags 47%. Others answered "never" 24%. Figure 12 compares the age of the respondent to what they think happens to pet waste left in the park. The ages of 30 to 40 answered pet waste dissolves 65% while only 50% of the people with ages between 20 to 30 answered pet waste dissolves. Respondents between the ages of 20 to 30 also answered pet waste contaminates streams 41%. Current knowledge of water quality differed. People that believe pet waste dissolves and fertilizes the grass in the park were more likely to not pick up after their pet with a ratio of about 4:1 (Always/Sometimes) while people that believe the pet waste left in the park contaminates local water streams had about a 7:1 ratio of picking up after their pet (Figure 11). Also use of city-provided dog waste bags impacts how many times a respondent picks up after their pet (Figure 11). Dog owners that answered they always use the bags provided had a 9:1 ratio (Always:Sometimes) of picking up after their dog while people that stated they

sometimes or never use the bags had a smaller ratio of about 5:1 (Figure 11). People that do not use the bags on regular bases were two times less likely to pick up after their dog (Figure 11). Current knowledge was also different throughout age groups. Residents between the ages of 20-30 are evenly dispersed between believing pet waste dissolves or contaminates, while those aged 30-60 have an almost 2:1 ratio of thinking waste dissolves/contaminates (Figure 12). Males were more evenly dispersed between answering that pet wastes dissolves or contaminates. Women aged 30 to 60 had a 3:1 and 4:1 ratio between thinking pet waste dissolves and fertilizes the park, or contaminates local streams (Figure 12).

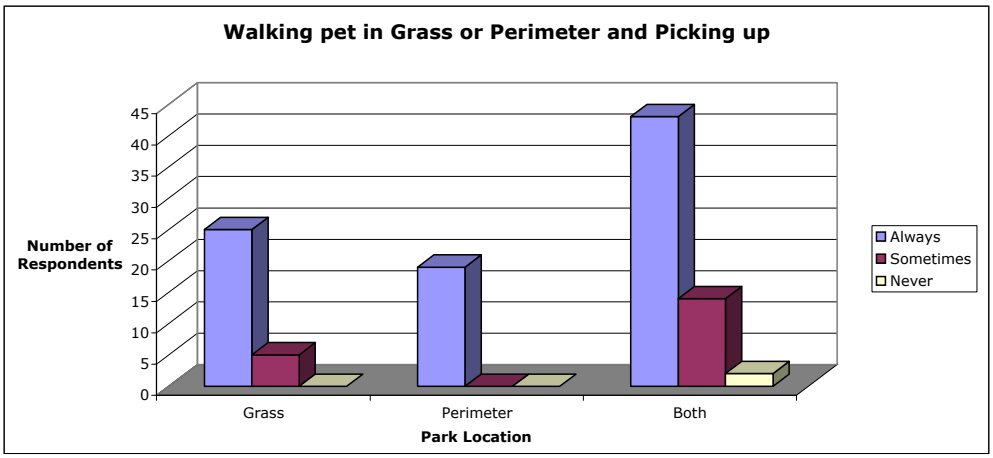


Figure 13. Represents how often a respondent stated they picked up after their dog versus where in the park they walk their dog.

Comment:

Both parks have signs in front of the park that say dogs must be on leashes at all times. However, owners walking their dogs without a leash occurred at a 5:1 ratio (both Woodglen Vista and Big Rock Park). The grass versus perimeter comparison did provide evidence that people walking their dog in the large grass area are less likely to pick up after their pets (Figure 13). Respondents that answered that they walk their dog in the

large grass area answered “sometimes” 5 times to whether they picked up their pet waste. Respondents that walk their dog along the perimeter never answered “sometimes” or “never” to whether they picked up the pet waste up. The density map of pet waste shows that people will leave their pet waste along the edges of the park near bushes and fence lines more often (Figures 14 and 15)

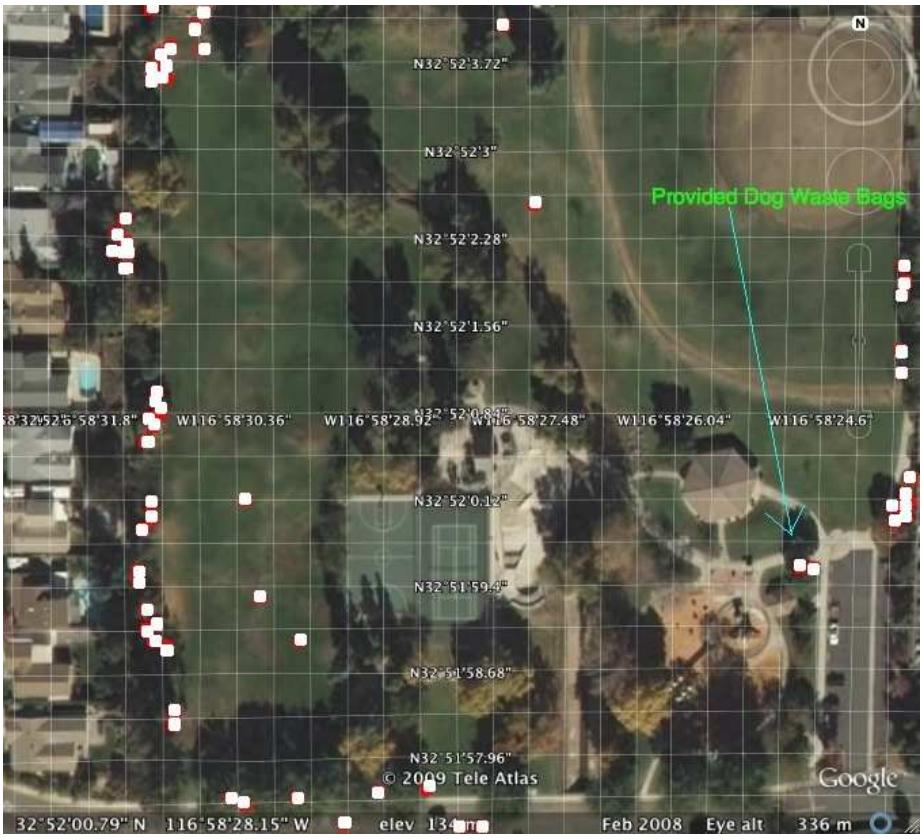


Figure 14. Woodglen Vista Density Pet Waste Map. The white markings represent the sites at the park where pet waste was witnessed.

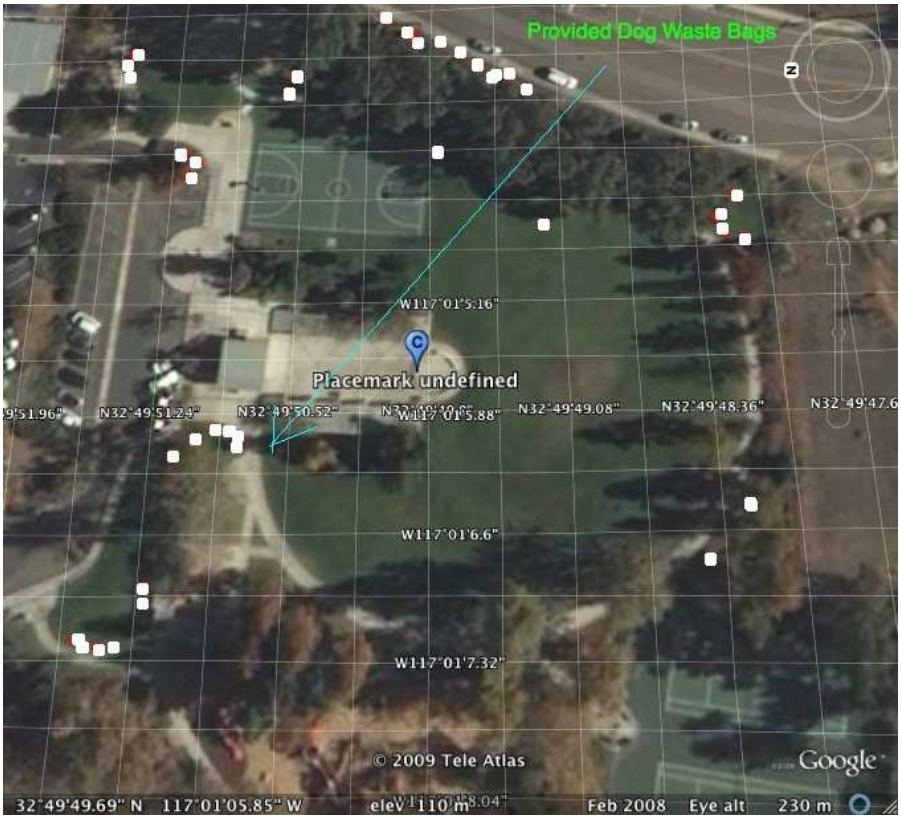


Figure 15. Big Rock Park Density Pet Waste Map. The white markings represent the sites at the park where pet waste was witnessed.

The more often an individual walked their dog the more likely they were to pick up after their pet. When people stated that they walked their dogs once per week the ratio of "always" picking up versus "sometimes" picking up was 33:10, 16:5 for two times per week, and 37:4 when they stated three or more times a week. People that walk their dog three or more times a week are nine times more likely to always pick up after their pet (Figure 16).

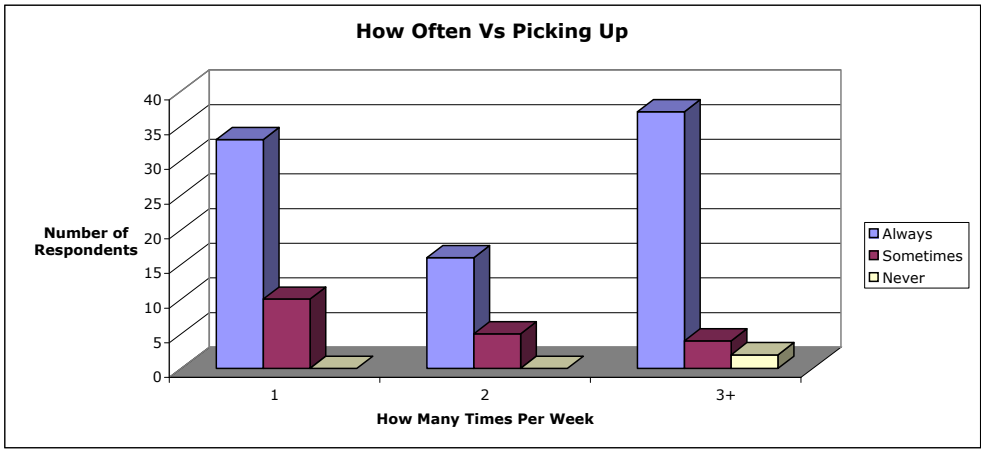


Figure 16. How often an owner will walk their dog per week versus how the owner answered they pick up after their dog. The choices are they pick up "always", "sometime", or "never".

After plotting the pet wastes left in both Woodglen Vista Park and Big Rock Park, there was almost a 2:1 difference in the amount between pet waste left in Woodglen Vista over Big Rock Park (Figures 14 and 15). The density of events increases near the edges of the park and on the outside the park (Figures 14 and 15). For example, at the east edge of Big Rock Park on along the sidewalk on the fence line, there was more pet waste left than anywhere else in the park. At Woodglen Vista Park, there was more pet waste left along the bushes and trees on the large grass area. At Woodglen Vista Park, this could be because owners did not notice their dog defecating as much along the bushes as if they would if their dog was in the center of the park. At Big Rock Park there was more pet waste left outside the park.

Discussion

The results from both the observation study and the individual surveys do not provide a single conclusive reason for having an increased amount of pet waste left in the park. Noticing the age demographic most of the people that were surveyed were between the ages of 30-40 (26% people surveyed) and 40-50 (20% people surveyed). It is interesting to note that the only group to say that they never picked up after their pets were males in this middle aged range.

When respondents commented on how often they noticed other people in the park picking up their pet waste, the most common answer was “sometimes” people pick up after their pets. This could be due the fact that what people say and what they actually do tends to differ when self-reporting in a survey. They may feel that they need to answer that they would always pick up after their pet. There is cognitive research studying how people will answer a survey even if it is completely anonymous. A book titled “Do People Mean What They Say?” by Marianna Bertrand comments on this cognitive study. Social nature plays a major role in how a respondent may choose to answer questions in front of an interviewer. In the case of this survey, respondents may have wanted to avoid looking like an irresponsible pet owner in front of the interviewer. Many respondents avoid stating opinions about an issue that affects people. Another problem with some surveys is that respondents take little mental effort in answering questions addressed. Respondents will not always take the time recalling specific events that are pertinent to the survey (Bertand and Mullainathan 2001). The survey conducted showed a massive discrepancy between what respondents said they did personally compared to what they said others in the park do. The majority respondents answered that they personally pick

up after their pet “always” but answered others rarely “always” pick up after their pet. The answer relating to what others do may better relate to what the respondent actually does. The observations and pet waste density map suggest that few people “always” pick up after their pet.

From the observations, one of reasons that was concluded to have an impact on owners not picking up after their pet was having dogs unleashed in the park, however the data received in the survey portion did not fully confirm this observation. The surveys show that having a dog unleashed resulted about a 4:1 ratio (picking up:not picking up) and having your dog always leashed resulted about a 5:1 ratio. With the park dog-leashing laws being changed at the end of June 2009 (after the survey portion of this project was completed) this will need to be looked at again to determine if there is a shift in observed data. People that always leash their dogs but do not pick up after their pet could be taking advantage of going unnoticed by other park users. People that leash their dogs were more likely to always walk on the pathway or the perimeter of the park. Both pathways and perimeters at Woodglen Vista Park and Big Rock Park have areas that are not as visible, so this could lead owners to not care as much because they are less visible. People that never leash their dogs are more likely to be in the large grass areas of the parks. These grass areas are more visible to others in the park and could make owners believe that someone would notice them if they did not pick up after their dog.

There appears to be some correlation between the time of the day and people’s behavior. During my observations in the early to mid morning I did not see as many people walking their dogs and did not see any owners leave pet waste behind. A routine of always walking their pet at certain time of the day seems to make people more likely

to pick up after their pet. This can be seen in the data on how often owners walk their dogs per week. The owners that stated that they would walk their dogs 3+ times per week were 9 times more likely to always pick up after their dog, compared to owners that only walk their dog once or twice a week. These data suggest that having a routine of walking your dog constantly at a certain time or amount of times per week does play a role in whether owners pick up after their pet (Figure 16).

The water quality knowledge of residents had an important role in the decision to pick up pet waste. Owners that stated pet waste left in the park contaminates streams were about seven times more likely to pick up after their pet than not, while owners that thought that pet waste dissolves and fertilizes the grass were only about five times more likely to pick up after their pet (Figures 11 and 12). It is intuitive that people who believe that pet waste will contaminate local streams would be more likely to want to always pick up after their pet. According to the survey data, females stated that pet waste dissolves three to four times more often compared to males, who were more evenly split between thinking pet waste contaminates local streams or that it dissolves and fertilizes the grass.

Many residents that answered the survey stated that others in the park do not pick up after their dogs. This corresponds to the data received during a Think Blue Survey (2008). Many residents of San Diego believed that their neighbor does not care if they are directly adding to water pollution. This is either because of the social nature of the survey where the respondent does not want to look irresponsible in front of the interviewer or because they actually notice more people besides themselves not taking an action to reduce residential impact on water pollution. Although residents in San Diego feel that pet waste is an above average concern in terms of impacting water quality, the

majority of the people that were surveyed for my study believed that pet waste dissolves into the grass. The residents that responded to the Think Blue survey stated that "seeing pet waste on the sidewalk" was the second most common observance of polluting behavior in San Diego. Pet waste left on the sidewalks adjoining the park was commonly observed while I was making the pet waste density maps.

A similar pet waste study in Hillsborough County Florida concluded some of the same results as my study. The study utilized focus groups and determined that the most common reason residents do not pick up after their pet is because they do not care or they do not know it is a problem. A similar conclusion in the Hillsborough County Florida to my study was the most important issue that led to picking up after their pet. On a scale of 1 to 5 with 1 being the most important pollution was numbered 4 and aesthetics was numbered 1. This correlates with my study because more of the respondents believed that pet waste dissolves and fertilizes the grass than contaminates local streams (HC pet waste study 2009),

Many respondents to the Think Blue Survey believe that water quality is something that the government should take care of or feel that they do not have the time be involved in local activities to reduce water pollution. Residents also feel that they would have a small impact and would not make a difference in the larger scale (Think Blue Survey 2008). My survey disagreed with these findings. Only 7% answered that they believed that city workers picked up after the pet waste that was left in the park. The survey did not address if respondents would be more involved in better practices if they had more time.

Conclusion

From the data presented the following conclusions can be made.

- Woodglen Vista Park has a greater problem with people not picking up after their pets
- Although I did not indentify a single significant group or activity that leads to an increase in pet waste left in the park, the density pet waste maps show that residents do not pick up after their pets in the parks.
- The leashed:unleashed ratios from both the observation study and surveys conducted indicated that when a residents dog is unleashed, they are less likely to pick up after their dog.
- Males stated more often that they sometimes do not pick up after their dog, but when males walked with another person this ratio was cut in half.
- Males were evenly split between thinking pet waste dissolves and fertilizes the grass or instead contaminates local streams while females stated that pet waste dissolves and fertilizes more often.
- People who walk their dogs more often are more likely to pick up after their pet waste.
- Residents that do not pick up after their pet will usually walk the large perimeter of the park next to the overgrowth of bushes.

Recommendations

Based on this study the following recommendations can be made:

- Better advertisement of provided pet waste bags at Woodglen Vista Park and Big Rock Park. Provide the free waste bags in more areas of the parks.
- There is a need for an education program for the residents of the City of Santee about pet waste management.

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ATTACHMENT 8.1 SANTEE REVIEW ARTICLES

Santee Review

Your quarterly update for City news

Summer 2009

Santee Budget & State of City Update

Environmental Impact Report for Fanita Ranch Revised

Progress Continues at Town Center Community Park



We're going Green! As part of the City's effort to implement more sustainable business practices and to cut costs the Santee Review will no longer be printed in magazine format. Instead, an electronic version will be available online. Please visit **www.ci.santee.ca.us** to view and down load your e-copy today!

City Enhances Environmental Impact Report for Fanita Ranch

The City has enhanced a wildland fire safety report for Fanita Ranch.

Fire safety was analyzed as part of the Environmental Impact Report (EIR) approved for the Fanita Ranch project in December 2007. The use of prescribed burning and grazing of Fanita's natural open space preserve was ruled out as unnecessary, potentially unsafe, and environmentally unsound.

While a court upheld the EIR on all issues, it advised the City to expand upon a fire protection analysis prepared by fire safety experts. The City consulted with the original authors of the fire protection plan, and also requested two additional experts respected in the fire science field to conduct an independent review. Each of the fire safety experts concluded that the Fanita Ranch fire protection design for wildfire is sound.

The analysis found that prescribed burning and grazing in Fanita's natural open space preserve pose real problems. Prescribed burning close to residents has potential health risks from pollution. Grazing methods are unpredictable because herbivores are not selective and could eat sensitive plant species along with invasive plants.

The enhanced fire safety report is included in the revised EIR, and includes information on the City's existing regulations for wildland fire protection which continue to be some of the most protective regulations in the State.

The Revised EIR for public and fire safety can be found on the City's website at www.ci.santee.ca.us.





Volunteers Assist with Creek Clean Up

Rain storms last winter washed unsightly trash into the newly-restored Forester Creek that runs through Santee. Thanks to volunteers from the San Diego River Park Foundation who assisted city staff in removing 1.5 tons of unsightly trash along a one-mile section of the creek before it could be washed further downstream into the San Diego River.

For further information on the San Diego River Park Foundation or information about volunteering at future creek and river clean up events visit *http://www.sandiegoriver.org*. To report storm water pollution contact the Stormwater Program Manager at (619) 258-4100 ext. 177.

The Sustainability Project

"Community in Balance"

The City of Santee has committed to an effort to promote energy efficiency and reduce our local government's reliance on costly business practices through energy and water conservation, reduced demand and use of sustainable workplace practices.

The purpose of this effort, known as *The Sustainability Project*, is to:

1. Respond to legislative mandates to reduce greenhouse gas emissions.
2. Save taxpayer money through improved energy and water conservation.
3. Do the right thing for the environment and our future by becoming more sustainable.

Over the next year, the City of Santee will focus on developing and adopting an *Energy Road Map*, which will identify opportunities and prioritize actions to reduce energy use and become more environmentally responsible.

The Energy Road Map will focus on:

- Energy efficient building retrofits, upgrades and workplace practices;
- Opportunities for renewable energy uses, such as solar power;
- Energy efficient transportation improvements, such as street light and traffic signal upgrades;
- Sustainable land-use planning practices, such as development of green building policies, codes and incentives;
- Public education and outreach programs to assist residents and businesses in using less energy;
- Economic development opportunities;
- Partnerships, grants and incentive programs to assist residents and businesses in obtaining energy rebates and financing opportunities; and
- Clean transportation practices to reduce City vehicle carbon emissions.

In partnership with San Diego Gas & Electric (SDG&E), the City has begun to perform comprehensive energy assessments of 23 City facilities, including Santee City Hall, Santee Fire Stations, Public Services Operations Center, Sheriff's Station, Aquatics Center, Teen Center and other park and recreation facilities. Results of these assessments will be included in the Energy Road Map.

As part of this effort, the City has also partnered with several agencies in the Santee region, including Padre Dam Municipal Water District, Santee School District, Grossmont Union High School District, U.C. San Diego, SDG&E, SANDAG and CleanTECH San Diego[1].

This ambitious, community-wide effort is focused on developing regional energy efficiency and renewable energy opportunities to benefit the entire region. Beneficiaries will include the City of Santee, municipal agencies, local businesses and residents.

The City of Santee is on the verge of becoming a model for our citizens and our future. Through this project and our partnerships with other agencies, our vision is to make the Santee community as efficient and environmentally responsible as possible.

(1) CleanTECH San Diego is a non-profit membership organization formed to stimulate innovation and accelerate the adoption of clean technologies and sustainable industry practices for economic, environmental and social benefit.

Water Conservation Efforts Continue

Water Conservation is more important than ever. To combat California's third consecutive year of drought, Governor Arnold Schwarzenegger recently proclaimed a level 2 state of emergency and has directed all state and local agencies to utilize their resources, implement emergency conservation plans, and provide assistance for people, communities and businesses impacted by the drought.

Using recycled water for irrigation saves precious potable water for drinking, bathing and cleaning.

Most of the City of Santee's public property landscaping is already irrigated with recycled water. This includes parks, medians, rights-of-way, and landscaping around City buildings.

In addition to using recycled water, the City uses "Smart Irrigation Controllers" which are currently installed on approximately 50% of the City's irrigation systems. The City's goal is to retrofit the entire system to these water efficient controllers. The controllers use weather data and plant type to adjust watering times and frequency for maximum efficiency. The water wise controllers also detect and control leaks, reduce water use and improve overall system efficiency.

As required under drought conditions, all City systems are scheduled to water only between the hours of 10:00 p.m. and 6:00 a.m.

To help customers become more water efficient, Padre Dam Municipal Water District offers a variety of programs to assist customers in reducing water use. Please visit their website at *www.padredam.org* to get more information on water conservation, drought and water resources.

To report irrigation leaks or problems with any City irrigation system please call (619) 258-4100 ext. 188, call the Public Services Operation Center at (619) 258-4195, or visit the City website at *www.ci.santee.ca.us*.



SANTEE RECYCLES

Help Santee Recycle

Is there something in your garbage that isn't really garbage? Chances are, yes. Over half of what you put in the trash can be recycled, reused or transformed into new consumer products.

Waste prevention and recycling programs have been in place for several years with state laws requiring cities and counties to reduce waste by 50%. For several years, the City of Santee has met and exceeded the 50% diversion requirement. The City looks to residents and businesses to help in continuing to meet this goal and help make our community more sustainable.

The following items can be put into your blue household commingled recycling bin:

- Newspapers
- Mixed papers
- Cardboard
- Empty aerosol cans
- Frozen food boxes
- Glass
- Paper bags
- Plastic beverage bottles (#1-7)
- Plastic containers (#1-2)

Items not accepted for recycling:

- Paper towels
- Styrofoam
- Paper plates or napkins
- Aluminum foil
- Food Waste
- Plastic Utensils

Even yard waste, which makes up a large part of California's waste stream, can be recycled right in your own backyard through the simple practice of grasscycling, mulching and composting. In addition to saving landfill space, you'll save on buying fertilizer for your yard. Vegetable food scraps in a compost bin can also reduce a large percentage of garbage.

Think green and make recycling a habit at home and at work. To learn more about what can be recycled, call Waste Management (the City's franchise hauler) at (619) 596-5100, City Hall at (619) 258-4100 ext. 128 or visit *http://www.wastemanagementsd.com*.

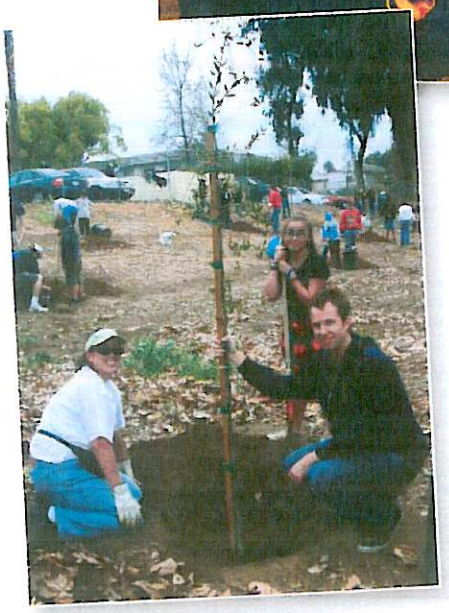
SanTree Fest Improved Park through Interactive Outdoor Fun

The 4th annual *SanTree Fest...an Earth Day Celebration* recently took place in conjunction with the City receiving a "Tree City USA" designation.

The City and Waste Management partnered together to host the event at Mast Park where participants planted 110 native trees in the park and removed 40 yards of invasive plants from the San Diego River. In addition, the event provided a variety of environmental information booths, food sampling opportunities and live entertainment by the bluegrass band, Virtual Strangers.

This free community event was made possible through the generous support of Waste Management, community partner Henry's Marketplace and hosts of employee volunteer groups, neighborhood volunteer organizations and community members.

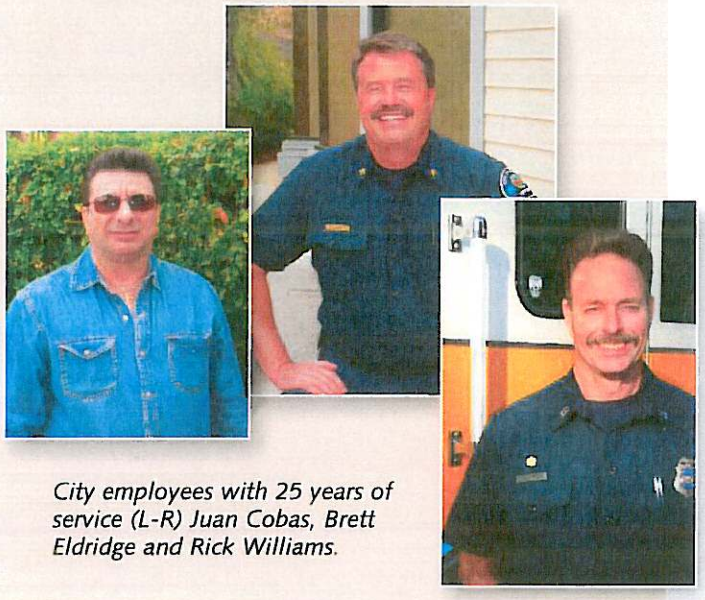




City Employees Honored

City employees gathered in February for the annual Employee Service Awards Ceremony where twenty-five employees who have dedicated between five and twenty-five years of service to the City of Santee were honored. The City Manager presented individuals with a plaque and City pin in recognition of their years of service to the City of Santee.

The following employees were honored for twenty or more years of service to the City of Santee: Juan Cobas, Engineering Inspector, Brett Eldridge, Fire Division Chief, Rick Williams, Fire Captain, Cory Christensen, IT Manager, Linda Christensen, Buyer, Mike Collicott, Firefighter, Tim Dibsie, Fire Captain, Hap Nowakowski, Fire Engineer, Larry Roberts, Fire Captain and John Thornton, Fire Engineer.



City employees with 25 years of service (L-R) Juan Cobas, Brett Eldridge and Rick Williams.

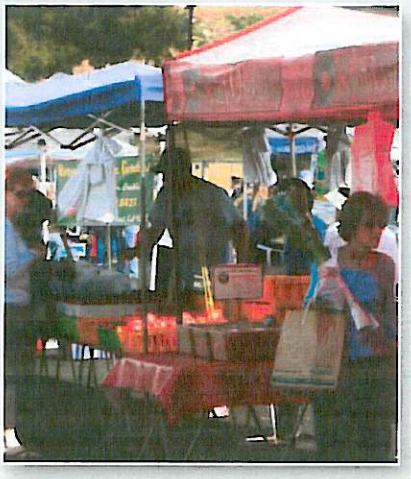
Certified Farmers' Market in Santee

Check out local farm fresh produce and great food at the Santee Farmers' Market.

Open every Wednesday afternoon from 3:00 to 7:00 p.m., rain or shine.

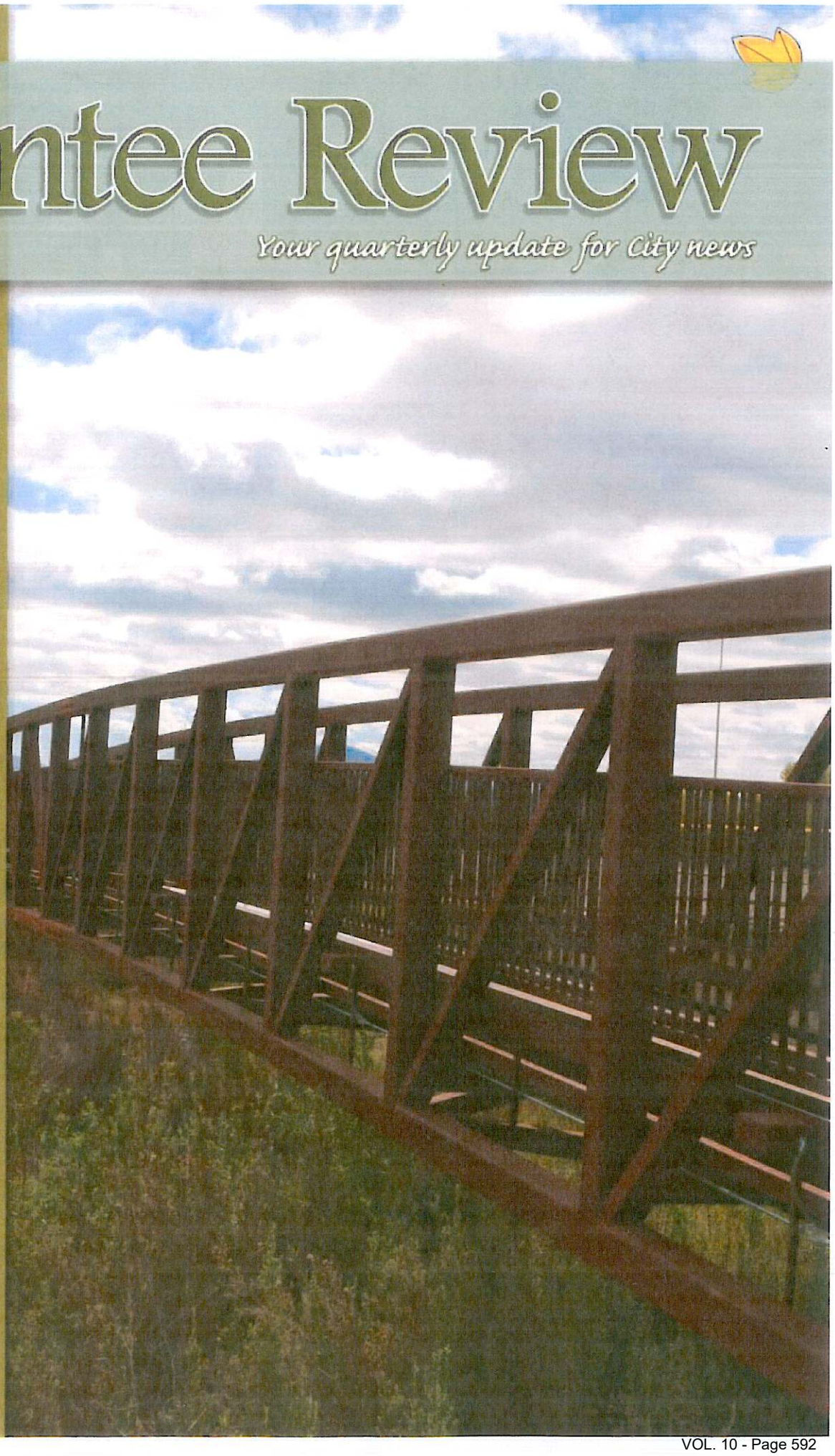
Located at 10445 Mission Gorge Road (old Santee School site). Free on site parking is available.

For more info contact Andrea Hankins at *santeecertifiedfarmersmarket@gmail.com* or (619) 933-8427.



Santee Review

Your quarterly update for City news



Fall 2009

2009 in Review

Town Center Community Park Takes Shape

Santee's Conservation Plan

Upcoming Events

4

Debris Recycled into Construction Material

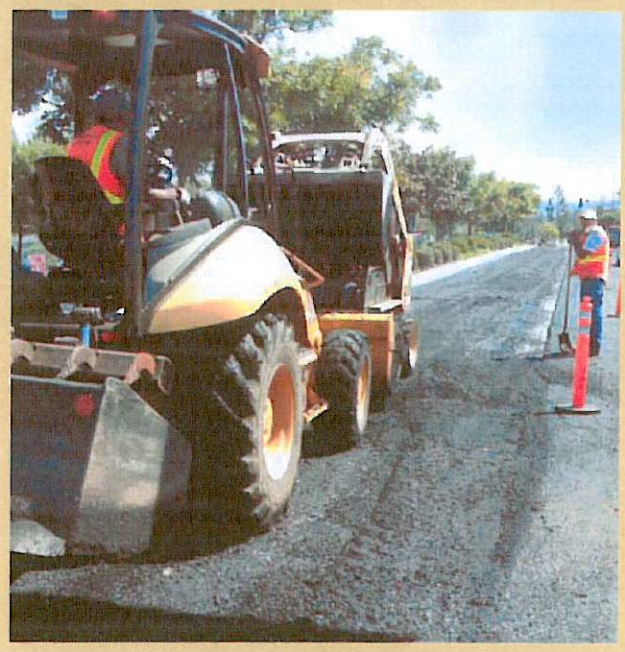
As a result of natural erosion and scouring from rain storms in 2009, approximately 2,500 tons of silt and sand were washed from neighboring communities downstream into the cement lined portion of the Forester Creek channel, north of the Mission Gorge Road Bridge. Public Services Division crews are mandated by the State of California Water Quality Control Board to clean out all channels, culverts and catch basins throughout the City annually in order to maintain required water quality.

Instead of hauling the debris to the landfill, ten cubic yard dump trucks hauled over 230 loads of silt and sand to the Town Center Community park construction site to be used as backfill along the base of two large retaining walls, one along the east side of Cuyamaca Street and the other separating the new park from Rio Seco School.

This sustainable project helped improve water quality in the San Diego River, reduced park project construction costs and diverted materials from the landfill.



Crews removed 2,500 tons of natural sand and silt debris from the Forrester Creek Channel.



Stimulus Funds Help Improve City Roads

The City of Santee secured stimulus funding through the American Recovery and Reinvestment Act (ARRA) and is quickly putting it to good use on Santee roads. In total, the City was awarded $918,000 for transportation projects in Santee.

Funding will be used for the rehabilitation of Mission Gorge Road from Fanita Drive to Town Center Parkway and Magnolia Avenue from Mast Boulevard to El Nopal for much needed repairs to these heavily traveled roads.

These efforts were made possible with help from the San Diego Association of Governments (SANDAG). This funding is a welcomed addition, especially as the cost for paving materials continues to rise.



Recycled silt and sand materials were used as back fill for retaining walls at Town Center Community Park



Kids, Water and Bugs!

Sixty children attending the City of Santee summer day camp enjoyed a hands-on experience on the connection between neighborhood pollution, the storm drain system and river water quality. The children poured different types of "pollution" down a model of the storm drain system into the "river." They learned how streets discharge directly into the river, and the importance of not dropping trash or disposing of waste liquids into the street.

After seeing what pollution can look like in the river, they were introduced to some of the wildlife that live in Forester Creek. Gary and Laqueta Strawn, and Shannon Quigley of the San Diego River Park Foundation brought along bugs for the children to observe.

You can help keep the river and creeks clean by reporting illegal discharges to the Stormwater Program Manager at (619) 258-4100 ext. 177.

Recycle Old Batteries

In California, discarded batteries of all sizes are considered hazardous waste. This includes single use alkaline AAA, AA, C, D, button cell, and 9 Volt as well as lithium and rechargeable batteries. Batteries must be recycled or taken to an appropriate waste disposal facility. They should not be disposed of in the trash.

Batteries are considered hazardous because of the metals and other toxic and corrosive materials they contain. But did you know they are also a potentially valuable source of recyclable metal? It makes sense to reprocess the metal for use in new products.

The Waste Management Recycling Center located in El Cajon will recycle your old batteries. For more information contact the Recycling Center at (619) 596-5100 or call Ed Ruiz, Santee Community Services Department, at (619) 258-4100 ext. 128.

Remember, batteries do not belong in the trash!



Free Classes for California-Friendly Landscaping Available

Home gardeners and landscape professionals can learn the latest ways to reduce water use in landscapes by taking classes online or in-person. Classes are free and cover information on irrigation systems, watering, fertilizing, basic landscape design and plant identification.

For online classes visit www.bewaterwise.com and click on the "Classes" tab at the top of the page. The Cuyamaca College Conservation Garden and Padre Dam Municipal Water District also offer classes at their locations. For information on class times and locations visit www.thegarden.org or www.padredam.org.



Reducing Energy and Water Use Concurrently

The San Diego Gas & Electric Company (SDG&E) is currently offering free home-energy saving kits to help residents save energy and water. These easy to install kits include three faucet aerators and a low-flow showerhead.

Low-flow showerheads and faucet aerators are a great way to save energy and water use at the same time. These devices allow air to enter into the water stream, maintaining a high-pressure flow while reducing water use by up to 11%.

Remember, when you're saving water, you're also saving energy. For more information or to request your free kit, log on to www.sdge.com/residential/energyefficiencykit.



Water Efficient Landscape Ordinance Takes Effect

Southern California is currently experiencing an extended period of drought combined with a reduced supply of imported water from Northern California. The State of California has recently adopted legislation that requires the California Department of Water Resources to update its existing water efficient landscape ordinance. The new legislation also requires that all cities and counties adopt water efficient landscape ordinances by January 2010 that are at least as effective at conserving water as the State model. The new standards are important to landscape and irrigation maintenance in Santee because they restrict water use, thereby requiring more careful monitoring and maintenance of irrigation systems.

The key points of the new state ordinance are to establish a maximum water allocation for most new development and large existing development projects through a "maximum allowable water allocation". This allocation is determined based on the type and size of landscaping and irrigation, and the climate type that applies to each project. A water allocation will be established for all new and rehabilitated commercial, industrial, public, and developer initiated residential developments with landscape areas exceeding 2,500 square feet, and individual homeowner installed single family residential landscapes exceeding 5,000 square feet. The new standards also apply to existing landscapes for properties exceeding one acre in size.

The City of Santee is participating in a working group with other east county cities, the County of San Diego, Helix Water District, and Padre Dam Municipal Water District to develop consistent landscape regulations among these municipalities while meeting the requirements of the new state landscape ordinance. Uniformity of regulations will make the landscape and irrigation approval process more user friendly for both residents and the development community.

Santee's water efficient landscape ordinance will be presented to the City Council for consideration later this year. For further information, contact Mark Brunette, Senior Planner at (619) 258-4100 ext. 158 or mbrunette@ci.santee.ca.us.

ATTACHMENT 12.1 ADDITIONAL STUDY

CITY OF SANTEE
2009 ADDITIONAL STUDY
RIVERS AND CREEKS









Submitted to:

City of Santee
Development Services
10601 Magnolia Avenue
Santee, CA 92071-1266

Prepared by:

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D-MAX Engineering, Inc.
Consultants in water & environmental sciences

January 20, 2010
Project No. 200919W-3

Ms. Helen Perry
Storm Water Program Manager
City of Santee
10601 Magnolia Avenue
Santee, CA 92107-1266

Re: City of Santee 2009 Additional Study, Rivers and Creeks

Dear Ms. Perry:

Enclosed please find our final report for the City of Santee 2009 Additional Study. This report presents the results of the monitoring conducted at five river and creek locations in the City of Santee during both rounds of the 2009 dry weather season. The contents include field screening data and analytical laboratory test results, historical data, and photographs of sampling locations.

Review comments from the draft report submitted to the City have been incorporated into this final report. It has been our pleasure working with the City of Santee on this project. If you have any questions regarding this report, please call me at (858) 586-6600 ext. 22.

Sincerely,
D-MAX Engineering, Inc.

Arsalan Dadkhah, Ph.D., P.E.
Project Manager

7220 Trade Street ■ Suite 119 ■ San Diego, CA 92121 ■ (858) 586-6600 ■ Fax (858) 586-6644

Table of Contents

Section **Page**

1 ADDITIONAL STUDY....1
1.1 Introduction 1
2 FIELD AND LABORATORY ANALYTICAL METHODS....3
2.1 Field Screening Procedures 3
2.2 Laboratory Analytical Methods 4
3 FIELD SCREENING RESULTS....6
3.1 Qualitative Observations 6
3.1.1 Round One 6
3.1.2 Round Two 6
3.2 Field Analytical Results 8
4 LABORATORY ANALYTICAL RESULTS....12
4.1 Summary 12
5 DATA ANALYSIS....15
6 REFERENCE....20

TABLES

1-1 2009 River and Creek Monitoring Stations
2-1 Field Analytical Methods
2-1 Laboratory Analytical Methods
3-1 Field Observations – Round One
3-2 Field Observations – Round Two
3-3 Statistical Summary of Field Analytical Results – Round One
3-4 Statistical Summary of Field Analytical Results – Round Two
3-5 Field Analytical Results – Round One
3-6 Field Analytical Results – Round Two
4-1 Laboratory Analytical Results – Round One
4-2 Laboratory Analytical Results – Round Two

FIGURES

5-1 Additional Study Data: pH
5-2 Additional Study Data: Fecal Coliform Forester Creek
5-3 Additional Study Data: Fecal Coliform San Diego River
5-4 Additional Study Data: Fecal Coliform Sycamore Creek
A City of Santee 2009 Receiving Waterbodies Sampling Location Map

APPENDICES

A Historical Dry Weather Monitoring Data
B Photographs of Sampling Locations
C Laboratory Analytical Reports
D Field Data and Trash Assessment Sheets

1 ADDITIONAL STUDY

1.1 Introduction

Concurrent with the 2009 Dry Weather Monitoring Program, two rounds of monitoring were conducted as part of an additional study for the City of Santee (City). The objective of the Additional Study is to evaluate water quality in the San Diego River, Forester Creek, and Sycamore Creek, and to assess any change in water quality as they flow through urbanized areas of the City. The City has conducted an additional study of its receiving water bodies twice each year since 2002. Historical monitoring data is included as Appendix A. Round One and Round Two of the 2009 Additional Study were conducted in May and September of 2009, respectively.

The five monitoring sites selected for the Additional Study are described below.

- Forester Creek, Upstream: located beneath the Prospect Avenue bridge, west of Cuyamaca Street.
- Forester Creek, Downstream: located approximately 200 feet north of the Mission Gorge Road and Fanita Drive intersection, east of Fanita Creek.
- San Diego River, Downstream: located beneath the West Hills Parkway bridge.
- San Diego River, Upstream: located approximately 200 feet downstream of the rock dam at the east end of the RCP service road.
- Sycamore Creek, Downstream: located beneath the Carlton Oaks Drive bridge, west of the Santee Recreation Lakes.

Table 1-1 provides the site number, location, conveyance configuration, land uses, hydrologic subarea, and GPS coordinates of the sampling locations. A map of sampling locations is included as Figure A. Photographs of sampling locations are included in Appendix B.

During both rounds of monitoring, flow rates and visual observations were recorded, field testing was performed, and samples were collected for laboratory analysis, at all five sites. Laboratory reports for both rounds are included in Appendix C. Field data sheets for both rounds of monitoring are included in Appendix D.

TABLE 1-1
2009 RIVER AND CREEK MONITORING STATIONS

Site Name	Location	Conveyance	Primary Land Use	Secondary Land Use	Hydrologic Subarea	Latitude	Longitude
Forester Creek Downstream	Approximately 200 feet north of the Mission Gorge Road and Fanita Drive intersection, east of Fanita Creek	Natural Creek	Open	Commercial	907.12	32.83953	-117.00241
Forester Creek Upstream	Beneath the Prospect Avenue bridge, west of Cuyamaca Street	Concrete Channel	Industrial	Commercial	907.13	32.83093	-116.98543
San Diego River, Downstream	Beneath the West Hills Parkway bridge	Natural Creek	Open	Residential	907.12	32.83936	-117.02450
San Diego River Upstream	Approximately 200 feet downstream of the rock dam at the east end of the RCP service road.	Natural Creek	Open	Industrial	907.12	32.85282	-116.95281
Sycamore Creek Downstream	Beneath the Carlton Oaks Drive bridge, west of the Santee Recreation Lakes	Natural Creek	Open	Residential	907.12	32.84441	-117.00652

2 FIELD AND LABORATORY ANALYTICAL METHODS

2.1 Field Screening Procedures

Field screening techniques consist of qualitative field observations, flow measurement, and quantitative field analyses of selected water quality parameters. Weather conditions, time since last rainfall, and the type of stormwater conveyance are recorded as well. Specific observations and results of the field water quality analyses are documented on field data sheets, which serve as a record of the field visit and are included in Appendix D.

Field screening and analyses were conducted according to the following procedures and methods.

Qualitative Observations

Qualitative field observations are made during each site visit. These observations include a general site assessment and description of water odor, clarity, the presence of floatable materials, visible deposits or stains, and organisms. Evidence of present or past illicit connections and illegal discharges to the storm drain system can also be discovered through careful field observations. Each field screening location is photographed to document site conditions. Photographs are included in Appendix B.

Flow Measurement

Flow measurements can be used to estimate pollutant mass loading and to identify any significant changes in discharge that may indicate an illegal discharge upstream. Various field methods are used in formulas to estimate the flow rate, but the most common used in this study consisted of measuring the velocity, depth, and width of the flowing water. Low levels of flow may also be assessed visually.

Field Water Quality Analyses

At each site, water samples were collected and analyzed in the field for the following constituents:

- Temperature
- pH
- Specific Conductance
- Turbidity
- Dissolved Oxygen

The methods used to perform the above field analyses, along with the reporting limit, range, and accuracy of each method, are listed in Table 2-1.

TABLE 2-1
FIELD ANALYTICAL METHODS

Parameter	Method	Reporting Limit	Range	Accuracy
Specific Conductance	Hanna Instruments HI 991301 Portable pH/EC/TDS/Temperature Meter*	0.01 mS/cm	0 – 20 mS/cm	± 2% of functional sensitivity[1]
Temperature	Hanna Instruments HI 991301 Portable pH/EC/TDS/Temperature Meter*	0.1°C	0.0°C – 60.0°C	± 0.5°C
pH	Hanna Instruments HI 991301 Portable pH/EC/TDS/Temperature Meter*	0.01	0.00 – 14.00	± 0.01 pH
Turbidity	Hanna Instruments HI 93703 Portable Turbidity Meter*	0.01 NTU	0.01 – 50.00 NTU and 50 – 1000 NTU	± 0.5 NTU or 5% of reading (whichever is greater)
Dissolved Oxygen	Hanna Instruments HI 9145 Portable Dissolved Oxygen Meter	0.00 mg/L	0.00 to 45.00 mg/L	± 1.5% of range

Notes:
EC = electrical conductivity
TDS = total dissolved solids
NTU = nephelometric turbidity unit
mS/cm = millisiemens per centimeter
°C = Degrees Celsius
[1] Functional sensitivity (FS) represents the lowest limit at which quantitative information is reliable. FS is estimated as the mean concentration for a spiked sample whose coefficient of variance (CV) is 20%. CV is the standard deviation divided by the mean.
*Test method information taken from Hanna Instruments and CHEMetrics manuals, available online at www.hannainst.com and www.chemetrics.com.

2.2 Laboratory Analytical Methods

At each site, samples were collected in sterile bottles for transport to the laboratory for analysis. Samples were submitted to EnviroMatrix Analytical, Inc, a laboratory certified by the California Department of Health Services, for analysis of the following constituents:

- Total Kjeldahl Nitrogen
- Total Nitrogen
- Nitrate/Nitrite as N
- Orthophosphate as P
- Total Phosphorus
- Total Dissolved Solids
- Total Coliforms
- Fecal Coliforms
- Enterococci

The methods used to perform each of the above analyses along with method reporting limits and holding times are listed in Table 2-2. Water samples were collected, placed on ice in a cooler, and then submitted to the analytical laboratory within four hours of sampling to ensure that water samples for total coliform, fecal coliform, and *Enterococcus* tests met standard holding time requirements for bacteria samples.

TABLE 2-2
LABORATORY ANALYTICAL METHODS

Analyte	Analytical Method	Method Reporting Limit	Maximum Holding Time
Nitrate/Nitrite as N	SM4500 NO3 E	0.05 mg/L	48 hours
Total Kjeldahl Nitrogen	SM4500 N C	0.5 mg/L	28 days
Total Nitrogen	Calculation*	0.5 mg/L	na
Orthophosphate as P	SM4500 P E	0.05 mg/L	48 hours
Total Phosphorus	SM4500 P B, E	0.05 mg/L	28 days
Total Dissolved Solids	SM2540 C	20 mg/L	7 days
Total Coliforms	SM 9221 B, E	** 20 – 1,600,000 MPN/100 mL	6 hours
Fecal Coliforms	SM 9221 B, E	** 20 – 160,000 MPN/100 mL	6 hours
Enterococcus	SM 9230 A, B	** 20 – 160,000 MPN/100 mL	6 hours

Notes:
MPN/100 mL = most probable number (of colony-forming units) per 100 milliliters
na = not applicable
* Total Nitrogen is calculated as the sum of Nitrate/Nitrite as N and Total Kjeldahl Nitrogen.
** For D-Max's Dry Weather Monitoring Program, EnviroMatrix Analytical, Inc. (EMA) performs standard dilutions for total coliforms to quantify from 20-1,600,000 most probable number per 100 milliliters (MPN/100 mL). For fecal coliforms and Enterococci, EMA performs standard dilutions to quantify from 20-160,000 MPN/100 mL. During the analysis and interpretation of the results, the number of tubes used to quantify the sample must fit the MPN index table from Standard Method 9221. The dilution set used will determine the detection limit. A standard dilution analysis is set up with 15 tubes at different concentrations. The reporting limit will always be adjusted depending on the dilution factor used for quantifying the actual results based on the MPN table. If the result for the analysis was less than 16,000 MPN/100 mL, the reporting limit will always be 20, and the dilution factor will be 10. As the dilution factor goes up, the reporting limit listed in the results from EMA will also go up based on the calculation made with EMA's data system. However, the lowest quantifiable number or reporting limit would still be 20 based on how the standard tubes for the sample is set up.

3 FIELD SCREENING RESULTS

3.1 Qualitative Observations

3.1.1 Round One

During Round One, all site visits were performed under partly cloudy conditions. Water collected at the Forester Creek upstream location had a musty odor, and no vegetation or deposits were observed, while all other sites had odorless water samples, normal vegetation and some type of deposits. Water samples from the San Diego River upstream and Sycamore Creek downstream locations were yellow in color, while all other samples were colorless. The Forester Creek downstream location had slightly cloudy water, with trash and leaf debris on the surface and no biological organisms present, while all other water samples were clear, had no floatable materials, and algae or other aquatic biota were observed. Organisms observed during Round One included algae, insects and snails.

Qualitative observations made during Round One are presented in Table 3-1.

3.1.2 Round Two

Light conditions were sunny during all site visits in Round Two. All sites had clear, odorless and colorless water samples, with one exception of yellow water at the Sycamore Creek downstream location. All sites contained sediment, gravel, and/or fine particulate deposits. Aquatic organisms were present at all sites and included various combinations of insects, algae, snails, fish, crayfish, frogs, and birds.

Qualitative observations made during Round Two are presented in Table 3-2.

TABLE 3-1
FIELD OBSERVATIONS – ROUND ONE

Site	Date	Time	Light Conditions	Odor	Color	Clarity	Floatables	Deposits	Vegetation	Biology
Forester Creek Downstream	5/19/09	11:45	Partly Cloudy	None	None	Slightly Cloudy	Trash, Leaves	Sediment/ Gravel, Fine Particulates	Normal	Insect/Algae
Forester Creek Upstream	5/19/09	10:40	Partly Cloudy	Musty	None	Clear	None	None	None	Algae, Snails
San Diego River, Downstream	5/19/09	12:30	Partly Cloudy	None	None	Clear	None	Sediment/ Gravel	Normal	Insect/Algae
San Diego River Upstream	5/19/09	9:30	Partly Cloudy	None	Yellow	Clear	None	Sediment	Normal	Insect/Algae
Sycamore Creek Downstream	5/20/09	10:50	Partly Cloudy	None	Yellow	Clear	None	Fine Particulates	Normal	Insect/Algae

TABLE 3-2
FIELD OBSERVATIONS – ROUND TWO

Site	Date	Time	Light Conditions	Odor	Color	Clarity	Floatables	Deposits	Vegetation	Biology
Forester Creek Downstream	9/2/09	12:20	Sunny	None	None	Clear	Trash	Sediment/ Gravel, Fine Particulates	Normal	Insect/Algae, Snails
Forester Creek Upstream	9/2/09	11:30	Sunny	None	None	Clear	Trash	Fine Particulates	None	Insect/Algae, Snails
San Diego River, Downstream	9/2/09	13:10	Sunny	None	None	Clear	Trash	Sediment/ Gravel, Fine Particulates	Normal	Insect/Algae, Fish, Crayfish
San Diego River Upstream	9/2/09	10:30	Sunny	None	None	Clear	None	Sediment, Fine Particulates	Normal	Insect/Algae, Snails, Fish, Frogs, Birds
Sycamore Creek Downstream	9/3/09	10:35	Sunny	None	Yellow	Clear	Trash	Sediment/ Gravel, Fine Particulates	Normal	Insect/Algae

3.2 Field Analytical Results

Descriptions of the field constituents measured during field monitoring are provided below.

Flow measurements can help estimate pollutant mass loading. Field methods include measuring the velocity, depth, and width of the flowing water to calculate the flow rate.

Water temperature is needed to assess the significance of other parameters, such as pH and conductivity. Also, the aquatic habitat must remain within a certain temperature range in order to sustain sensitive aquatic life.

The **pH** is an expression of acidity or alkalinity of a water sample. The pH of an aquatic system will affect a variety of chemical reactions, including the availability of nutrients and the solubility of chemical substances, particularly heavy metals.

Specific Conductance (Conductivity) measurements indicate the total concentration of ions in an aquatic system and the ability of the water to conduct electricity. This parameter can be used to assess the mineral content of water and potentially indicate the presence of dissolved pollutants.

Turbidity describes the clarity or cloudiness of a water sample, or the degree to which light is blocked by suspended material in the water. Turbid waters not only limit the amount of light that reaches submerged vegetation, thus reducing photosynthetic capacity, but excessive suspended particles can also absorb heat and increase water temperatures.

Dissolved Oxygen measurements indicate the amount of gaseous oxygen (O_2) dissolved in the water. Photosynthesis by aquatic biota and diffusion from the surrounding air are the processes responsible for oxygen input. Oxygen depletion can be detrimental to aquatic life and is often caused by the decomposition of organic material. Excessive algal growth due to nutrient enrichment is frequently the source of decomposing material. Higher values of dissolved oxygen often correspond with lower temperatures.

Statistical summaries of field analytical data are presented in Table 3-3 for Round One data and 3-4 for Round Two data. Complete field analytical results are presented in Table 3-5 for Round One data and Table 3-6 for Round Two data.

TABLE 3-3
STATISTICAL SUMMARY OF FIELD ANALYTICAL RESULTS – ROUND ONE

Parameter	Maximum	Minimum	Average	Median
Flow (gpm)*	1392	355	274	355
Temperature (°C)	27.9	20.5	23.8	23.8
pH	8.1	7.5	7.8	7.8
Conductivity (mS/cm)	2.84	1.34	2.22	2.60
Turbidity (NTU)	31.55	4.41	11.75	6.14
Dissolved Oxygen (mg/L)	8.86	5.25	6.82	6.28

Note: * The flow rate of the San Diego River upstream location is reported as unmeasurable, and therefore is not included in the flow statistics

TABLE 3-4
STATISTICAL SUMMARY OF FIELD ANALYTICAL RESULTS – ROUND TWO

Parameter	Maximum	Minimum	Average	Median
Flow (gpm)*	135	78	93	94
Temperature (° Celsius)	31.5	26.6	28.0	27.5
pH	8.2	7.5	7.8	7.8
Conductivity (mS/cm)	2.98	1.88	2.53	2.81
Turbidity (NTU)	10.30	2.80	6.09	5.83
Dissolved Oxygen (mg/L)	8.73	5.21	6.66	5.89

Note: * The flow rate of the San Diego River upstream location is reported as unmeasurable, and therefore is not included in the flow statistics

TABLE 3-5
FIELD ANALYTICAL RESULTS – ROUND ONE

Site	Date	Time	Flow (gpm)	Temp. (ºC)	pH	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)
Forester Creek Downstream	5/19/09	11:45	468	23.8	7.9	2.60	31.55	5.76
Forester Creek Upstream	5/19/09	10:40	355	27.9	8.1	2.84	6.14	8.86
San Diego River Downstream	5/19/09	12:30	1,392*	22.0	7.6	2.60	5.89	6.28
San Diego River Upstream	5/19/09	9:30	Unmeasureable*	24.6	7.8	1.73	10.76	7.95
Sycamore Creek Downstream	5/20/09	10:50	Ponded	20.5	7.5	1.34	4.41	5.25
Water Quality Objective (WQO)			**	**	**> 6.5, < 9.0**	**20**	***	**5.0**

Notes:
* The accuracy of manual flow estimation techniques decreases as flow volume increases. Because of high flow rates in the San Diego River, the United States Geological Service (USGS) flow gauge data has been used in this report. The USGS flow gauge is located in proximity to the San Diego River downstream sampling location; however no gauge exists near the San Diego River upstream sampling location. Thus the upstream flow has been reported as unmeasurable.
** No established limit
*** There is no clear WQO in the Basin Plan, but a comparison is not necessary since TDS has been measured directly. See the laboratory data tables for TDS results.
Source: Basin Plan

TABLE 3-6
FIELD ANALYTICAL RESULTS – ROUND TWO

Site	Date	Time	Flow (gpm)	Temp. (ºC)	pH	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)
Forester Creek Downstream	9/2/09	12:20	94	26.6	7.6	2.97	7.61	5.56
Forester Creek Upstream	9/2/09	11:30	107	31.5	7.9	2.81	3.90	8.73
San Diego River Downstream	9/2/09	13:10	135*	26.8	7.5	2.98	2.80	5.89
San Diego River Upstream	9/2/09	10:30	Unmeasurable*	27.5	7.8	1.88	10.30	7.91
Sycamore Creek Downstream	9/3/09	10:35	78	27.7	8.2	1.99	5.83	5.21
Water Quality Objective (WQO)			**	**	**> 6.5, < 9.0**	**20**	***	**5.0**

Notes:
* The accuracy of manual flow estimation techniques decreases as flow volume increases. Because of high flow rates in the San Diego River, the United States Geological Service (USGS) flow gauge data has been used in this report. The USGS flow gauge is located in proximity to the San Diego River downstream sampling location; however no gauge exists near the San Diego River upstream sampling location. Thus the upstream flow has been reported as unmeasurable.
** No established limit
*** There is no clear WQO in the Basin Plan, but a comparison is not necessary since TDS has been measured directly. See the laboratory data tables for TDS results.
Source: Basin Plan

4 LABORATORY ANALYTICAL RESULTS

4.1 Summary

Descriptions of the laboratory constituents for analytical monitoring conducted during both rounds are shown below.

Total Nitrogen is the sum of nitrate/nitrite as N and total Kjeldahl nitrogen, described below. High levels of nitrogen may be indicative of nutrient pollution from agricultural or household fertilizer runoff. High nitrate levels can contribute to excessive algal growth, resulting in oxygen depletion as algae decomposes, and may eventually suffocate other aquatic life.

Nitrate/Nitrite as N is the form of nitrogen most available for uptake in chemical reactions. Nitrate/nitrite as N is a component of the total nitrogen.

Total Kjeldahl Nitrogen (TKN) is composed of organic nitrogen, ammonia, and ammonium and encompasses all components of the total nitrogen not available as nitrate or nitrite.

Total Phosphorus is the total amount of phosphorus, including both orthophosphate and less reactive forms.

Orthophosphate-phosphorus (orthophosphate-P) can also be an indicator of nutrient pollution from agricultural or household fertilizer runoff. Similar to nitrate/nitrite as N, orthophosphate-P pollution can cause nutrient enrichment, stimulate algal growth, and thus deplete oxygen in the water to levels that are dangerous for aquatic life. Even low levels of orthophosphate-P can cause significant algal growth, as it is commonly the limiting nutrient in plant growth.

Total Dissolved Solids (TDS) measurements quantify the amount of dissolved minerals, cations, anions, and salts in the water. TDS is often related to conductivity and hardness. It can originate from natural sources, sewage runoff, urban runoff, and/or industrial wastewater. In southern California, imported water may also be a source of TDS. In drinking water, it can affect the taste and aesthetic quality. In storm water, it can to some extent affect the lives of aquatic species, although only in high amounts.

Coliform bacteria are relatively harmless to humans and are present in mammalian digestive tracts, most surface waters, and soils. Testing water samples for total coliform bacteria is a standard practice in public health. Total coliform is measured as an indicator of other more harmful pathogens, since these pathogens are generally present in much smaller quantities and are difficult to detect.

Fecal coliform, a subset of coliform bacteria, and ***Enterococcus*** are found primarily in the gastro-intestinal tracts of humans and animals and are commonly used as indicators of water contamination by fecal matter. Without the use of significantly more expensive methods, such as ribotyping, it is not possible to determine whether the source of fecal material is human or animal. Human fecal material is known to contain pathogens dangerous to humans, but the relationship between animal waste and threat to human health is less certain.

Complete laboratory analytical results are presented in Table 3-7 for Round One data and Table 3-8 for Round Two data. Laboratory reports are included in Appendix C.

TABLE 4-1
LABORATORY ANALYTICAL RESULTS – ROUND ONE

Site	Date	Time	Nitrate/Nitrite as N (mg/L)	Total Kjeldahl Nitrogen (mg/L)	Total Nitrogen (mg/L)	Orthophosphate as P (mg/L)	Total Phosphorus (mg/L)	Total Dissolved Solid (mg/L)	Total Coliform (MPN/100ml)	Fecal Coliform (MPN/100ml)	*Enterococcus* (MPN/100ml)
Forester Creek Downstream	5/19/09	11:45	0.7	0.8	1.4	0.66	0.67	1,560	2,800	170	500
Forester Creek Upstream	5/19/09	10:40	4.93	1.1	6	0.33	0.34	1,830	3,500	1,700	800
San Diego River, Downstream	5/19/09	12:30	1.93	0.8	2.7	0.09	0.1	1,680	30,000	300	130
San Diego River Upstream	5/19/09	9:30	nd	2.5	2.5	0.13	0.32	1,230	1,300	nd	20
Sycamore Creek Downstream	5/20/09	10:50	0.23	3.9	4.1	0.19	0.28	767	11,000	500	1,400
Reporting Limit			**0.05**	**0.5**	**0.5**	**0.05**	**0.05**	**20.0**	**20**	**20**	**20**
WQO			**10***	*	*	*	*	**1,500 / 1,000****	***	**400****	**151**

Notes:
nd = not detected
* Regional guidance suggests using the EPA's nutrient endpoint tool to determine the WQO. This tool requires more data than what has been collected within the scope of this study.
** WQO varies by watershed. WQO for Forester Creek and San Diego River Upstream is 1,500 mg/L. WQO for San Diego River Downstream and Sycamore Creek Downstream is 1,000 mg/L.
*** No established limit.
**** All sites have a REC-1 beneficial use.
Source: Basin Plan

TABLE 4-2
LABORATORY ANALYTICAL RESULTS – ROUND TWO

Site	Date	Time	Nitrate/Nitrite as N (mg/L)	Total Kjeldahl Nitrogen (mg/L)	Total Nitrogen (mg/L)	Orthophosphate as P (mg/L)	Total Phosphorus (mg/L)	Total Dissolved Solid (mg/L)	Total Coliform (MPN/100ml)	Fecal Coliform (MPN/100ml)	*Enterococcus* (MPN/100ml)
Forester Creek Downstream	9/2/09	12:20	1.32	nd	1.6	0.12	0.25	1900	11,000	1,300	500
Forester Creek Upstream	9/2/09	11:30	3.36	0.6	4.0	0.05	0.28	1850	2,300	300	40
San Diego River, Downstream	9/2/09	13:10	0.44	0.6	1.0	0.12	0.14	1920	2,300	40	80
San Diego River Upstream	9/2/09	10:30	0.43	0.8	1.2	nd	0.20	1240	600	40	20
Sycamore Creek Downstream	9/3/09	10:35	nd	3.3	3.3	0.10	0.27	1230	8,000	20	220
Reporting Limit			**0.05**	**0.5**	**0.5**	**0.05**	**0.05**	**20.0**	**20**	**20**	**20**
WQO			*	*	*	*	*	**1,500 / 1,000****	***	**400****	**151**

Notes:
nd = not detected
* Regional guidance suggests using the EPA's nutrient endpoint tool to determine the WQO. This tool requires more data than what has been collected within the scope of this study.
** WQO varies by watershed. WQO for Forester Creek and San Diego River Upstream is 1,500 mg/L. WQO for San Diego River Downstream and Sycamore Creek Downstream is 1,000 mg/L.
*** No established limit.
**** All sites have a REC-1 beneficial use.
Source: Basin Plan

5 DATA ANALYSIS

This section provides an overall evaluation of historical trends for the City of Santee Receiving Waters Additional Study.

A portion of Forester Creek outside the City of Santee has been listed as impaired for pH; however none of the samples in any water body in Santee's additional study have exceeded the Basin Plan WQO for pH (Figure 5-1).

Figures 5-2, 5-3, and 5-4 depict fecal coliform levels measured in upstream and downstream receiving water locations, and measurements are generally lower in downstream locations. In general, fecal coliform levels demonstrate a decreasing trend in all receiving water locations.

The data indicates that the water quality of Forester Creek and San Diego River is improved after traveling through the City of Santee, since pollutant levels are consistently lower in the downstream reach compared to upstream.

Figure 5-1
Additional Study Data: pH

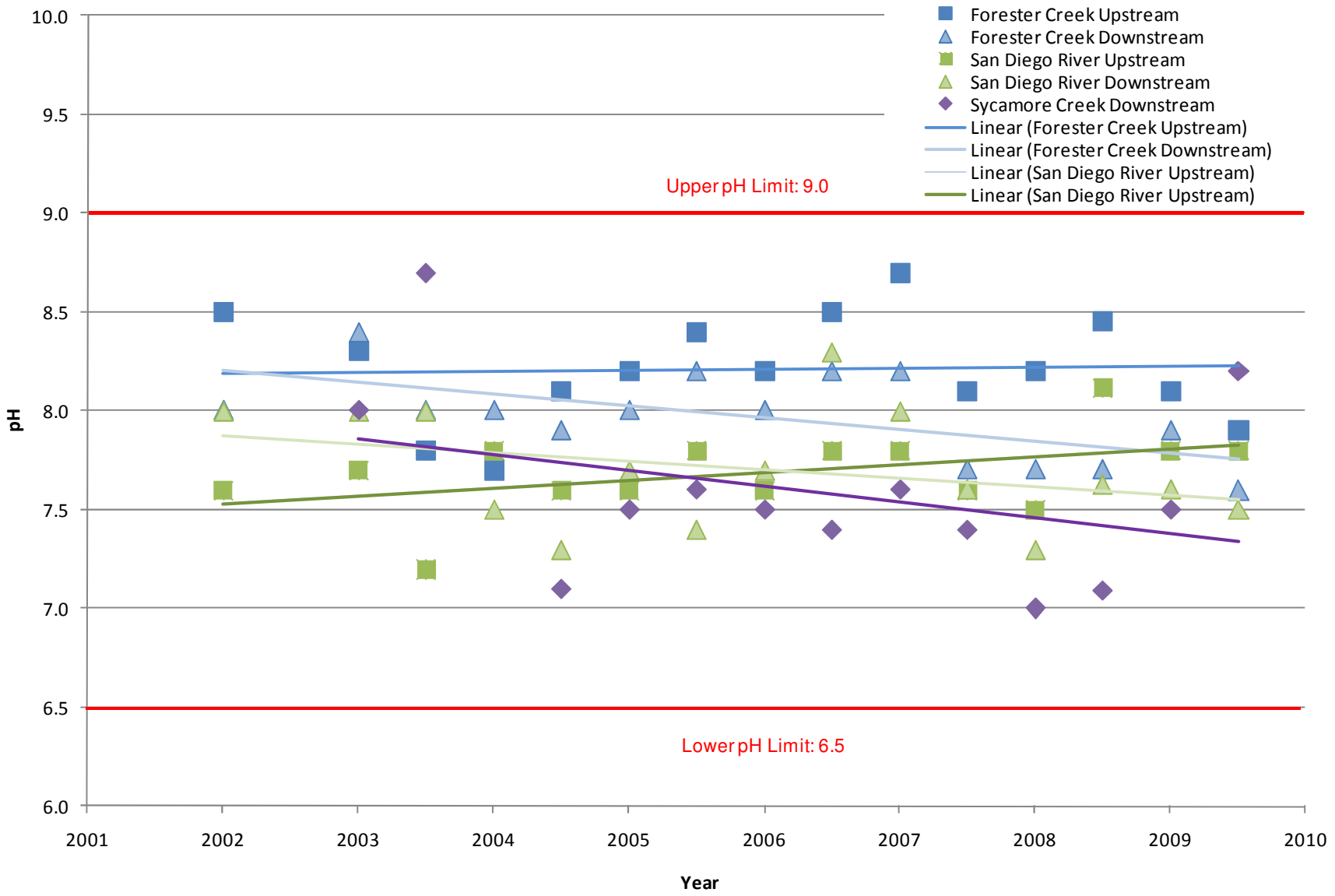


Figure 5-2
Additional Study Data: Fecal Coliform, Forester Creek

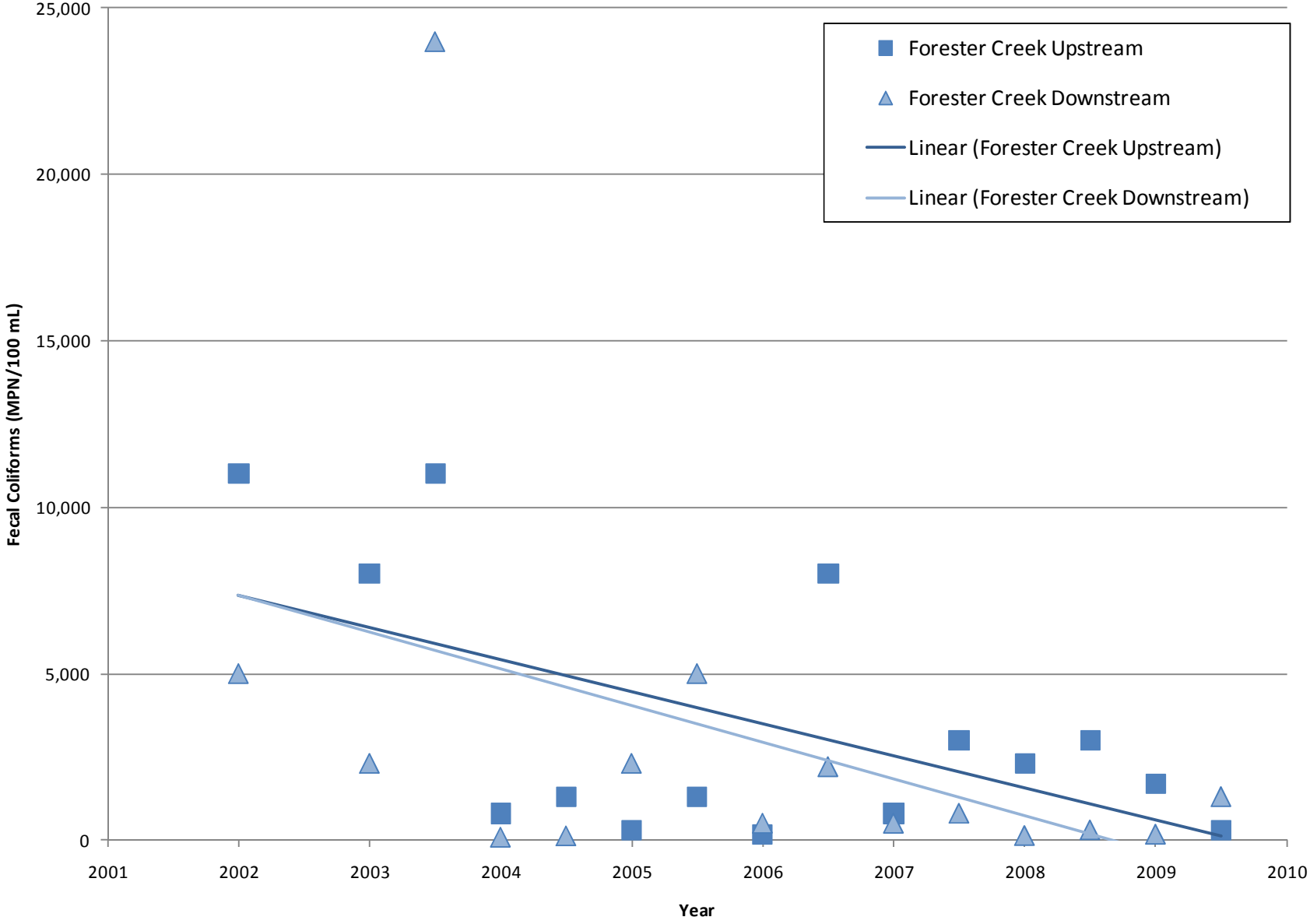


Figure 5-3
Additional Study Data: Fecal Coliform, San Diego River

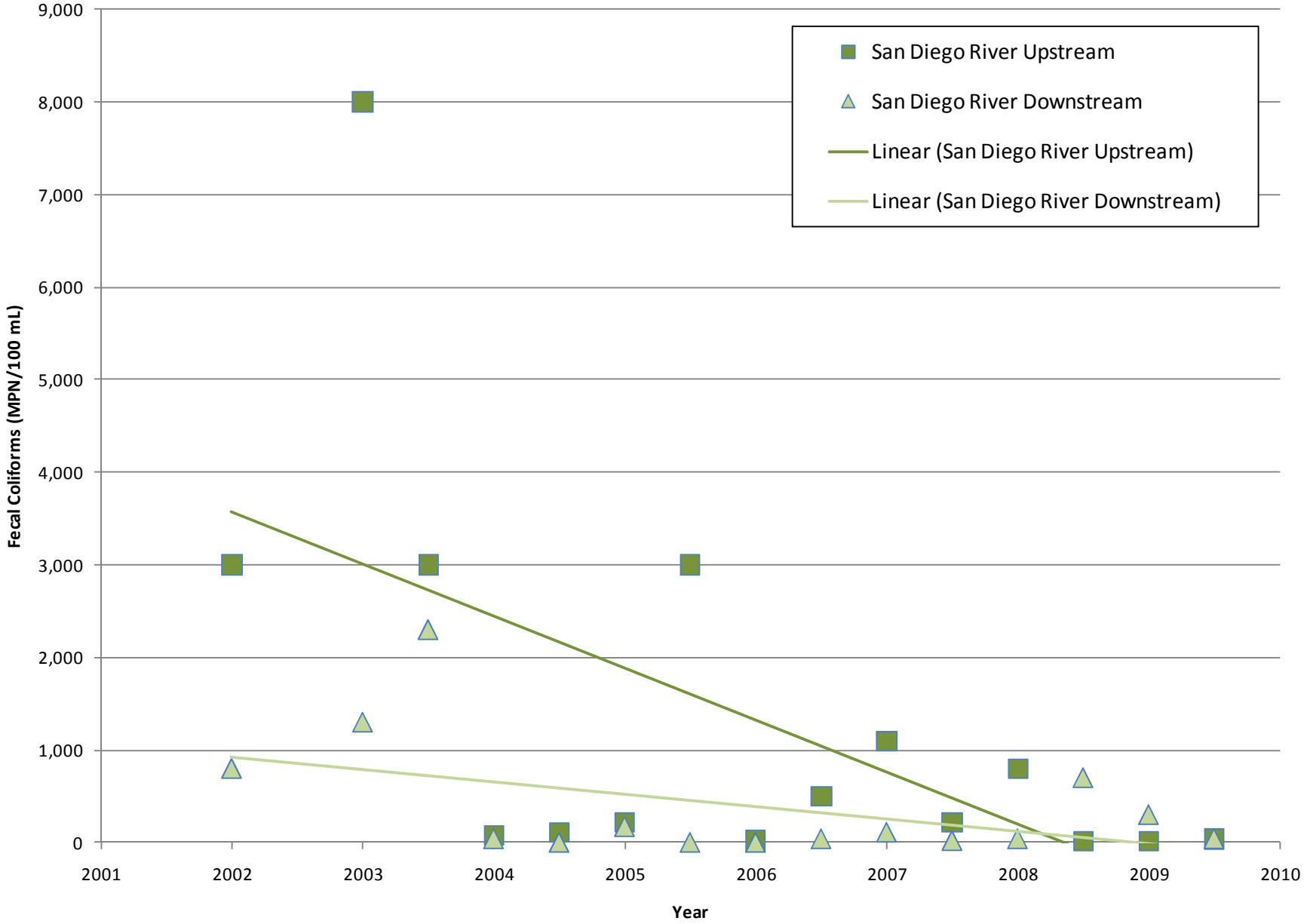
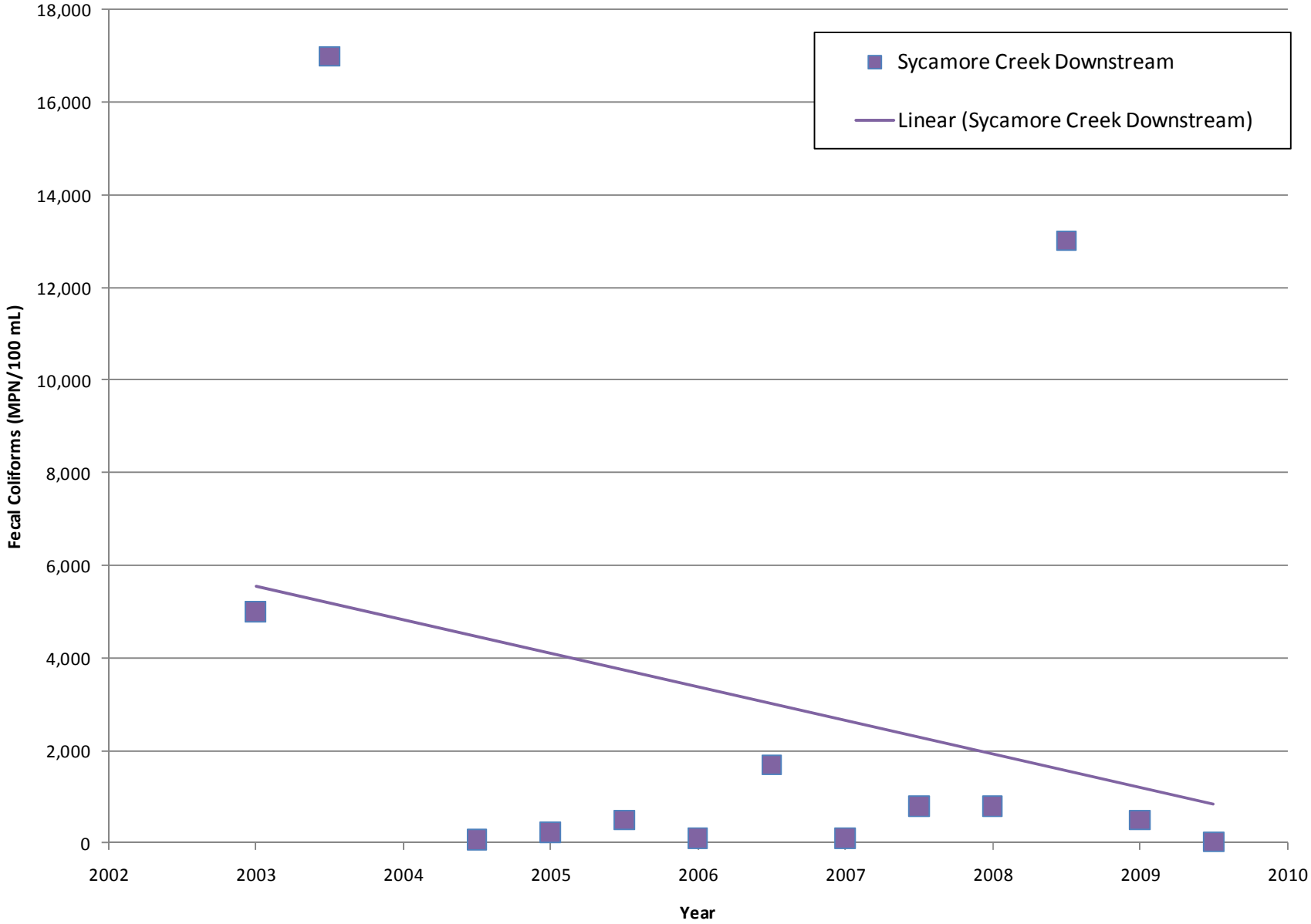


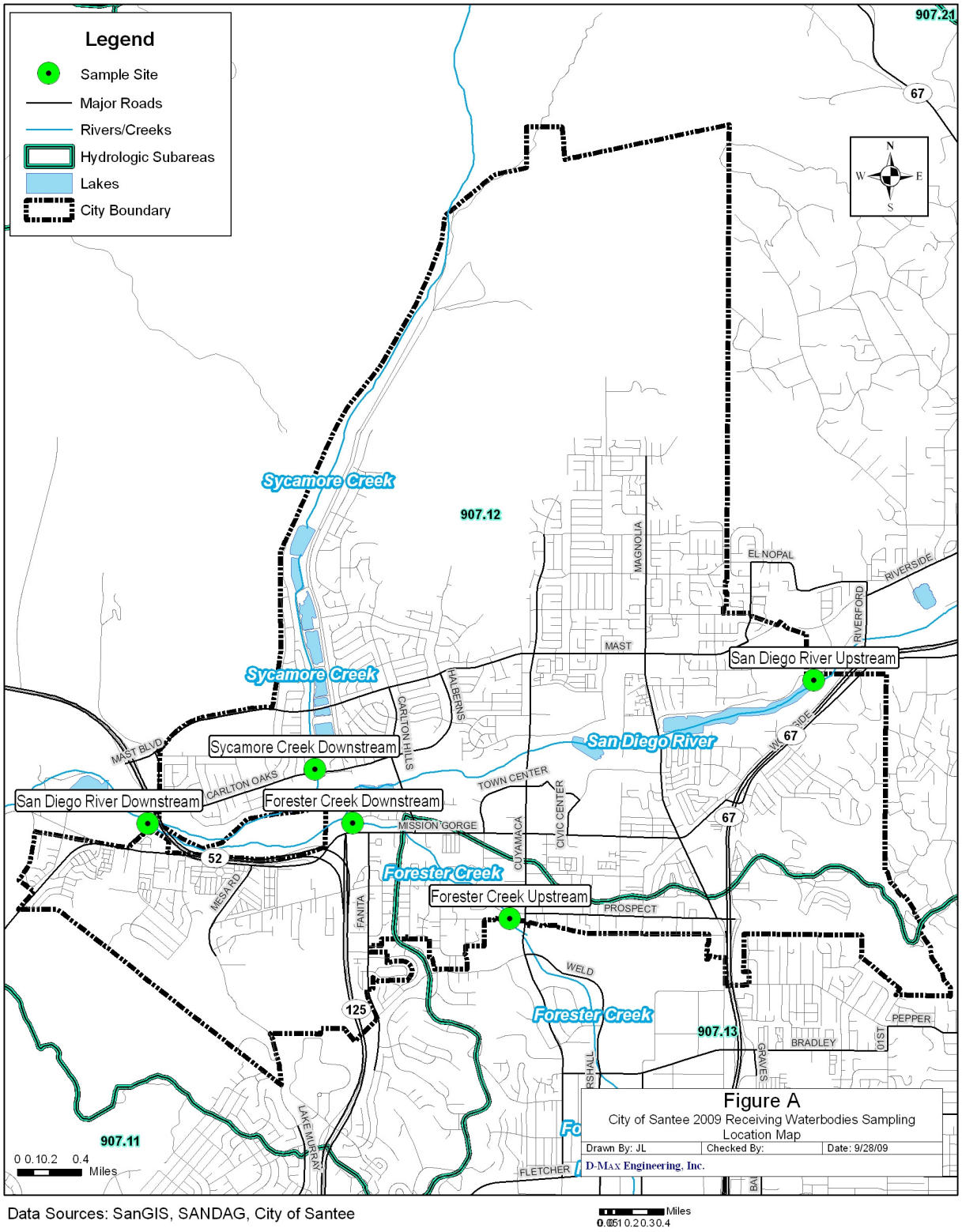
Figure 5-4
Additional Study Data: Fecal Coliform, Sycamore Creek



6 REFERENCE

San Diego Regional Water Quality Control Board. 1994. *Water Quality Control Plan for the San Diego Basin*.

FIGURE A
CITY OF SANTEE 2009 RECEIVING WATERBODIES SAMPLING LOCATION MAP



Data Sources: SanGIS, SANDAG, City of Santee

Appendix A

Historical Monitoring Data

Site	Date	Flow* gpm	Temp. ℃	pH	Conductivity mS/cm	Turbidity NTU	Ammonia mg/L NH_3-N	Nitrate mg/L NO_3-N	Orthophosphate mg/L PO_4	Orthophosphate-Phosphorus mg/L PO_4-P	Surfactants (Field test) mg/L MBAS	Dissolved Oxygen mg/L	Surfactants (Lab test) mg/L MBAS	Oil and Grease mg/L	Total Hardness mg/L $CaCO_3$
2002															
Forester Creek Downstream	9/3/2002	na	27.0	8.0	2.84	na	na	na	na	na	na		nd	21.0	668
Forester Creek Upstream	9/3/2002	233	32.0	8.5	2.67	na	na	na	na	na	na		nd	14.0	587
San Diego River Downstream	9/3/2002	144	25.0	8.0	2.79	na	na	na	na	na	na		nd	22.0	709
San Diego River Upstream	9/3/2002	unmeasurable	25.5	7.6	2.11	na	na	na	na	na	na		nd	4.00	557
Sycamore Creek Downstream	9/4/2002	dry	ns	ns	ns	ns	ns	ns	ns	ns	ns		ns	ns	ns
2003 Round 1															
Forester Creek Downstream	5/22/2003	unmeasurable	23	8.4	3.34	3.2	0.3	2	0.1	0.03	0.5		nd	nd	585
Forester Creek Upstream	5/22/2003	548	21	8.3	3.60	0.92	0.2	4	0.1	0.03	0.25		nd	nd	690
San Diego River Downstream	5/22/2003	3008	21	8	2.65	3.48	0.2	0.3	0.3	0.10	0.25		nd	nd	549
San Diego River Upstream	5/22/2003	unmeasurable	21	7.7	2.25	2.05	nd	0.2	0.2	0.07	0.25		nd	nd	436
Sycamore Creek Downstream	5/21/2003	100	25	8	1.77	0.11	0.1	0.2	0.2	0.07	0.25		nd	15	299
2003 Round 2															
Forester Creek Downstream	9/17/2003	457	24	8.0	2.98	9.65	0.6	2.4	0.2	0.07	0.13		nd	1	612
Forester Creek Upstream	9/17/2003	254	21	7.8	2.96	3.98	0.3	8	0.1	0.03	0.25		nd	nd	723
San Diego River Downstream	9/17/2003	673	22.5	8.0	2.94	3.89	0.3	0.6	0.4	0.13	0.13		nd	4	662
San Diego River Upstream	9/17/2003	unmeasurable	23.5	7.2	2.24	16.66	0.3	0.2	2.0	0.65	0.13		nd	2	609
Sycamore Creek Downstream	9/18/2003	187	20	8.7	2.21	4.82	0.3	0.2	0.1	0.03	0.25		nd	2	430
2004 Round 1															
Forester Creek Downstream	7/15/2004	172	28	8.0	2.66	3.42	0.6	2.5	0.10	0.03	0.25		nd	nd	709.0
Forester Creek Upstream	7/15/2004	269	32	7.7	2.47	8.06	0.2	2.5	0.10	0.03	0.25		nd	nd	660
San Diego River Downstream	7/15/2004	400	29	7.5	1.75	2.47	0.1	1.25	1.50	0.49	0.25		nd	nd	596
San Diego River Upstream	7/15/2004	unmeasurable	26	7.8	2.45	9.88	0.80	1.25	0.30	0.10	0.25		nd	nd	694.00
Sycamore Creek Downstream	7/16/2004	Dry	ns	ns	ns	ns	ns	ns	ns	ns	ns		ns	ns	ns
2004 Round 2															
Forester Creek Downstream	9/24/2004	203	21	7.9	2.87	17.79	0.3	2.5	0.2	0.07	0.25		nd	nd	662
Forester Creek Upstream	9/24/2004	226	23	8.1	2.63	2.04	0.1	5	0.1	0.03	0.38		nd	nd	645
San Diego River Downstream	9/24/2004	269	20	7.3	2.00	6.3	0.1	nd	3	0.98	0.25		nd	2	610
San Diego River Upstream	9/24/2004	unmeasurable	20	7.6	2.64	5.03	0.3	1.25	0.6	0.2	0.25		nd	1	650
Sycamore Creek Downstream	9/27/2004	20	20	7.1	2.09	4.46	0.3	nd	0.1	0.03	0.5		nd	1	404
2005 Round 1															
Forester Creek Downstream	5/18/2005	na	21.3	8.0	2.56	7.85	0.2	7.50	0.10	0.03	0.25		nd	nd	805
Forester Creek Upstream	5/18/2005	na	20.6	8.2	2.86	1.48	0.2	6.25	0.10	0.03	0.25		nd	nd	881
San Diego River Downstream	5/18/2005	3861	24.0	7.7	1.44	5.70	0.1	1.25	0.10	0.03	0.25		nd	nd	613
San Diego River Upstream	5/18/2005	unmeasurable	21.7	7.6	2.22	4.59	0.10	2.50	0.60	0.20	0.25		nd	nd	567
Sycamore Creek Downstream	5/17/2005	na	22.9	7.5	1.61	8.76	0.2	1.25	0.1	0.03	0.25		nd	nd	282
2005 Round 2															
Forester Creek Downstream	9/22/2005	468	23.4	8.2	2.66	6.68	0.3	5.00	0.10	0.03	0.38		nd	nd	727
Forester Creek Upstream	9/22/2005	316	24.2	8.4	2.65	5.24	0.3	7.5	nd	nd	0.5		nd	nd	772
San Diego River Downstream	9/22/2005	763	20.7	7.4	2.11	8.58	0.1	1.25	2.00	0.65	0.25		nd	nd	653
San Diego River Upstream	9/22/2005	unmeasurable	22.4	7.8	2.60	2.27	0.20	1.25	0.40	0.13	0.50		nd	nd	733
Sycamore Creek Downstream	9/26/2005	50	21.4	7.6	1.83	4.59	0.3	1.25	nd	nd	0.25		nd	nd	373

Notes:

nd = not detected

ns = not sampled

* The accuracy of manual flow estimation techniques decreases as flow volume increases. Because of high flow rates in the San Diego River, the United States Geological Service (USGS) flow gauge data has been used in this report. The USGS flow gauge is located in proximity to the San Diego River downstream sampling location; however no gauge exists near the San Diego River upstream sampling location. Thus the upstream flow has been reported as unmeasurable.

Site	Date	Dissolved Cadmium mg/L	Dissolved Copper mg/L	Dissolved Lead mg/L	Dissolved Zinc mg/L	Diazinon µg/L	Chlorpyrifos µg/L	Total Coliform MPN/100mL	Fecal Coliform MPN/100mL	*Enterococcus* MPN/100mL	Nitrate/ Nitrite as N mg/L	Total Kjeldahl Nitrogen mg/L	Total Nitrogen mg/L	Orthophosphate as P mg/L	Total Phosphorus mg/L	Total Dissolved Solids mg/L
2002																
Forester Creek Downstream	9/3/2002	nd	nd	nd	nd	nd	nd	8,000	5,000	130						
Forester Creek Upstream	9/3/2002	nd	nd	nd	nd	nd	nd	22,000	11,000	170						
San Diego River Downstream	9/3/2002	nd	nd	nd	0.27	nd	nd	1,700	800	1,700						
San Diego River Upstream	9/3/2002	nd	nd	nd	nd	nd	nd	5,000	3,000	80						
Sycamore Creek Downstream	9/4/2002	ns	ns	ns	ns	ns	ns	ns	ns	ns						
2003 Round 1																
Forester Creek Downstream	5/22/2003	nd	nd	nd	0.03	nd	nd	5,000	2,300	130						
Forester Creek Upstream	5/22/2003	nd	nd	nd	0.021	nd	nd	17,000	8,000	130						
San Diego River Downstream	5/22/2003	nd	nd	nd	nd	nd	nd	2,200	1,300	210						
San Diego River Upstream	5/22/2003	nd	nd	nd	nd	nd	nd	13,000	8,000	20						
Sycamore Creek Downstream	5/21/2003	nd	nd	nd	nd	nd	nd	8,000	5,000	70						
2003 Round 2																
Forester Creek Downstream	9/17/2003	nd	nd	nd	nd	nd	nd	50,000	24,000	1,300						
Forester Creek Upstream	9/17/2003	nd	nd	nd	nd	nd	nd	30,000	11,000	8,000						
San Diego River Downstream	9/17/2003	nd	nd	nd	nd	nd	nd	3,000	2,300	800						
San Diego River Upstream	9/17/2003	0.006	nd	nd	nd	nd	nd	8,000	3,000	800						
Sycamore Creek Downstream	9/18/2003	nd	nd	nd	nd	nd	nd	30,000	17,000	1,700						
2004 Round 1																
Forester Creek Downstream	7/15/2004	nd	nd	nd	0.030	nd	nd	9000.0	80.0	40.0						
Forester Creek Upstream	7/15/2004	nd	nd	nd	nd	nd	nd	8000	800	110						
San Diego River Downstream	7/15/2004	nd	nd	nd	nd	nd	nd	2600	40	nd						
San Diego River Upstream	7/15/2004	nd	nd	nd	nd	nd	nd	1700.00	80.00	40.00						
Sycamore Creek Downstream	7/16/2004	ns	ns	ns	ns	ns	ns	ns	ns	ns						
2004 Round 2																
Forester Creek Downstream	9/24/2004	nd	nd	nd	0.026	nd	nd	11,000	120	300						
Forester Creek Upstream	9/24/2004	nd	nd	nd	nd	nd	nd	14,000	1,300	270						
San Diego River Downstream	9/24/2004	nd	nd	nd	0.031	nd	nd	700	nd	nd						
San Diego River Upstream	9/24/2004	nd	nd	nd	nd	nd	nd	16,000	110	80						
Sycamore Creek Downstream	9/27/2004	nd	nd	nd	nd	nd	nd	30,000	80	3,000						
2005 Round 1																
Forester Creek Downstream	5/18/2005	nd	nd	nd	nd	nd	nd	9,000	2,300	1,100						
Forester Creek Upstream	5/18/2005	nd	nd	nd	nd	nd	nd	5,000	300	300						
San Diego River Downstream	5/18/2005	nd	nd	nd	nd	nd	nd	1,700	170	20						
San Diego River Upstream	5/18/2005	nd	nd	nd	nd	nd	nd	9,000	220	1,300						
Sycamore Creek Downstream	5/17/2005	nd	nd	nd	nd	nd	nd	11,000	230	500						
2005 Round 2																
Forester Creek Downstream	9/22/2005	nd	nd	nd	nd	nd	nd	1,600,000	5,000	500						
Forester Creek Upstream	9/22/2005	nd	nd	nd	nd	nd	nd	240,000	1,300	230						
San Diego River Downstream	9/22/2005	0.005	nd	nd	nd	nd	nd	240,000	nd	500						
San Diego River Upstream	9/22/2005	nd	nd	nd	nd	nd	nd	80,000	3,000	40						
Sycamore Creek Downstream	9/26/2005	nd	nd	nd	nd	nd	nd	130,000	500	500						

Notes:

nd = not detected

ns = not sampled

Site	Date	Flow (D-Max) gpm	Temp. ℃	pH	Conductivity mS/cm	Turbidity NTU	Ammonia mg/L NH_3-N	Nitrate mg/L NO_3-N	Orthophosphate mg/L PO_4	Orthophosphate-Phosphorus mg/L PO_4-P	Surfactants (Field test) mg/L MBAS	Dissolved Oxygen mg/L	Surfactants (Lab test) mg/L MBAS	Oil and Grease mg/L	Total Hardness mg/L $CaCO_3$
2006 Round 1															
Forester Creek Downstream	5/18/2006	608	21.3	8.0	2.56	7.85	0.2	7.50	0.10	0.03	0.25		nd	nd	740
Forester Creek Upstream	5/18/2006	561	20.6	8.2	2.86	1.48	0.2	6.25	0.10	0.03	0.25		nd	nd	692
San Diego River Downstream	5/19/2006	2514	24.0	7.7	1.44	5.70	0.1	1.25	0.10	0.03	0.25		nd	nd	448
San Diego River Upstream	5/19/2006	unmeasurable	21.7	7.6	2.22	4.59	0.10	2.50	0.60	0.20	0.25		nd	nd	608
Sycamore Creek Downstream	5/19/2006	133	22.9	7.5	1.61	8.76	0.2	1.25	0.1	0.03	0.25		nd	nd	370
2006 Round 2															
Forester Creek Downstream	9/25/2006	624	22.6	8.2	2.58	30.23	0.2	5.00	nd	nd	0.25		nd	nd	683
Forester Creek Upstream	9/25/2006	467	24.4	8.5	2.49	4.37	0.2	5	nd	nd	0.25		nd	nd	641
San Diego River Downstream	9/22/2006	1392	22.3	8.3	1.86	9.28	0.2	1.25	0.30	0.10	0.13		nd	nd	528
San Diego River Upstream	9/22/2006	unmeasurable	20.2	7.8	2.47	4.30	0.20	2.50	0.40	0.14	0.25		nd	nd	614
Sycamore Creek Downstream	9/22/2006	20	20.4	7.4	1.85	9.14	0.2	2.5	nd	nd	0.25		nd	nd	345
2007 Round 1															
Forester Creek Downstream	5/22/2007	655	18.1	8.2	2.45	25.94	0.5	4.57	0.30	0.10	0.25		nd	nd	827
Forester Creek Upstream	5/22/2007	585	19.3	8.7	2.49	2.55	0.1	4.93	nd	nd	0.25		nd	nd	715
San Diego River Downstream	5/22/2007	1392	20.8	8.0	1.69	3.94	nd	0.2	0.30	0.10	0.25		nd	nd	601
San Diego River Upstream	5/22/2007	unmeasurable	18.2	7.8	2.31	8.29	0.20	1.88	0.30	0.10	0.25		nd	nd	673
Sycamore Creek Downstream	5/23/2007	156	19.7	7.6	1.48	9.57	0.1	0.16	0.2	0.07	0.25		nd	nd	332
2007 Round 2															
Forester Creek Downstream	10/31/2007	234	17.7	7.7	2.66	10.21	0.3	2.31	0.50	0.16	0.38		nd	nd	664
Forester Creek Upstream	10/31/2007	148	16.5	8.1	2.65	1.58	0.1	4.72	0.10	0.03	0.5		nd	nd	758
San Diego River Downstream	10/30/2007	584	20.6	7.6	1.94	0.79	0.1	0.38	1.00	0.33	0.13		nd	nd	567
San Diego River Upstream	10/30/2007	unmeasurable	18.8	7.6	2.59	2.06	0.2	1.20	0.80	0.26	0.38		nd	nd	626
Sycamore Creek Downstream	10/31/2007	156	17.2	7.4	2.17	4.07	0.1	0.59	0.2	0.07	0.25		nd	nd	448
2008 Round 1															
Forester Creek Downstream	5/28/2008	281	19.9	7.7	2.77	1.25						6.76			
Forester Creek Upstream	5/28/2008	213	23.0	8.2	2.53	16.20						9.30			
San Diego River Downstream	5/28/2008	1212	20.5	7.5	2.46	0.01						6.60			
San Diego River Upstream	5/28/2008	unmeasurable	18.2	7.3	1.84	2.40						7.44			
Sycamore Creek Downstream	5/29/2008	56	15.1	7.0	1.40	0.69						7.42			
2008 Round 2															
Forester Creek Downstream	9/9/2008	359	22.9	7.7	2.78	7.98						6.46			
Forester Creek Upstream	9/4/2008	397	31.5	8.5	2.73	4.71						7.00			
San Diego River Downstream	9/4/2008	449	25.9	7.6	2.79	2.03						5.94			
San Diego River Upstream	9/4/2008	unmeasurable	30.8	8.1	1.87	7.62						8.56			
Sycamore Creek Downstream	9/9/2008	Ponded	28.4	7.1	2.70	31.71						5.51			

Notes:

nd = not detected

ns = not sampled

* The accuracy of manual flow estimation techniques decreases as flow volume increases. Because of high flow rates in the San Diego River, the United States Geological Service (USGS) flow gauge data has been used in this report. The USGS flow gauge is located in proximity to the San Diego River downstream sampling location; however no gauge exists near the San Diego River upstream sampling location. Thus the upstream flow has been reported as unmeasurable.

Site	Date	Cadmium (diss) mg/L	Copper (diss) mg/L	Lead (diss) mg/L	Zinc (diss) mg/L	Diazinon µg/L	Chlorpyrifos µg/L	Total Coliform MPN/100mL	Fecal Coliform MPN/100mL	*Enterococcus* MPN/100mL	Nitrate/ Nitrite as N mg/L	Total Kjeldahl Nitrogen mg/L	Total Nitrogen mg/L	Orthophosphate as P mg/L	Total Phosphorus mg/L	Total Dissolved Solids mg/L
2006 Round 1																
Forester Creek Downstream	5/18/2006	nd	nd	nd	nd	nd	nd	80,000	500	170						
Forester Creek Upstream	5/18/2006	nd	nd	nd	nd	nd	nd	6,000	170	20						
San Diego River Downstream	5/19/2006	nd	nd	nd	nd	nd	nd	13,000	nd	nd						
San Diego River Upstream	5/19/2006	nd	nd	nd	nd	nd	nd	50,000	20	40						
Sycamore Creek Downstream	5/19/2006	nd	nd	nd	nd	nd	nd	170,000	110	700						
2006 Round 2																
Forester Creek Downstream	9/25/2006	nd	nd	nd	nd	nd	nd	80,000	2,200	1,700						
Forester Creek Upstream	9/25/2006	nd	nd	nd	nd	nd	nd	30,000	8000	2300						
San Diego River Downstream	9/22/2006	nd	nd	nd	nd	nd	nd	800	40	20						
San Diego River Upstream	9/22/2006	nd	nd	nd	nd	nd	nd	13,000	500	230						
Sycamore Creek Downstream	9/22/2006	nd	nd	nd	0.024	nd	nd	50,000	1,700	500						
2007 Round 1																
Forester Creek Downstream	5/22/2007	nd	nd	nd	nd	nd	nd	8,000	500	500						
Forester Creek Upstream	5/22/2007	nd	nd	nd	nd	nd	nd	3,000	800	80						
San Diego River Downstream	5/22/2007	nd	nd	nd	nd	nd	nd	1,700	110	nd						
San Diego River Upstream	5/22/2007	nd	nd	nd	nd	nd	nd	5,000	1,100	800						
Sycamore Creek Downstream	5/23/2007	nd	nd	nd	nd	nd	nd	23,000	110	230						
2007 Round 2																
Forester Creek Downstream	10/31/2007	nd	nd	nd	nd	nd	nd	5,000	800	800						
Forester Creek Upstream	10/31/2007	nd	nd	nd	nd	nd	nd	11,000	3,000	3,000						
San Diego River Downstream	10/30/2007	nd	nd	nd	nd	nd	nd	1,300	20	40						
San Diego River Upstream	10/30/2007	nd	nd	nd	nd	nd	nd	1,300	220	700						
Sycamore Creek Downstream	10/31/2007	nd	nd	nd	nd	nd	nd	5,000	800	300						
2008 Round 1																
Forester Creek Downstream	5/28/2008							17,000	130	700	3.24	1.9	5.2	0.11	0.11	1760
Forester Creek Upstream	5/28/2008							30,000	2,300	500	5.16	2.7	7.8	0.05	0.06	1590
San Diego River Downstream	5/28/2008							5,000	800	700	0.84	1.9	2.8	0.16	0.16	1510
San Diego River Upstream	5/28/2008							500	40	nd	nd	1.5	1.5	0.18	0.19	1130
Sycamore Creek Downstream	5/29/2008							5,000	800	5,000	0.13	2.2	2.4	0.11	0.11	941
2008 Round 2																
Forester Creek Downstream	9/9/2008							13,000	300	2,300	0.99	2.1	3.1	0.32	0.33	1690
Forester Creek Upstream	9/4/2008							17,000	3,000	70	3.72	2.2	5.9	0.32	0.36	1650
San Diego River Downstream	9/4/2008							13,000	700	500	0.42	2.5	3.0	0.25	0.30	1790
San Diego River Upstream	9/4/2008							300	nd	20	nd	2.9	2.9	0.08	0.08	1180
Sycamore Creek Downstream	9/9/2008							130,000	80	130,000	nd	7.6	7.6	0.36	0.42	1700

Notes:

nd = not detected

ns = not sampled

Appendix B

Photographs of Sampling Locations

Forester Creek Downstream	
Forester Creek Upstream	
San Diego River Downstream	

San Diego River Upstream	
Sycamore Creek Downstream	

Appendix C

Laboratory Analytical Reports

Round One

EnviroMatrix Analytical, Inc.

29 May 2009

D-Max Engineering
Attn: Arsalan Dadkhah
7220 Trade Street, Suite 119
San Diego, California 92121

EMA Log #: 0905522

Project Name: Santee Dry Weather
Project Desc./#:200919 W-3 Round One

Enclosed are the results of analyses for samples received by the laboratory on 05/19/09 13:15. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that this data is in compliance both technically and for completeness.

Dan Verdon
Laboratory Director

CA ELAP Certification #: 2564

4340 Viewridge Avenue, Suite A - San Diego, California 92123 - (858) 560-7717 - Fax (858) 560-7763
Analytical Chemistry Laboratory

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 0905522

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
San Diego R. Upstream	0905522-01	Water	05/19/09 09:30	05/19/09 13:15
Forester Cr. Upstream	0905522-02	Water	05/19/09 10:40	05/19/09 13:15
Forester Cr. Downstream	0905522-03	Water	05/19/09 11:45	05/19/09 13:15
San Diego R. Downstream	0905522-04	Water	05/19/09 12:30	05/19/09 13:15

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 0905522

Conventional Chemistry Parameters by Standard/EPA Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
San Diego R. Upstream (0905522-01) Water Sampled: 05/19/09 09:30 Received: 05/19/09 13:15									
Nitrate/Nitrite as N	ND	0.05	mg/l	1	9052222	05/22/09	05/22/09	SM4500 NO3 E	
Total Kjeldahl Nitrogen	**2.5**	0.5	"	"	9052019	05/21/09	05/21/09	SM4500 N C	
Total Nitrogen	**2.5**	0.5	"	"	9052920	05/22/09	05/22/09	Calculation	
Orthophosphate as P	**0.13**	0.05	"	"	9052111	05/21/09	05/21/09	SM4500 P E	
Phosphorus, Total	**0.32**	0.05	"	"	9052739	05/27/09	05/27/09	SM4500 P B, E	
Total Dissolved Solids	**1230**	20.0	"	"	9052218	05/22/09	05/23/09	SM2540 C	
Forester Cr. Upstream (0905522-02) Water Sampled: 05/19/09 10:40 Received: 05/19/09 13:15									
Nitrate/Nitrite as N	**4.93**	0.50	mg/l	10	9052222	05/22/09	05/22/09	SM4500 NO3 E	
Total Kjeldahl Nitrogen	**1.1**	0.5	"	1	9052019	05/21/09	05/21/09	SM4500 N C	
Total Nitrogen	**6.0**	0.5	"	"	9052920	05/22/09	05/22/09	Calculation	
Orthophosphate as P	**0.33**	0.05	"	"	9052111	05/21/09	05/21/09	SM4500 P E	
Phosphorus, Total	**0.34**	0.05	"	"	9052739	05/27/09	05/27/09	SM4500 P B, E	
Total Dissolved Solids	**1830**	20.0	"	"	9052218	05/22/09	05/23/09	SM2540 C	
Forester Cr. Downstream (0905522-03) Water Sampled: 05/19/09 11:45 Received: 05/19/09 13:15									
Nitrate/Nitrite as N	**0.65**	0.25	mg/l	5	9052222	05/22/09	05/22/09	SM4500 NO3 E	
Total Kjeldahl Nitrogen	**0.8**	0.5	"	1	9052019	05/21/09	05/21/09	SM4500 N C	
Total Nitrogen	**1.4**	0.5	"	"	9052920	05/22/09	05/22/09	Calculation	
Orthophosphate as P	**0.66**	0.05	"	"	9052111	05/21/09	05/21/09	SM4500 P E	
Phosphorus, Total	**0.67**	0.05	"	"	9052739	05/27/09	05/27/09	SM4500 P B, E	
Total Dissolved Solids	**1560**	20.0	"	"	9052630	05/26/09	05/27/09	SM2540 C	
San Diego R. Downstream (0905522-04) Water Sampled: 05/19/09 12:30 Received: 05/19/09 13:15									
Nitrate/Nitrite as N	**1.93**	0.50	mg/l	10	9052222	05/22/09	05/22/09	SM4500 NO3 E	
Total Kjeldahl Nitrogen	**0.8**	0.5	"	1	9052019	05/21/09	05/21/09	SM4500 N C	
Total Nitrogen	**2.7**	0.5	"	"	9052920	05/22/09	05/22/09	Calculation	
Orthophosphate as P	**0.09**	0.05	"	"	9052111	05/21/09	05/21/09	SM4500 P E	
Phosphorus, Total	**0.10**	0.05	"	"	9052739	05/27/09	05/27/09	SM4500 P B, E	
Total Dissolved Solids	**1680**	20.0	"	"	9052630	05/26/09	05/27/09	SM2540 C	

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Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 0905522

Microbiological Parameters by Standard Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
San Diego R. Upstream (0905522-01) Water Sampled: 05/19/09 09:30 Received: 05/19/09 13:15									
Total Coliforms	**1300**	20	MPN/100 ml	10	9052507	05/19/09	05/23/09	SM 9221 B, E	
Fecal Coliforms	ND	20	"	"	"	"	05/22/09	"	
Enterococcus	**20**	20	"	"	9052508	"	05/23/09	SM 9230 A, B	
Forester Cr. Upstream (0905522-02) Water Sampled: 05/19/09 10:40 Received: 05/19/09 13:15									
Total Coliforms	**3500**	20	MPN/100 ml	10	9052507	05/19/09	05/23/09	SM 9221 B, E	
Fecal Coliforms	**1700**	20	"	"	"	"	05/22/09	"	
Enterococcus	**800**	20	"	"	9052508	"	05/23/09	SM 9230 A, B	
Forester Cr. Downstream (0905522-03) Water Sampled: 05/19/09 11:45 Received: 05/19/09 13:15									
Total Coliforms	**2800**	20	MPN/100 ml	10	9052507	05/19/09	05/23/09	SM 9221 B, E	
Fecal Coliforms	**170**	20	"	"	"	"	05/22/09	"	
Enterococcus	**500**	20	"	"	9052508	"	05/23/09	SM 9230 A, B	
San Diego R. Downstream (0905522-04) Water Sampled: 05/19/09 12:30 Received: 05/19/09 13:15									
Total Coliforms	**30000**	2000	MPN/100 ml	1000	9052507	05/19/09	05/23/09	SM 9221 B, E	
Fecal Coliforms	**300**	20	"	10	"	"	05/22/09	"	
Enterococcus	**130**	20	"	"	9052508	"	05/23/09	SM 9230 A, B	

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Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 0905522

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9052019										
Blank (9052019-BLK1)				Prepared & Analyzed: 05/20/09						
Total Kjeldahl Nitrogen	ND	0.5	mg/l							
LCS (9052019-BS1)				Prepared & Analyzed: 05/20/09						
Total Kjeldahl Nitrogen	4.6	0.5	mg/l	4.10		113	80-120			
LCS Dup (9052019-BSD1)				Prepared & Analyzed: 05/20/09						
Total Kjeldahl Nitrogen	4.7	0.5	mg/l	4.10		115	80-120	2	20	
Duplicate (9052019-DUP1)		**Source: 0905469-01**		Prepared & Analyzed: 05/20/09						
Total Kjeldahl Nitrogen	1.4	0.5	mg/l		1.7			15	20	
Matrix Spike (9052019-MS1)		**Source: 0905469-01**		Prepared & Analyzed: 05/20/09						
Total Kjeldahl Nitrogen	6.6	0.5	mg/l	4.10	1.7	119	80-120			
Matrix Spike Dup (9052019-MSD1)		**Source: 0905469-01**		Prepared & Analyzed: 05/20/09						
Total Kjeldahl Nitrogen	5.5	0.5	mg/l	4.10	1.7	93	80-120	17	20	
Batch 9052111										
Blank (9052111-BLK1)				Prepared & Analyzed: 05/21/09						
Orthophosphate as P	ND	0.05	mg/l							
LCS (9052111-BS1)				Prepared & Analyzed: 05/21/09						
Orthophosphate as P	0.50	0.05	mg/l	0.500		101	80-120			
LCS Dup (9052111-BSD1)				Prepared & Analyzed: 05/21/09						
Orthophosphate as P	0.56	0.05	mg/l	0.500		113	80-120	11	20	

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Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 0905522

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9052111										
Duplicate (9052111-DUP1)		**Source: 0905522-01**		Prepared & Analyzed: 05/21/09						
Orthophosphate as P	0.14	0.05	mg/l		0.13			7	20	
Duplicate (9052111-DUP2)		**Source: 0905443-04**		Prepared & Analyzed: 05/21/09						
Orthophosphate as P	5.05	0.25	mg/l		5.18			3	20	
Duplicate (9052111-DUP3)		**Source: 0905443-04**		Prepared & Analyzed: 05/21/09						
Orthophosphate as P	5.18	0.25	mg/l		5.18			0.2	20	
Matrix Spike (9052111-MS1)		**Source: 0905522-01**		Prepared & Analyzed: 05/21/09						
Orthophosphate as P	0.55	0.05	mg/l	0.500	0.13	85	80-120			
Matrix Spike Dup (9052111-MSD1)		**Source: 0905522-01**		Prepared & Analyzed: 05/21/09						
Orthophosphate as P	0.55	0.05	mg/l	0.500	0.13	84	80-120	0.9	20	
Batch 9052218										
Blank (9052218-BLK1)				Prepared: 05/22/09 Analyzed: 05/23/09						
Total Dissolved Solids	ND	20.0	mg/l							
Duplicate (9052218-DUP1)		**Source: 0905469-01**		Prepared: 05/22/09 Analyzed: 05/23/09						
Total Dissolved Solids	1100	20.0	mg/l		1100			0.5	20	
Reference (9052218-SRM1)				Prepared: 05/22/09 Analyzed: 05/23/09						
Total Dissolved Solids	172	20.0	mg/l	178		97	7.08-112.9			
Batch 9052222										
Blank (9052222-BLK1)				Prepared & Analyzed: 05/22/09						
Nitrate/Nitrite as N	ND	0.05	mg/l							

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Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 0905522

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9052222										
LCS (9052222-BS1)				Prepared & Analyzed: 05/22/09						
Nitrate/Nitrite as N	0.51	0.05	mg/l	0.500		101	80-120			
LCS Dup (9052222-BSD1)				Prepared & Analyzed: 05/22/09						
Nitrate/Nitrite as N	0.52	0.05	mg/l	0.500		105	80-120	3	20	
Duplicate (9052222-DUP1)		**Source: 0905543-01**		Prepared & Analyzed: 05/22/09						
Nitrate/Nitrite as N	ND	0.05	mg/l		ND				20	
Matrix Spike (9052222-MS1)		**Source: 0905543-01**		Prepared & Analyzed: 05/22/09						
Nitrate/Nitrite as N	0.45	0.05	mg/l	0.500	ND	89	80-120			
Matrix Spike Dup (9052222-MSD1)		**Source: 0905543-01**		Prepared & Analyzed: 05/22/09						
Nitrate/Nitrite as N	0.47	0.05	mg/l	0.500	ND	94	80-120	5	20	
Reference (9052222-SRM1)				Prepared & Analyzed: 05/22/09						
Nitrate/Nitrite as N	0.69	0.05	mg/l	0.688		100	8.81-109.0			
Batch 9052630										
Blank (9052630-BLK1)				Prepared: 05/26/09 Analyzed: 05/27/09						
Total Dissolved Solids	ND	20.0	mg/l							
Duplicate (9052630-DUP1)		**Source: 0905522-03**		Prepared: 05/26/09 Analyzed: 05/27/09						
Total Dissolved Solids	1540	20.0	mg/l		1560			1	20	
Reference (9052630-SRM1)				Prepared: 05/26/09 Analyzed: 05/27/09						
Total Dissolved Solids	164	20.0	mg/l	178		92	7.08-112.9			

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Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 0905522

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9052739										
Blank (9052739-BLK1)				Prepared & Analyzed: 05/27/09						
Phosphorus, Total	ND	0.05	mg/l							
LCS (9052739-BS1)				Prepared & Analyzed: 05/27/09						
Phosphorus, Total	0.56	0.05	mg/l	0.500		111	80-120			
LCS Dup (9052739-BSD1)				Prepared & Analyzed: 05/27/09						
Phosphorus, Total	0.58	0.05	mg/l	0.500		117	80-120	5	20	
Duplicate (9052739-DUP1)		**Source: 0905421-01**		Prepared & Analyzed: 05/27/09						
Phosphorus, Total	0.16	0.05	mg/l		0.14			12	20	
Matrix Spike (9052739-MS1)		**Source: 0905421-01**		Prepared & Analyzed: 05/27/09						
Phosphorus, Total	0.59	0.05	mg/l	0.500	0.14	90	80-120			
Matrix Spike Dup (9052739-MSD1)		**Source: 0905421-01**		Prepared & Analyzed: 05/27/09						
Phosphorus, Total	0.59	0.05	mg/l	0.500	0.14	90	80-120	0.5	20	
Batch 9052920										
Duplicate (9052920-DUP1)		**Source: 0905469-01**		Prepared & Analyzed: 05/20/09						
Total Nitrogen	5.1	0.5	mg/l		5.5			8	20	

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Client Name: D-Max Engineering **EMA Log #: 0905522**
Project Name: Santee Dry Weather

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

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CHAIN-OF-CUSTODY RECORD

– EnviroMatrix Analytical, Inc. —
4340 Viewridge Ave., Ste. A - San Diego, CA 92123 - Phone (858) 560-7717 - Fax (858) 560-7763

EMA LOG #: 0905522

Client: D-Max Engineering
Attn: Arsalan Dadkhah
Samplers(s): Manouchehr / Annika
Address: 7220 Trade street suite 119
San Diego, CA 92121
Phone: (858) 5866600 Fax: (858) 586-6644
Email:
Billing Address: Same

Project ID: Santee Dry Weather - Round One
Project #: 200919W-3 PO #:

Requested Analysis

ID #	Client Sample ID	Sample Date	Sample Time	Sample Matrix	Container # / Type	Oil & Grease □ 413.1 □ 413.2 □ 1664	8015B (TPH) □ Gas □ Diesel □ Ext	624/8260 (VOC) Full BTXE MTBE Oxy Nap	625 / 8270 (SVOC) □ PAH only	608 / 8081 (Organochlorine Pesticides)	608 / 8082 (Polychlorinated Biphenyls)	8141 (Organophosphorus Pesticides)	TBT (Organotin Compounds)	□ pH □ EC □ TSS X TDS	□ Nitrate □ Nitrite □ TKN □ NH3	CAC Title 22/CAM17 Metals □ TTLC □ STLC	TCLP (RCRA) □ Metals □ Organics	Cd Cr Cu Pb Ni Ag Zn □ Dissolved	X Total (MTF) X Fecal (MTF)	Coliert, T+E.Coli □ P/A □ Enumeration	Enterococcus, X MTF □ Enterolert	Heterotrophic Plate Count (HPC)	Total Phosphorus	Total Nitrogen	Orthophosphate phosphorus			
1	San Diego R. Upstream	5/19/09	9:30	water	4/p 1/G									X					X		X		X	X	X			
2	Forester Cr. Upstream	"	10:40	"	4/p 1/G									X					X		X		X	X	X			
3	Forester Cr. Downstream	"	11:45	"	" "									X					X		X		X	X	X			
4	San Diego R. Downstream	"	12:30	"	" "									X					X		X		X	X	X			
5																												
6																												
7																												
8																												
9																												
10																												

Matrix Codes: A = Air, DW = Drinking Water, GW = Groundwater, SW = Storm Water
WW = Wastewater, S = Soil, SED = Sediment, SD = Solid, T = Tissue, O = Oil, L = Liquid

Shipped By: X Courier □ UPS □ FedEx □ USPS □ Client Drop Off □ Other

[1]**Turn-Around-Time:** □ Same Day □ 24 hr □ 48 hr □ 3 day □ 4 day ~~□~~ 5 day □ STD (7 day)

[1]**Reporting Requirements:** □ Fax □ PDF □ Excel □ Geotracker/EDF □ Hard Copy □ EDT

[1]**Sample Disposal:** □ By Laboratory □ [2]Return to Client: P/U or Delivery □ Archive

Sample Integrity

Correct Containers: Yes No N/A	Containers Properly Preseved: Yes No N/A
Custody Seals Intact: Yes No N/A	Temp @ Receipt:
COC/Labels Agree: Yes No N/A	Sampled By: Client EMA Autosampler

RELINQUISHED BY	DATE/TIME	RECEIVED BY
Signature: Manouchehr Dadkhah	5-19-09 1115	Signature:
Print: Manouchehr Dadkhah		Print: Louis Lucas
Company: D-Max Engineering		Company: EMA
Signature:	5/19/09 13:45	Signature:
Print: Louis Lucas		Print: Sean Flory
Company: EMA		Company: Fant Inc
Signature:		Signature:
Print:		Print:
Company:		Company:

Project/Sample Comments: 7 CONDS

[1]Additional costs may apply, consult a project manager for details.
[2]EMA reserves the right to return any samples that do not match our waste profile.

White- EMA Canary - Accounting Pink - Client (w/report) Gold - Client (Relinquish)

NOTE: By relinquishing samples to EMA, Inc., client agrees to pay for the services requested on this COC form and any additional analyses performed on this project. Payment for services is due within 30 days from date of invoice. Samples will be disposed of after 30 days unless otherwise noted. All work is subject to EMA's terms and conditions.

EnviroMatrix Analytical, Inc.

01 June 2009

D-Max Engineering
Attn: Arsalan Dadkhah
7220 Trade Street, Suite 119
San Diego, California 92121

EMA Log #: 0905569

Project Name: Santee Dry Weather
Project Desc./#:200919W-3

Enclosed are the results of analyses for samples received by the laboratory on 05/20/09 14:52. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that this data is in compliance both technically and for completeness.

Dan Verdon
Laboratory Director

CA ELAP Certification #: 2564

4340 Viewridge Avenue, Suite A - San Diego, California 92123 - (858) 560-7717 - Fax (858) 560-7763
Analytical Chemistry Laboratory

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 0905569

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Sycamore Cr. Downstream	0905569-01	Water	05/20/09 10:50	05/20/09 14:52

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 0905569

Conventional Chemistry Parameters by Standard/EPA Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sycamore Cr. Downstream (0905569-01) Water	**Sampled: 05/20/09 10:50**		**Received: 05/20/09 14:52**						
Nitrate/Nitrite as N	**0.23**	0.05	mg/l	1	9052222	05/22/09	05/22/09	SM4500 NO3 E	
Total Kjeldahl Nitrogen	**3.9**	0.5	"	"	9052649	05/26/09	05/26/09	SM4500 N C	
Total Nitrogen	**4.1**	0.5	"	"	9052920	05/26/09	05/26/09	Calculation	
Orthophosphate as P	**0.19**	0.05	"	"	9052111	05/21/09	05/21/09	SM4500 P E	
Phosphorus, Total	**0.28**	0.05	"	"	9052739	05/27/09	05/27/09	SM4500 P B, E	
Total Dissolved Solids	**767**	20.0	"	"	9052752	05/27/09	05/28/09	SM2540 C	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 0905569

Microbiological Parameters by Standard Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sycamore Cr. Downstream (0905569-01) Water	**Sampled: 05/20/09 10:50**		**Received: 05/20/09 14:52**						
Total Coliforms	**11000**	200	MPN/100 ml	100	9052612	05/20/09	05/24/09	SM 9221 B, E	
Fecal Coliforms	**500**	20	"	10	"	"	05/23/09	"	
Enterococcus	**1400**	20	"	"	9052613	"	05/24/09	SM 9230 A, B	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 0905569

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9052111										
Blank (9052111-BLK1)				Prepared & Analyzed: 05/21/09						
Orthophosphate as P	ND	0.05	mg/l							
LCS (9052111-BS1)				Prepared & Analyzed: 05/21/09						
Orthophosphate as P	0.50	0.05	mg/l	0.500		101	80-120			
LCS Dup (9052111-BSD1)				Prepared & Analyzed: 05/21/09						
Orthophosphate as P	0.56	0.05	mg/l	0.500		113	80-120	11	20	
Duplicate (9052111-DUP1)		**Source: 0905522-01**		Prepared & Analyzed: 05/21/09						
Orthophosphate as P	0.14	0.05	mg/l		0.13			7	20	
Duplicate (9052111-DUP2)		**Source: 0905443-04**		Prepared & Analyzed: 05/21/09						
Orthophosphate as P	5.05	0.25	mg/l		5.18			3	20	
Duplicate (9052111-DUP3)		**Source: 0905443-04**		Prepared & Analyzed: 05/21/09						
Orthophosphate as P	5.18	0.25	mg/l		5.18			0.2	20	
Matrix Spike (9052111-MS1)		**Source: 0905522-01**		Prepared & Analyzed: 05/21/09						
Orthophosphate as P	0.55	0.05	mg/l	0.500	0.13	85	80-120			
Matrix Spike Dup (9052111-MSD1)		**Source: 0905522-01**		Prepared & Analyzed: 05/21/09						
Orthophosphate as P	0.55	0.05	mg/l	0.500	0.13	84	80-120	0.9	20	
Batch 9052222										
Blank (9052222-BLK1)				Prepared & Analyzed: 05/22/09						
Nitrate/Nitrite as N	ND	0.05	mg/l							

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 0905569

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9052222										
LCS (9052222-BS1)				Prepared & Analyzed: 05/22/09						
Nitrate/Nitrite as N	0.51	0.05	mg/l	0.500		101	80-120			
LCS Dup (9052222-BSD1)				Prepared & Analyzed: 05/22/09						
Nitrate/Nitrite as N	0.52	0.05	mg/l	0.500		105	80-120	3	20	
Duplicate (9052222-DUP1)		**Source: 0905543-01**		Prepared & Analyzed: 05/22/09						
Nitrate/Nitrite as N	ND	0.05	mg/l		ND				20	
Matrix Spike (9052222-MS1)		**Source: 0905543-01**		Prepared & Analyzed: 05/22/09						
Nitrate/Nitrite as N	0.45	0.05	mg/l	0.500	ND	89	80-120			
Matrix Spike Dup (9052222-MSD1)		**Source: 0905543-01**		Prepared & Analyzed: 05/22/09						
Nitrate/Nitrite as N	0.47	0.05	mg/l	0.500	ND	94	80-120	5	20	
Reference (9052222-SRM1)				Prepared & Analyzed: 05/22/09						
Nitrate/Nitrite as N	0.69	0.05	mg/l	0.688		100	8.81-109.0			
Batch 9052649										
Blank (9052649-BLK1)				Prepared & Analyzed: 05/26/09						
Total Kjeldahl Nitrogen	ND	0.5	mg/l							
LCS (9052649-BS1)				Prepared & Analyzed: 05/26/09						
Total Kjeldahl Nitrogen	3.9	0.5	mg/l	4.10		96	80-120			
LCS Dup (9052649-BSD1)				Prepared & Analyzed: 05/26/09						
Total Kjeldahl Nitrogen	4.2	0.5	mg/l	4.10		102	80-120	6	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 0905569

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9052649										
Duplicate (9052649-DUP1)		**Source: 0905568-01**		Prepared & Analyzed: 05/26/09						
Total Kjeldahl Nitrogen	3.5	0.5	mg/l		4.0			13	20	
Matrix Spike (9052649-MS1)		**Source: 0905568-01**		Prepared & Analyzed: 05/26/09						
Total Kjeldahl Nitrogen	11.6	1.0	mg/l	8.20	4.0	93	80-120			
Matrix Spike Dup (9052649-MSD1)		**Source: 0905568-01**		Prepared & Analyzed: 05/26/09						
Total Kjeldahl Nitrogen	13.4	1.0	mg/l	8.20	4.0	115	80-120	15	20	
Batch 9052739										
Blank (9052739-BLK1)				Prepared & Analyzed: 05/27/09						
Phosphorus, Total	ND	0.05	mg/l							
LCS (9052739-BS1)				Prepared & Analyzed: 05/27/09						
Phosphorus, Total	0.56	0.05	mg/l	0.500		111	80-120			
LCS Dup (9052739-BSD1)				Prepared & Analyzed: 05/27/09						
Phosphorus, Total	0.58	0.05	mg/l	0.500		117	80-120	5	20	
Duplicate (9052739-DUP1)		**Source: 0905421-01**		Prepared & Analyzed: 05/27/09						
Phosphorus, Total	0.16	0.05	mg/l		0.14			12	20	
Matrix Spike (9052739-MS1)		**Source: 0905421-01**		Prepared & Analyzed: 05/27/09						
Phosphorus, Total	0.59	0.05	mg/l	0.500	0.14	90	80-120			
Matrix Spike Dup (9052739-MSD1)		**Source: 0905421-01**		Prepared & Analyzed: 05/27/09						
Phosphorus, Total	0.59	0.05	mg/l	0.500	0.14	90	80-120	0.5	20	

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Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 0905569

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9052752										
Blank (9052752-BLK1)				Prepared: 05/26/09 Analyzed: 05/27/09						
Total Dissolved Solids	ND	20.0	mg/l							
Duplicate (9052752-DUP1)		**Source: 0905568-01**		Prepared: 05/26/09 Analyzed: 05/27/09						
Total Dissolved Solids	957	20.0	mg/l		985			3	20	
Reference (9052752-SRM1)				Prepared: 05/26/09 Analyzed: 05/27/09						
Total Dissolved Solids	192	20.0	mg/l	178		108	7.08-112.9			
Batch 9052920										
Duplicate (9052920-DUP1)		**Source: 0905469-01**		Prepared & Analyzed: 05/20/09						
Total Nitrogen	5.1	0.5	mg/l		5.5			8	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 0905569

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

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CHAIN-OF-CUSTODY RECORD

– EnviroMatrix Analytical, Inc. —
4340 Viewridge Ave., Ste. A - San Diego, CA 92123 - Phone (858) 560-7717 - Fax (858) 560-7763

EMA LOG #: 6905569

Client: D-Max Engineering, Inc.
Attn: Arsalan Dadkhah
Samplers(s): Manouchehr / Annika
Address: 7220 Trade Street, Suite 119
San Diego, CA 92121
Phone: (858) 586-6600 Fax: (858) 586-6644
Email:
Billing Address: Same
Project ID: Santee Dry Weather Round One
Project #: 200919 W-3 PO #:

Requested Analysis

ID #	Client Sample ID	Sample Date	Sample Time	Sample Matrix	Container # / Type	Oil & Grease □ 413.1 □ 413.2 □ 1664	8015B (TPH) □ Gas □ Diesel □ Ext	624/8260 (VOC) Full BTXE MTBE Oxy Nap	625 / 8270 (SVOC) □ PAH only	608 / 8081 (Organochlorine Pesticides)	608 / 8082 (Polychlorinated Biphenyls)	8141 (Organophosphorus Pesticides)	TBT (Organotin Compounds)	□ pH □ EC □ TSS ☒ TDS	□ Nitrate □ Nitrite □ TKN □ NH3	CAC Title 22/CAM17 Metals □ TTLC □ STLC	TCLP (RCRA) □ Metals □ Organics	Cd Cr Cu Pb Ni Ag Zn □ Dissolved	Coliform, ☒ Total (MTF) ☒ Fecal (MTF)	Collert, T+E.Coli □ P/A □ Enumeration	Enterococcus, ☒ MTF □ Enterolert	Heterotrophic Plate Count (HPC)	Total phosphorus	Total Nitrogen	Orthophosphate Phosphorus			
1	Sy Camore Cr. Downstream	5/20/09	10:50	Water	4/P 1/G									X					X		X		X	X	X			
2																												
3																												
4																												
5																												
6																												
7																												
8																												
9																												
10																												

Matrix Codes: A = Air, DW = Drinking Water, GW = Groundwater, SW = Storm Water
WW = Wastewater, S = Soil, SED = Sediment, SD = Solid, T = Tissue, O = Oil, L = Liquid

Shipped By: □ Courier □ UPS □ FedEx □ USPS □ Client Drop Off □ Other

[1]**Turn-Around-Time:** □ Same Day □ 24 hr □ 48 hr □ 3 day □ 4 day □ 5 day □ STD (7 day)

[1]**Reporting Requirements:** □ Fax □ PDF □ Excel □ Geotracker/EDF □ Hard Copy □ EDT

[1]**Sample Disposal:** □ By Laboratory □ [2]Return to Client: P/U or Delivery □ Archive

Sample Integrity

Correct Containers: Yes No N/A	Containers Properly Preseved: Yes No N/A
Custody Seals Intact: Yes No N/A	Temp @ Receipt:
COC/Labels Agree: Yes No N/A	Sampled By: Client EMA Autosampler

	RELINQUISHED BY	DATE/TIME	RECEIVED BY
Signature	Manouchehr Dadkhah	5/20/09	Kelly Leyden
Print	Manouchehr Dadkhah	13:33	Kelly Leyden
Company:	D-Max Eng.		EMA
Signature	Kelly Leyden	5/20/09	
Print	Kelly Leyden	14:52	Sean Flores
Company:	EMA		First Env.
Signature			
Print			
Company:			

Project/Sample Comments:

[1]Additional costs may apply, consult a project manager for details.

White- EMA Canary - Accounting Pink - Client (w/report) Gold - Client (Relinquish)

[2]EMA reserves the right to return any samples that do not match our waste profile.

NOTE: By relinquishing samples to EMA, Inc., client agrees to pay for the services requested on this COC form and any additional analyses performed on this project. Payment for services is due within 30 days from date of invoice. Samples will be disposed of after 30 days unless otherwise noted. All work is subject to EMA's terms and conditions.

T= 6°C On Ice

Round Two

EnviroMatrix Analytical, Inc.

11 September 2009

D-Max Engineering
Attn: Arsalan Dadkhah
7220 Trade Street, Suite 119
San Diego, California 92121

EMA Log #: 0909056

Project Name: Santee Recieving Water Bodies Round 2 200919W-3

Enclosed are the results of analyses for samples received by the laboratory on 09/02/09 13:52. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that this data is in compliance both technically and for completeness.

Dan Verdon
Laboratory Director

CA ELAP Certification #: 2564

4340 Viewridge Avenue, Suite A - San Diego, California 92123 - (858) 560-7717 - Fax (858) 560-7763
Analytical Chemistry Laboratory

Client Name: D-Max Engineering **EMA Log #: 0909056**
Project Name: Santee Recieving Water Bodies Round 2 200919W-3

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
San Diego River Upstream	0909056-01	Stormwater	09/02/09 10:30	09/02/09 13:52
Forester Creek Upstream	0909056-02	Stormwater	09/02/09 11:30	09/02/09 13:52
Forester Creek Downstream	0909056-03	Stormwater	09/02/09 12:20	09/02/09 13:52
San Diego River Downstream	0909056-04	Stormwater	09/02/09 13:10	09/02/09 13:52

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 0909056**
Project Name: Santee Recieving Water Bodies Round 2 200919W-3

Conventional Chemistry Parameters by Standard/EPA Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
San Diego River Upstream (0909056-01) Stormwater	**Sampled: 09/02/09 10:30**		**Received: 09/02/09 13:52**						
Nitrate/Nitrite as N	**0.43**	0.05	mg/l	1	9090204	09/03/09	09/03/09	SM4500 NO3 E	
Total Kjeldahl Nitrogen	**0.8**	0.5	"	"	9091002	09/10/09	09/10/09	SM4500 N C	
Total Nitrogen	**1.2**	0.5	"	"	9091048	09/10/09	09/10/09	Calculation	
Orthophosphate as P	ND	0.05	"	"	9090341	09/03/09	09/03/09	SM4500 P E	
Phosphorus, Total	**0.20**	0.05	"	"	9090340	09/03/09	09/03/09	SM4500 P B, E	
Total Dissolved Solids	**1240**	20.0	"	"	9090329	09/03/09	09/04/09	SM2540 C	
Forester Creek Upstream (0909056-02) Stormwater	**Sampled: 09/02/09 11:30**		**Received: 09/02/09 13:52**						
Nitrate/Nitrite as N	**3.36**	0.25	mg/l	5	9090204	09/03/09	09/03/09	SM4500 NO3 E	
Total Kjeldahl Nitrogen	**0.6**	0.5	"	1	9091002	09/10/09	09/10/09	SM4500 N C	
Total Nitrogen	**4.0**	0.5	"	"	9091048	09/10/09	09/10/09	Calculation	
Orthophosphate as P	**0.05**	0.05	"	"	9090341	09/03/09	09/03/09	SM4500 P E	
Phosphorus, Total	**0.28**	0.05	"	"	9090340	09/03/09	09/03/09	SM4500 P B, E	
Total Dissolved Solids	**1850**	20.0	"	"	9090329	09/03/09	09/04/09	SM2540 C	
Forester Creek Downstream (0909056-03) Stormwater	**Sampled: 09/02/09 12:20**		**Received: 09/02/09 13:52**						
Nitrate/Nitrite as N	**1.32**	0.10	mg/l	2	9090204	09/03/09	09/03/09	SM4500 NO3 E	
Total Kjeldahl Nitrogen	ND	0.5	"	1	9091002	09/10/09	09/10/09	SM4500 N C	
Total Nitrogen	**1.6**	0.5	"	"	9091048	09/10/09	09/10/09	Calculation	
Orthophosphate as P	**0.12**	0.05	"	"	9090341	09/03/09	09/03/09	SM4500 P E	
Phosphorus, Total	**0.25**	0.05	"	"	9090340	09/03/09	09/03/09	SM4500 P B, E	
Total Dissolved Solids	**1900**	20.0	"	"	9090329	09/03/09	09/04/09	SM2540 C	
San Diego River Downstream (0909056-04) Stormwater	**Sampled: 09/02/09 13:10**		**Received: 09/02/09 13:52**						
Nitrate/Nitrite as N	**0.44**	0.05	mg/l	1	9090204	09/03/09	09/03/09	SM4500 NO3 E	
Total Kjeldahl Nitrogen	**0.6**	0.5	"	"	9091002	09/10/09	09/10/09	SM4500 N C	
Total Nitrogen	**1.0**	0.5	"	"	9091048	09/10/09	09/10/09	Calculation	
Orthophosphate as P	**0.12**	0.05	"	"	9090341	09/03/09	09/03/09	SM4500 P E	
Phosphorus, Total	**0.14**	0.05	"	"	9090340	09/03/09	09/03/09	SM4500 P B, E	
Total Dissolved Solids	**1920**	20.0	"	"	9090329	09/03/09	09/04/09	SM2540 C	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 0909056**
Project Name: Santee Recieving Water Bodies Round 2 200919W-3

Microbiological Parameters by Standard Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
San Diego River Upstream (0909056-01) Stormwater	**Sampled: 09/02/09 10:30**	**Received: 09/02/09 13:52**							
Total Coliforms	**600**	20	MPN/100 ml	10	9090318	09/02/09	09/06/09	SM 9221 B, E	
Fecal Coliforms	**40**	20	"	"	"	"	09/05/09	"	
Enterococcus	**20**	20	"	"	9090319	"	09/06/09	SM 9230 A, B	
Forester Creek Upstream (0909056-02) Stormwater	**Sampled: 09/02/09 11:30**	**Received: 09/02/09 13:52**							
Total Coliforms	**2300**	200	MPN/100 ml	100	9090318	09/02/09	09/06/09	SM 9221 B, E	
Fecal Coliforms	**300**	20	"	10	"	"	09/05/09	"	
Enterococcus	**40**	20	"	"	9090319	"	09/06/09	SM 9230 A, B	
Forester Creek Downstream (0909056-03) Stormwater	**Sampled: 09/02/09 12:20**	**Received: 09/02/09 13:52**							
Total Coliforms	**11000**	200	MPN/100 ml	100	9090318	09/02/09	09/06/09	SM 9221 B, E	
Fecal Coliforms	**1300**	20	"	10	"	"	09/05/09	"	
Enterococcus	**500**	20	"	"	9090319	"	09/06/09	SM 9230 A, B	
San Diego River Downstream (0909056-04) Stormwater	**Sampled: 09/02/09 13:10**	**Received: 09/02/09 13:52**							
Total Coliforms	**2300**	200	MPN/100 ml	100	9090318	09/02/09	09/06/09	SM 9221 B, E	
Fecal Coliforms	**40**	20	"	10	"	"	09/05/09	"	
Enterococcus	**80**	20	"	"	9090319	"	09/06/09	SM 9230 A, B	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 0909056**
Project Name: Santee Recieving Water Bodies Round 2 200919W-3

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9090204										
Blank (9090204-BLK1)				Prepared & Analyzed: 09/02/09						
Nitrate/Nitrite as N	ND	0.05	mg/l							
LCS (9090204-BS1)				Prepared & Analyzed: 09/02/09						
Nitrate/Nitrite as N	0.51	0.05	mg/l	0.500		102	80-120			
LCS Dup (9090204-BSD1)				Prepared & Analyzed: 09/02/09						
Nitrate/Nitrite as N	0.53	0.05	mg/l	0.500		105	80-120	3	20	
Duplicate (9090204-DUP1)		**Source: 0908793-01**		Prepared & Analyzed: 09/02/09						
Nitrate/Nitrite as N	1.71	0.50	mg/l		1.56			9	20	
Duplicate (9090204-DUP2)		**Source: 0908762-01**		Prepared & Analyzed: 09/02/09						
Nitrate/Nitrite as N	1.48	0.50	mg/l		1.46			0.7	20	
Matrix Spike (9090204-MS1)		**Source: 0908793-01**		Prepared & Analyzed: 09/02/09						
Nitrate/Nitrite as N	6.62	0.50	mg/l	5.00	1.56	101	80-120			
Matrix Spike Dup (9090204-MSD1)		**Source: 0908793-01**		Prepared & Analyzed: 09/02/09						
Nitrate/Nitrite as N	7.05	0.50	mg/l	5.00	1.56	110	80-120	6	20	
Reference (9090204-SRM1)				Prepared & Analyzed: 09/02/09						
Nitrate/Nitrite as N	0.47	0.05	mg/l	0.442		106	4.16-115.1			
Batch 9090329										
Blank (9090329-BLK1)				Prepared: 09/03/09 Analyzed: 09/04/09						
Total Dissolved Solids	ND	20.0	mg/l							

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 0909056**
Project Name: Santee Recieving Water Bodies Round 2 200919W-3

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9090329										
Duplicate (9090329-DUP1)		**Source: 0908793-01**		Prepared: 09/03/09 Analyzed: 09/04/09						
Total Dissolved Solids	1080	20.0	mg/l		1020			6	20	
Reference (9090329-SRM1)				Prepared: 09/03/09 Analyzed: 09/04/09						
Total Dissolved Solids	298	20.0	mg/l	283		105	6.93-113.0			
Batch 9090340										
Blank (9090340-BLK1)				Prepared & Analyzed: 09/03/09						
Phosphorus, Total	ND	0.05	mg/l							
LCS (9090340-BS1)				Prepared & Analyzed: 09/03/09						
Phosphorus, Total	0.46	0.05	mg/l	0.500		92	80-120			
LCS Dup (9090340-BSD1)				Prepared & Analyzed: 09/03/09						
Phosphorus, Total	0.52	0.05	mg/l	0.500		103	80-120	11	20	
Duplicate (9090340-DUP1)		**Source: 0909056-01**		Prepared & Analyzed: 09/03/09						
Phosphorus, Total	0.22	0.05	mg/l		0.20			9	20	
Matrix Spike (9090340-MS1)		**Source: 0909056-01**		Prepared & Analyzed: 09/03/09						
Phosphorus, Total	0.72	0.05	mg/l	0.500	0.20	103	80-120			
Matrix Spike Dup (9090340-MSD1)		**Source: 0909056-01**		Prepared & Analyzed: 09/03/09						
Phosphorus, Total	0.69	0.05	mg/l	0.500	0.20	98	80-120	4	20	
Batch 9090341										
Blank (9090341-BLK1)				Prepared & Analyzed: 09/03/09						
Orthophosphate as P	ND	0.05	mg/l							

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 0909056**
Project Name: Santee Recieving Water Bodies Round 2 200919W-3

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9090341										
LCS (9090341-BS1)				Prepared & Analyzed: 09/03/09						
Orthophosphate as P	0.50	0.05	mg/l	0.500		100	80-120			
LCS Dup (9090341-BSD1)				Prepared & Analyzed: 09/03/09						
Orthophosphate as P	0.48	0.05	mg/l	0.500		97	80-120	4	20	
Duplicate (9090341-DUP1)		**Source: 0909056-01**		Prepared & Analyzed: 09/03/09						
Orthophosphate as P	0.03	0.05	mg/l		0.02			48	20	QR-04
Matrix Spike (9090341-MS1)		**Source: 0909056-01**		Prepared & Analyzed: 09/03/09						
Orthophosphate as P	0.55	0.05	mg/l	0.500	0.02	107	80-120			
Matrix Spike Dup (9090341-MSD1)		**Source: 0909056-01**		Prepared & Analyzed: 09/03/09						
Orthophosphate as P	0.52	0.05	mg/l	0.500	0.02	100	80-120	6	20	
Batch 9091002										
Blank (9091002-BLK1)				Prepared & Analyzed: 09/10/09						
Total Kjeldahl Nitrogen	ND	0.5	mg/l							
LCS (9091002-BS1)				Prepared & Analyzed: 09/10/09						
Total Kjeldahl Nitrogen	4.0	0.5	mg/l	4.10		98	80-120			
LCS Dup (9091002-BSD1)				Prepared & Analyzed: 09/10/09						
Total Kjeldahl Nitrogen	3.5	0.5	mg/l	4.10		86	80-120	13	20	
Duplicate (9091002-DUP1)		**Source: 0909056-01**		Prepared & Analyzed: 09/10/09						
Total Kjeldahl Nitrogen	0.7	0.5	mg/l		0.8			14	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 0909056**
Project Name: Santee Recieving Water Bodies Round 2 200919W-3

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9091002										
Matrix Spike (9091002-MS1)		**Source: 0909056-01**		Prepared & Analyzed: 09/10/09						
Total Kjeldahl Nitrogen	4.1	0.5	mg/l	4.10	0.8	80	80-120			
Matrix Spike Dup (9091002-MSD1)		**Source: 0909056-01**		Prepared & Analyzed: 09/10/09						
Total Kjeldahl Nitrogen	4.3	0.5	mg/l	4.10	0.8	85	80-120	5	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 0909056**
Project Name: Santee Recieving Water Bodies Round 2 200919W-3

Notes and Definitions

QR-04 The RPD between the sample and sample duplicate is not valid since both results are below the reporting limit for this analyte.

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

dry Sample results reported on a dry weight basis

RPD Relative Percent Difference

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CHAIN-OF-CUSTODY RECORD

– EnviroMatrix Analytical, Inc. –

4340 Viewridge Ave., Ste. A - San Diego, CA 92123 - Phone (858) 560-7717 - Fax (858) 560-7763

EMA LOG #: 0909056

Client: D-Max Engineering

Attn: Arsalan Dadkhah

Samplers(s): JL/MD

Address: 7220 Trade Street Suite 119

San Diego CA 92121

Phone: 858-586-6600 Fax:

Email:

Billing Address: same

Project ID: Santee Receiving Water Bodies Round 2

Project #: 2009 19W-3 PO #:

Requested Analysis

ID #	Client Sample ID	Sample Date	Sample Time	Sample Matrix	Container # / Type	Oil & Grease □ 413.1 □ 413.2 □ 1664	8015B (TPH) □ Gas □ Diesel □ Ext	624/8260 (VOC) Full BTXE MTBE Oxy Nap	625 / 8270 (SVOC) □ PAH only	608 / 8081 (Organochlorine Pesticides)	608 / 8082 (Polychlorinated Biphenyls)	8141 (Organophosphorus Pesticides)	TBT (Organotin Compounds)	□ pH □ EC □ TSS □ TDS	□ Nitrate □ Nitrite □ TKN □ NH3	CAC Title 22/CAM17 Metals □ TTLC □ STLC	TCLP (RCRA) □ Metals □ Organics	Cd Cr Cu Pb Ni Ag Zn □ Dissolved	Coliform, (Total (MTF) & Fecal (MTF)	Cólilert, T+E.Coli □ P/A □ Enumeration	Enterococcus, MTF □ Enterolert	Heterotrophic Plate Count (HPC)	Total Phosphate	Total Nitrogen	Orthophosphate	09	13.89	
1	San Diego River Upstream	9/2/09	10:30	SW	4P									X					X		X		X	X	X			
2	Forester Creek Upstream	↓	11:30	↓	↓									X					X		X		X	X	X			
3	Forester Creek Downstream		12:20											X					X		X		X	X	X			
4	San Diego River Downstream		13:10											X					X		X		X	X	X			
5																												
6																												
7																												
8																												
9																												
10																												

Matrix Codes: A = Air, DW = Drinking Water, GW = Groundwater, SW = Storm Water
WW = Wastewater, S = Soil, SED = Sediment, SD = Solid, T = Tissue, O = Oil, L = Liquid

Shipped By: □ Courier □ UPS □ FedEx □ USPS □ Client Drop Off □ Other

[1]**Turn-Around-Time:** □ Same Day □ 24 hr □ 48 hr □ 3 day □ 4 day ☒ 5 day □ STD (7 day)

[1]**Reporting Requirements:** □ Fax □ PDF □ Excel □ Geotracker/EDF □ Hard Copy □ EDT

[1]**Sample Disposal:** □ By Laboratory □ [2]Return to Client: P/U or Delivery □ Archive

Sample Integrity

Correct Containers: Yes No N/A	Containers Properly Preseved: Yes No N/A
Custody Seals Intact: Yes No N/A	Temp @ Receipt:_____
COC/Labels Agree: Yes No N/A	Sampled By: Client EMA Autosampler

RELINQUISHED BY	DATE/TIME	RECEIVED BY
Signature	9/2/09 13:34	Signature
Print: Joe Leonard		Print: Seem Flores
Company: D-Max		Company: EMA Inc
Signature	9/2/09 1352	Signature
Print: Seem Flores		Print
Company: EMA Inc		Company:
Signature		Signature
Print		Print
Company:		Company:

Project/Sample Comments:

T=4° on ice

[1]Additional costs may apply, consult a project manager for details.

White- EMA Canary - Accounting Pink - Client (w/report) Gold - Client (Relinquish)

[2]EMA reserves the right to return any samples that do not match our waste profile.

NOTE: By relinquishing samples to EMA, Inc., client agrees to pay for the services requested on this COC form and any additional analyses performed on this project. Payment for services is due within 30 days from date of invoice. Samples will be disposed of after 30 days unless otherwise noted. All work is subject to EMA's terms and conditions.

EnviroMatrix Analytical, Inc.

11 September 2009

D-Max Engineering
Attn: Arsalan Dadkhah
7220 Trade Street, Suite 119
San Diego, California 92121

EMA Log #: 0909099

Project Name: Santee Recieving Water Bodies Round 2 200919W-3

Enclosed are the results of analyses for samples received by the laboratory on 09/03/09 13:32. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that this data is in compliance both technically and for completeness.

Dan Verdon
Laboratory Director

CA ELAP Certification #: 2564

4340 Viewridge Avenue, Suite A - San Diego, California 92123 - (858) 560-7717 - Fax (858) 560-7763
Analytical Chemistry Laboratory

Client Name: D-Max Engineering **EMA Log #: 0909099**
Project Name: Santee Recieving Water Bodies Round 2 200919W-3

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Sycamore Creek Downstream	0909099-01	Stormwater	09/03/09 10:35	09/03/09 13:32

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 0909099**
Project Name: Santee Recieving Water Bodies Round 2 200919W-3

Conventional Chemistry Parameters by Standard/EPA Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sycamore Creek Downstream (0909099-01) Stormwater Sampled: 09/03/09 10:35 Received: 09/03/09 13:32									
Nitrate/Nitrite as N	ND	0.05	mg/l	1	9090403	09/04/09	09/04/09	SM4500 NO3 E	
Total Kjeldahl Nitrogen	**3.3**	0.5	"	"	9091002	09/11/09	09/11/09	SM4500 N C	
Total Nitrogen	**3.3**	0.5	"	"	9091131	09/11/09	09/11/09	Calculation	
Orthophosphate as P	**0.10**	0.05	"	"	9090341	09/03/09	09/03/09	SM4500 P E	
Phosphorus, Total	**0.27**	0.05	"	"	9090340	09/03/09	09/03/09	SM4500 P B, E	
Total Dissolved Solids	**1230**	20.0	"	"	9091024	09/09/09	09/10/09	SM2540 C	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 0909099**
Project Name: Santee Recieving Water Bodies Round 2 200919W-3

Microbiological Parameters by Standard Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sycamore Creek Downstream (0909099-01) Stormwater Sampled: 09/03/09 10:35 Received: 09/03/09 13:32									
Total Coliforms	**8000**	200	MPN/100 ml	100	9090417	09/03/09	09/07/09	SM 9221 B, E	
Fecal Coliforms	**20**	20	"	10	"	"	09/06/09	"	
Enterococcus	**220**	20	"	"	9090418	"	09/07/09	SM 9230 A, B	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 0909099**
Project Name: Santee Recieving Water Bodies Round 2 200919W-3

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9090340										
Blank (9090340-BLK1)				Prepared & Analyzed: 09/03/09						
Phosphorus, Total	ND	0.05	mg/l							
LCS (9090340-BS1)				Prepared & Analyzed: 09/03/09						
Phosphorus, Total	0.46	0.05	mg/l	0.500		92	80-120			
LCS Dup (9090340-BSD1)				Prepared & Analyzed: 09/03/09						
Phosphorus, Total	0.52	0.05	mg/l	0.500		103	80-120	11	20	
Duplicate (9090340-DUP1)		**Source: 0909056-01**		Prepared & Analyzed: 09/03/09						
Phosphorus, Total	0.22	0.05	mg/l		0.20			9	20	
Matrix Spike (9090340-MS1)		**Source: 0909056-01**		Prepared & Analyzed: 09/03/09						
Phosphorus, Total	0.72	0.05	mg/l	0.500	0.20	103	80-120			
Matrix Spike Dup (9090340-MSD1)		**Source: 0909056-01**		Prepared & Analyzed: 09/03/09						
Phosphorus, Total	0.69	0.05	mg/l	0.500	0.20	98	80-120	4	20	
Batch 9090341										
Blank (9090341-BLK1)				Prepared & Analyzed: 09/03/09						
Orthophosphate as P	ND	0.05	mg/l							
LCS (9090341-BS1)				Prepared & Analyzed: 09/03/09						
Orthophosphate as P	0.50	0.05	mg/l	0.500		100	80-120			
LCS Dup (9090341-BSD1)				Prepared & Analyzed: 09/03/09						
Orthophosphate as P	0.48	0.05	mg/l	0.500		97	80-120	4	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 0909099**
Project Name: Santee Recieving Water Bodies Round 2 200919W-3

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9090341										
Duplicate (9090341-DUP1)		**Source: 0909056-01**		Prepared & Analyzed: 09/03/09						
Orthophosphate as P	0.03	0.05	mg/l		0.02			48	20	QR-04
Matrix Spike (9090341-MS1)		**Source: 0909056-01**		Prepared & Analyzed: 09/03/09						
Orthophosphate as P	0.55	0.05	mg/l	0.500	0.02	107	80-120			
Matrix Spike Dup (9090341-MSD1)		**Source: 0909056-01**		Prepared & Analyzed: 09/03/09						
Orthophosphate as P	0.52	0.05	mg/l	0.500	0.02	100	80-120	6	20	
Batch 9090403										
Blank (9090403-BLK1)				Prepared & Analyzed: 09/04/09						
Nitrate/Nitrite as N	ND	0.05	mg/l							
LCS (9090403-BS1)				Prepared & Analyzed: 09/04/09						
Nitrate/Nitrite as N	0.52	0.05	mg/l	0.500		105	80-120			
LCS Dup (9090403-BSD1)				Prepared & Analyzed: 09/04/09						
Nitrate/Nitrite as N	0.53	0.05	mg/l	0.500		106	80-120	2	20	
Duplicate (9090403-DUP1)		**Source: 0909076-04**		Prepared & Analyzed: 09/04/09						
Nitrate/Nitrite as N	0.61	0.05	mg/l		0.56			8	20	
Matrix Spike (9090403-MS1)		**Source: 0909076-04**		Prepared & Analyzed: 09/04/09						
Nitrate/Nitrite as N	2.96	0.25	mg/l	2.50	0.56	96	80-120			
Matrix Spike Dup (9090403-MSD1)		**Source: 0909076-04**		Prepared & Analyzed: 09/04/09						
Nitrate/Nitrite as N	3.05	0.25	mg/l	2.50	0.56	100	80-120	3	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 0909099**
Project Name: Santee Recieving Water Bodies Round 2 200919W-3

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9090403										
Reference (9090403-SRM1)				Prepared & Analyzed: 09/04/09						
Nitrate/Nitrite as N	0.46	0.05	mg/l	0.442		104	4.16-115.1			
Batch 9091002										
Blank (9091002-BLK1)				Prepared & Analyzed: 09/10/09						
Total Kjeldahl Nitrogen	ND	0.5	mg/l							
LCS (9091002-BS1)				Prepared & Analyzed: 09/10/09						
Total Kjeldahl Nitrogen	4.0	0.5	mg/l	4.10		98	80-120			
LCS Dup (9091002-BSD1)				Prepared & Analyzed: 09/10/09						
Total Kjeldahl Nitrogen	3.5	0.5	mg/l	4.10		86	80-120	13	20	
Duplicate (9091002-DUP1)		**Source: 0909056-01**		Prepared & Analyzed: 09/10/09						
Total Kjeldahl Nitrogen	0.7	0.5	mg/l		0.8			14	20	
Matrix Spike (9091002-MS1)		**Source: 0909056-01**		Prepared & Analyzed: 09/10/09						
Total Kjeldahl Nitrogen	4.1	0.5	mg/l	4.10	0.8	80	80-120			
Matrix Spike Dup (9091002-MSD1)		**Source: 0909056-01**		Prepared & Analyzed: 09/10/09						
Total Kjeldahl Nitrogen	4.3	0.5	mg/l	4.10	0.8	85	80-120	5	20	
Batch 9091024										
Blank (9091024-BLK1)				Prepared: 09/09/09 Analyzed: 09/10/09						
Total Dissolved Solids	ND	20.0	mg/l							

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Client Name: D-Max Engineering **EMA Log #: 0909099**
Project Name: Santee Recieving Water Bodies Round 2 200919W-3

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 9091024										
Duplicate (9091024-DUP1)		**Source: 0909201-01**		Prepared: 09/09/09		Analyzed: 09/10/09				
Total Dissolved Solids	ND	20.0	mg/l		ND				20	
Reference (9091024-SRM1)				Prepared: 09/09/09		Analyzed: 09/10/09				
Total Dissolved Solids	296	20.0	mg/l	283		105	6.93-113.0			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Notes and Definitions

QR-04	The RPD between the sample and sample duplicate is not valid since both results are below the reporting limit for this analyte.
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CHAIN-OF-CUSTODY RECORD

EnviroMatrix Analytical, Inc.
4340 Viewridge Ave., Ste. A - San Diego, CA 92123 - Phone (858) 560-7717 - Fax (858) 560-7763

EMA LOG #: 0909099

Client: D-Max Engineering
Attn: Arsalan Dadkhah
Samplers(s): JL/MD
Address: 7220 Trade Street Suite 119
San Diego, CA 92121
Phone: 858-586-6600 Fax:
Email:
Billing Address: Same

Project ID: Santee Receiving Water Bodies Round 2
Project #: 200919W-3 PO #:

Requested Analysis

ID #	Client Sample ID	Sample Date	Sample Time	Sample Matrix	Container # / Type	Oil & Grease □ 413.1 □ 413.2 □ 1664	8015B (TPH) □ Gas □ Diesel □ Ext	624/8260 (VOC) Full BTXE MTBE Oxy Nap	625 / 8270 (SVOC) □ PAH only	608 / 8081 (Organochlorine Pesticides)	608 / 8082 (Polychlorinated Biphenyls)	8141 (Organophosphorus Pesticides)	TBT (Organotin Compounds)	□ pH □ EC □ TSS ☒ TDS	□ Nitrate □ Nitrite □ TKN □ NH3	CAC Title 22/CAM17 Metals □ TTLC □ STLC	TCLP (RCRA) □ Metals □ Organics	Cd Cr Cu Pb Ni Ag Zn □ Dissolved	Coliform, ☒ Total (MTF) ☒ Fecal (MTF)	Colilert, T+E.Coli □ P/A □ Enumeration	Enterococcus, ☒ MTF □ Enterolert	Heterotrophic Plate Count (HPC)	Total Nitrogen	Total Phosphorus	Orthophosphate-phosphorus			
1	Sycamore Creek Downstream	9/3/09	10:35	SW	4P									X					X		X		X	X	X			
2																												
3																												
4																												
5																												
6																												
7																												
8																												
9																												
10																												

Matrix Codes: A = Air, DW = Drinking Water, GW = Groundwater, SW = Storm Water
WW = Wastewater, S = Soil, SED = Sediment, SD = Solid, T = Tissue, O = Oil, L = Liquid

Shipped By: □ Courier □ UPS □ FedEx □ USPS □ Client Drop Off □ Other

[1]**Turn-Around-Time:** □ Same Day □ 24 hr □ 48 hr □ 3 day □ 4 day ☒ 5 day □ STD (7 day)

[1]**Reporting Requirements:** □ Fax □ PDF □ Excel □ Geotracker/EDF □ Hard Copy □ EDT

[1]**Sample Disposal:** □ By Laboratory □ [2]Return to Client: P/U or Delivery □ Archive

Sample Integrity

Correct Containers: Yes No N/A	Containers Properly Preseved: Yes No N/A
Custody Seals Intact: Yes No N/A	Temp @ Receipt:_____
COC/Labels Agree: Yes No N/A	Sampled By: Client EMA Autosampler

RELINQUISHED BY		DATE/TIME	RECEIVED BY	
Signature	[signature]	9/3/09 13:16	Signature	[signature]
Print	Joe Leonard		Print	Sean Flory
Company:	D-Max		Company:	EMA Inc
Signature	[signature]	9/3/09 1332	Signature	[signature]
Print	Sean Flory		Print	Louis Lunch
Company:	EMA Inc		Company:	EMA
Signature			Signature	
Print			Print	
Company:			Company:	

Project/Sample Comments:

T=4i on ice

[1]Additional costs may apply, consult a project manager for details.

White- EMA Canary - Accounting Pink - Client (w/report) Gold - Client (Relinquish)

[2]EMA reserves the right to return any samples that do not match our waste profile.

NOTE: By relinquishing samples to EMA, Inc., client agrees to pay for the services requested on this COC form and any additional analyses performed on this project. Payment for services is due within 30 days from date of invoice. Samples will be disposed of after 30 days unless otherwise noted. All work is subject to EMA's terms and conditions.

Appendix D

Field Data Sheets

Round One

ICW

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☐ MS4 ☒ Receiving Water

Site ID	San Diego River Upstream		**Latitude**	32.852~~6~~582	**Watershed**	**Hydrologic Unit**	907
Location	~200ft downstream of Riverford bridge		**Longitude**	-116.9523~~58~~		**Hydrologic Area**	907.1
			TB Page	1231-G4		**Hydrologic Subarea** (Optional)	907.12
Date	5/19/09	**Time** 9:30 am	**Observer**	MD/AK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☒ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☒ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☒ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☐ Sunny ☒ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☐ None	☒ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☒ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☒ Normal	☐ Excessive		☐ Other
Biology	☐ None	☐ Insects	☒ Algae ☐ Fish ☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☒ Yes ☐ No ~~☒ N/A~~

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 1, 2

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	24.6	NH_3-N (mg/L)	NA	NO_3 (mg/L)	NA	Ortho-PO_4 (mg/L)	NA
pH (pH units)	7.8	TURB (NTU)	10.76	NO_3-N (mg/L)	NA	Ortho-PO_4 -P (mg/L)	NA
COND (mS/cm)	1.73	MBAS (mg/L)	NA	DO (mg/L)	7.95 ~~7.8 8.10~~		

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width	40	in
Depth	0.5	in
Velocity	10/10	ft/sec
Flow	62	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

AK

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☐ MS4 ☒ Receiving Water

Site ID	Forester Creek Upstream		Latitude	32.83093	Watershed	Hydrologic Unit	907
Location	Prospect Avenue Bridge, West of Big Cuyamaca Street		Longitude	-116.98543		Hydrologic Area	907.1
			TB Page	1231-C7		Hydrologic Subarea (Optional)	907.13
Date	05/19/2009	Time 10:40	Observer	MD/AK		Discharge Area (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☐ Commercial ☒ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☒ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☐ Outlet ☒ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☐ Sunny ☒ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☐ None	☒ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☒ None	☐ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☐ None	☐ Insects	☒ Algae ☐ Fish	☒ Snails	☐ Mussels/ Barnacles ☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☒ Yes ☐ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 3,4,5

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	27.9	NH_3-N (mg/L)	NA	NO_3 (mg/L)	NA	Ortho-PO_4 (mg/L)	NA
pH (pH units)	8.1	TURB (NTU)	60.14	NO_3-N (mg/L)	NA	Ortho-PO_4 -P (mg/L)	NA
COND (mS/cm)	2.94	MBAS (mg/L)	NA	DO (mg/L)	8.86		

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width	19	in
Depth	4	in
Velocity	15/10	ft/sec
Flow	355	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

AK

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☐ MS4 ☒ Receiving Water

Site ID	Forester Creek Downstream	Latitude	32.839553	Watershed	Hydrologic Unit	907
Location	200ft North of Mission Gorge rd, across from Fanita Dr, East of Fanita Creek	Longitude	-117.00241		Hydrologic Area	907.1
		TB Page	1231-G7 B6		Hydrologic Subarea (Optional)	907.12
Date	05/19/2009	Time	11:45	Observer	MD/AK	Discharge Area (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☒ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☒ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☒ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☐ Sunny ☒ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other	
Color	☒ None	☒ ~~Yellow~~	☐ Brown	☐ White	☐ Gray	☐ Other	
Clarity	☐ Clear		☒ Slightly Cloudy	☐ Opaque		☐ Other	
Floatables	☐ None	☒ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☒ Other ~~Debris~~ Leaf Debris	
Deposits	☐ None	☒ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other	
Vegetation	☐ None	☐ Limited	☒ Normal	☐ Excessive		☐ Other	
Biology	☒ ~~None~~	☐ Insects	☐ Algae	☐ Fish	☐ Snails	☐ Mussels/ Barnacles	☒ Insect/ Algae	☐ Insect/ Snail	☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☒ Yes ☐ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 6-11

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	23.8	NH_3-N (mg/L)	NA	NO_3 (mg/L)	NA	Ortho-PO_4 (mg/L)	NA
pH (pH units)	7.9	TURB (NTU)	31.55	NO_3-N (mg/L)	NA	Ortho-PO_4 -P (mg/L)	NA
COND (mS/cm)	2.60	MBAS (mg/L)	NA	DO (mg/L)	5.76		

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width	50	in
Depth	3	in
Velocity	10/10.	ft/sec
Flow	468.	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

AK

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☐ MS4 ☒ Receiving Water

Site ID	San Diego River Downstream	Latitude	32.83936	Watershed	Hydrologic Unit	907
Location	West Hills Parkway Bridge	Longitude	-117.02450		Hydrologic Area	907.1
		TB Page	1230-A6		Hydrologic Subarea (Optional)	907.12
Date	05/19/2009	Time	12:30	Observer	MD/AK	Discharge Area (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☒ Open

Land Use (Secondary) (Optional, greater than 10%) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☒ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather	☐ Sunny	☒ Partly Cloudy	☐ Overcast	☐ Fog		
Tide	☒ N/A	☐ Low	☐ Incoming	☐ High	☐ Outgoing	Tide Height: _____ ft.
Last Rain	☒ > 72 hours	☐ < 72 hours				
Rainfall	☒ None	☐ < 0.1"	☐ > 0.1"			

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☒ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☒ Normal	☐ Excessive		☐ Other
Biology	☐ None	~~☒ Insects~~ ~~☒ Algae~~	☐ Fish	☐ Snails	☐ Mussels/ Barnacles ☒ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☒ Yes ☐ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No Photo # 12-13

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	22.0	NH_3-N (mg/L)	NA	NO_3 (mg/L)	NA	Ortho-PO_4 (mg/L)	NA
pH (pH units)	7.6	TURB (NTU)	5.89	NO_3-N (mg/L)	NA	Ortho-PO_4-P (mg/L)	NA
COND (mS/cm)	2.60	MBAS (mg/L)	NA	DO (mg/L)	6.28		

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width	90	in
Depth	2	in
Velocity	10/10	ft/sec
Flow	561	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

AK

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☐ MS4 ☒ Receiving Water

Site ID	Sycamore Creek Downstream	Latitude	32.84441	Watershed	Hydrologic Unit	907
Location	Downstream of Sycamore Creek, at Carlton Oaks Dr.	Longitude	-117.00652		Hydrologic Area	907.1
		TB Page	1231-A6		Hydrologic Subarea (Optional)	907.12
Date	05/20/2009	Time	10:50	Observer	MD/AK	Discharge Area (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☒ Open

Land Use (Secondary) (Optional, greater than 10%) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☒ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☐ Sunny ☒ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☐ None	☒ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☐ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☒ Normal	☐ Excessive		☐ Other
Biology	☐ None	~~☒ Insects~~ ~~☒ Algae~~	☐ Fish	☐ Snails	☐ Mussels/ Barnacles ☒ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ~~☒ Flowing~~ ☒ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☒ Yes ☐ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 21, 22

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	20.5	NH_3-N (mg/L)	NA	NO_3 (mg/L)	NA	Ortho-PO_4 (mg/L)	NA
pH (pH units)	7.5	TURB (NTU)	4.41	NO_3-N (mg/L)	NA	Ortho-PO_4-P (mg/L)	NA
COND (mS/cm)	~~1.29~~ 1.34	MBAS (mg/L)	NA	DO (mg/L)	5.25		

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	B ponded	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

Round Two

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☑ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☑ MS4 ☑ Receiving Water

Site ID	San Diego River Upstream	**Latitude**	32.85282	**Watershed**	**Hydrologic Unit**	907
Location	200 feet downstream of Riverford bridge	**Longitude**	-116.95281		**Hydrologic Area**	907.1
		TB Page	1231-G4		**Hydrologic Subarea** (Optional)	907.12
Date	9/2/09 **Time** 10:30	**Observer**	JL/MD		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☒ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☒ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☒ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☒ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☒ Normal	☐ Excessive		☐ Other
Biology	☐ None	☐ Insects ☐ Algae	☒ Fish ☒ Snails	☐ Mussels/ Barnacles	☒ Insect/ Algae ☐ Insect/ Snail	☒ Other Birds, Frogs

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☒ Yes ☐ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 1, 2

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	27.5	NH_3-N (mg/L)	na	NO_3 (mg/L)	na	Ortho-PO_4 (mg/L)	na
pH (pH units)	7.8	TURB (NTU)	10.30	NO_3-N (mg/L)	na	Ortho-PO_4 -P (mg/L)	na
COND (mS/cm)	1.88	MBAS (mg/L)	na	DO (mg/L)	7.91		

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	20	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☑ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☑ MS4 ☑ Receiving Water

Site ID	Forester Creek Upstream		**Latitude**	32.83093	Watershed	**Hydrologic Unit**	907
Location	Prospect Avenue bridge, west of Cuyamaca Street		**Longitude**	-116.98543		**Hydrologic Area**	907.1
			TB Page	1231-L7		**Hydrologic Subarea** (Optional)	907.13
Date	9/2/09	**Time** 11:30	**Observer**	JL/MD		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☐ Commercial ☒ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☒ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☐ Outlet ☒ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☐ None	☒ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☐ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☐ None	☐ Insects ☐ Algae	☐ Fish	☒ Snails	☐ Mussels/ Barnacles ☒ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☒ Yes ☐ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 3.4

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	31.5	NH_3-N (mg/L)	na	NO_3 (mg/L)	na	Ortho-PO_4 (mg/L)	na
pH (pH units)	7.9	TURB (NTU)	3.90	NO_3-N (mg/L)	na	Ortho-PO_4 -P (mg/L)	na
COND (mS/cm)	2.81	MBAS (mg/L)	na	DO (mg/L)	8.73		

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width	19	in
Depth	1.5	in
Velocity	1.2	ft/sec
Flow	107	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☑ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☑ MS4 ☑ Receiving Water

Site ID	Forester Creek Downstream	**Latitude**	32.83953	**Watershed**	**Hydrologic Unit**	907
Location	200 feet north of Mission Gorge Rd, across from Fanita Dr, east of Fanita Creek	**Longitude**	-117.00241		**Hydrologic Area**	907.1
		TB Page	1231-B6		**Hydrologic Subarea** (Optional)	907.12
Date	9/2/09 **Time** 12:20	**Observer**	JL/MD		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☒ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☒ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☒ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☐ None	☒ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☒ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☒ Normal	☐ Excessive		☐ Other
Biology	☐ None	☐ Insects ☐ Algae	☒ Fish ☐ Snails	☐ Mussels/ Barnacles	☒ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☒ Yes ☐ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 5, 6

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	26.6	NH_3-N (mg/L)	na	NO_3 (mg/L)	na	Ortho-PO_4 (mg/L)	na
pH (pH units)	7.6	TURB (NTU)	7.61	NO_3-N (mg/L)	na	Ortho-PO_4-P (mg/L)	na
COND (mS/cm)	2.97	MBAS (mg/L)	na	DO (mg/L)	5.56		

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width	30	in
Depth	1	in
Velocity	1	ft/sec
Flow	94	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☑ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☑ MS4 ☑ Receiving Water

Site ID	San Diego River Downstream	**Latitude**	32.83936	**Watershed**	**Hydrologic Unit**	907
Location	West Hills Parkway Bridge	**Longitude**	-117.02450		**Hydrologic Area**	907.1
		TB Page	~~1230-H6~~ ~~1231-A6~~		**Hydrologic Subarea** (Optional)	907.12
Date	9/2/09	**Time**	13:10	**Observer**	JL/MD	**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☑ Open

Land Use (Secondary) (Optional, greater than 10%) ☑ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☑ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☑ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☑ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☑ > 72 hours ☐ < 72 hours

Rainfall ☑ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☑ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☑ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☑ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☐ None	☑ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☑ Sediment/Gravel	☑ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☑ Normal	☐ Excessive		☐ Other
Biology	☐ None	☐ Insects ☐ Algae	☑ Fish ☐ Snails	☐ Mussels/ Barnacles	☑ Insect/ Algae ☐ Insect/ Snail	☑ Other Crawfish

Water Flow ☑ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☑ Yes ☐ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☑ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☑ Yes ☐ No **Photo #** 7, 8

Field Screening Samples Collected? ☑ Yes ☐ No

Water Temp (°C)	26.8	NH_3-N (mg/L)	na	NO_3 (mg/L)	na	Ortho-PO_4 (mg/L)	na
pH (pH units)	7.5	TURB (NTU)	2.80	NO_3-N (mg/L)	na	Ortho-PO_4 -P (mg/L)	na
COND (mS/cm)	2.98	MBAS (mg/L)	na	DO (mg/L)	5.89		

Analytical Lab Samples Collected? ☑ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width	60	in
Depth	1.5	in
Velocity	1	ft/sec
Flow	281	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☑ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☐ MS4 ☑ Receiving Water

Site ID	Sycamore Creek Downstream		**Latitude**	32.844841	**Watershed**	**Hydrologic Unit**	907
Location	Carlton Oaks Drive		**Longitude**	-117.006552		**Hydrologic Area**	907.1
			TB Page	1231-A6		**Hydrologic Subarea** (Optional)	907.12
Date	9/3/09	**Time** 10:35	**Observer**	JL/MD		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☒ Open

Land Use (Secondary) (Optional, greater than 10%) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☒ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☐ None	☒ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☐ None	☒ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☒ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☒ Normal	☐ Excessive		☐ Other
Biology	☐ None	☐ Insects	☐ Algae	☐ Fish	☐ Snails	☐ Mussels/ Barnacles	☒ Insect/ Algae	☐ Insect/ Snail	☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☒ Yes ☐ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 13, 14

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	27.7	NH_3-N (mg/L)	na	NO_3 (mg/L)	na	Ortho-PO_4 (mg/L)	na
pH (pH units)	8.2	TURB (NTU)	5.83	NO_3-N (mg/L)	na	Ortho-PO_4 -P (mg/L)	na
COND (mS/cm)	1.99	MBAS (mg/L)	na	DO (mg/L)	5.21		

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width	25	in
Depth	1	in
Velocity	1	ft/sec
Flow	78	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

CITY OF SANTEE



2009/2010
JURISDICTIONAL URBAN RUNOFF MANAGEMENT PROGRAM ANNUAL REPORT

IDDE SECTION

DECEMBER 2010

PREPARED BY:

D-MAX ENGINEERING, INC.
7220 TRADE STREET, SUITE 119
SAN DIEGO, CALIFORNIA 92121
858.586.6600

CITY OF SANTEE

2009/2010
JURISDICTIONAL URBAN RUNOFF MANAGEMENT PROGRAM ANNUAL REPORT

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DECEMBER 2010

PREPARED BY:

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SAN DIEGO, CALIFORNIA 92121
858.586.6600

CERTIFICATION STATEMENT

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Pedro Orso Delgado
Deputy City Manager/Director of Development Services

INTRODUCTION AND CONTENTS

Introduction

Section 7 of the Annual Report discusses the implementation of the illicit discharge detection and elimination (IDDE) component of the City's storm water program. This program component includes both dry weather monitoring activities and other activities to prevent and respond to illicit connections and illegal discharges, such as operating a storm water hotline. The Reporting Period for the portions of this section that discuss dry weather monitoring activities extends through September 30, 2010, but the Reporting Period for other activities described in the section extends through June 30, 2010, the same Reporting Period as applies to the rest of the JURMP Annual Report. Because the field work for the dry weather monitoring program is not required to be completed until September 30, 2010, the same day that the JURMP Annual Report is to be submitted, the RWQCB extended the submittal deadline for all of Section 7 of the 2009/2010 JURMP Annual Report until December 15, 2010.

Contents

This submittal includes a certification statement, the text of Section 7 of the 2009/2010 JURMP Annual Report, and the attachments associated with that section. For clarity, the items included in this submittal are listed below.

- Certification statement for Section 7 submittal
- Introduction and Contents
- Section 7 (IDDE component) of the 2009/2010 JURMP Annual Report
- JURMP Annual Report Requirements Checklist (for Section 7 only)
- Attachment 7.1, City of Santee Dry Weather Field Screening and Analytical Monitoring Program 2010

Please note that the complaint log, referenced as Appendix B in Section 7, was already submitted with the main JURMP Annual Report submittal in September 2010 and is not included again with this submittal.

7.0 ILLICIT DISCHARGE DETECTION AND ELIMINATION

7.1 INTRODUCTION

The City maintains several programs to prevent and to seek out and eliminate illicit connections and illegal discharges (IC/IDs), which can be significant sources of pollutants to the City's MS4. Illicit connections include improper links to the MS4, typically of conveyances that should be plumbed to the sanitary sewer system, such as car wash facility drains. Illegal discharges may result from activities such as vehicle washing or equipment cleaning without the use of proper BMPs. City storm water personnel work with residents, businesses, and City staff to make them aware of BMPs to prevent IC/IDs and to encourage reporting of IC/IDs. The following activities are the primary components of the City's program to combat IC/IDs:

- Inspecting local businesses, construction sites, and municipal facilities;
- Conducting the Dry Weather Field Screening and Analytical Monitoring Program (Dry Weather Monitoring Program);
- Operating a public complaint hotline.

These activities enable the City to provide a comprehensive system to improve the quality of storm water and urban runoff throughout the City through detection and elimination of IC/IDs.

7.1.1 SUMMARY OF NOTABLE ACCOMPLISHMENTS

Some notable achievements for the illicit discharge detection and elimination component during the 2009/2010 Reporting Period are presented in the following bulleted list. Please note that per Addendum No. 2 to the Municipal Permit, the Reporting Period for the Dry Weather Monitoring Program extends through September 30, 2010. The Reporting Period for all other components of the City's illicit discharge detection and elimination (IDDE) program ended on June 30, 2010.

- The City continued to operate a storm water hotline; the City received and responded to 67 complaints during the Reporting Period.
- Thirty-three IC/IDs were discovered through reports to the storm water hotline during the 2009/2010 Reporting Period. City personnel followed up and eliminated all IC/IDs, applying enforcement measures as necessary.
- The City performed all of the recommended corrective actions proposed in the 2009 Dry Weather Monitoring Program Report to prevent possible pollutants from entering the storm drain system.
- The City conducted two rounds of monitoring during the 2010 Dry Weather Monitoring Program, and performed the recommended corrective actions based on Round One results.

7.2 PUBLIC REPORTING OF ILLICIT DISCHARGES AND CONNECTIONS

Reporting and Response

Public and municipal involvement is crucial to preventing and eliminating illicit connections and illegal discharges (IC/IDs) from the storm water conveyance system. The Storm Water Hotline provides an effective means for individuals in the City to report suspected IC/IDs. The hotline number is provided on the City's website, in distributed storm water educational material, and in storm water articles in *Santee Review*. All complaints received through the hotline are logged for documentation and tracking. Each logged complaint is investigated by City personnel to determine if an IC/ID is present. Responsible parties for any confirmed IC/ID are sought out and educated and/or cited as necessary and required to stop and clean up any and all illegal discharges.

Complaints received by the City during the Reporting Period and the City's response to each are listed in Appendix B. Sixty-eight complaints were documented and responded to this year, an increase from 59 that were recorded last year. This may indicate that Santee residents are becoming more aware of the City's Storm Water Pollution Prevention Program. The City responded to and resolved all 67 complaints during the 2009/2010 Reporting Period.

Enforcement

As previously stated, complaints received via the storm water hotline are included in a table in Appendix B. The table also includes a description of how each complaint was resolved during the Reporting Period. Resolutions to investigated complaints included clean-up, providing educational material and discussing storm water concepts with individuals involved in the complaint, and in some cases issuing courtesy notices and notices of violation (NOV).

7.3 SPILL REPORTING, RESPONSE, AND PREVENTION

See Section 4.9 of this JURMP Annual Report, which was submitted in September 2010.

7.4 URBAN RUNOFF MONITORING

The City has continued to conduct a Dry Weather Monitoring Program, as required by the Municipal Permit. This program assists the City in detecting and eliminating IC/IDs to the storm drain system. There are three major components to the Dry Weather Monitoring Program:

- Field observations, which include site descriptions and qualitative observations
- Field screening, which includes flow estimation and sample testing using meters and test kits at the site

- Analytical monitoring, which involves submittal of collected samples from selected sites, constituting 25 percent of all flowing or ponded sites, to an analytical laboratory for additional testing

The City visits all designated primary monitoring stations each year between May 1 and September 30 to collect dry weather monitoring data. When a primary monitoring station is found to be dry, the City visits designated alternate monitoring stations.

For both the 2009 and 2010 Dry Weather Monitoring Programs, the City visited 20 monitoring stations with ponded or flowing water to collect Dry Weather Monitoring Program data. The City conducts two rounds of dry weather monitoring each season, one early in the season and one near the end.

Numeric action levels are used as the primary approach for the interpretation of most constituent concentrations measured in the field and laboratory. Action levels for dissolved metals follow the California Toxics Rule (CTR) Criteria Maximum Concentration (CMC). Temperature, turbidity, and conductivity parameters are evaluated using best professional judgment to determine if further investigation is needed. The action levels for pH, surfactants, ammonia-nitrogen, nitrate-nitrogen, orthophosphate-phosphorus, oil and grease, diazinon, and chlorpyrifos were adopted in 2003 and were based on statistical analyses of previous Dry Weather Monitoring Program data, established water quality benchmarks from the Basin Plan, and the United States Environmental Protection Agency Multi-Sector General Permit.

The Regional Monitoring Workgroup in November 2008 requested the Dry Weather Monitoring Sub-workgroup to evaluate dry weather action levels that were submitted in April 2003 by the County of San Diego on behalf of the Copermittees. The Dry Weather Monitoring Sub-workgroup determined that the bacterial indicators action levels required additional analysis. The Dry Weather Monitoring Sub-workgroup contracted the services of D-MAX Engineering (D-MAX) to evaluate historical bacterial data collected from dry weather monitoring from 2002 through 2007. Details of their evaluation are posted on the Project Clean Water Website at http://www.projectcleanwater.org/pdf/science_mon/dry_weather_2009bacteria_action_level_report_draft.pdf. The Regional Monitoring Workgroup on May 19, 2009 evaluated the recommendations of the Dry Weather Monitoring Sub-workgroup and selected the 80th percentile values to be the dry weather action levels for bacterial indicators beginning on May 1, 2010. The previous and current action levels (effective as of May 1, 2010) are presented in Table 7-1.

Table 7-1
Bacterial Indicators Action Levels for Dry Weather Monitoring Program

	Total Coliform (MPN/100 mL)	Fecal Coliform (MPN/100 mL)	*Enterococcus* (MPN/100 mL)
2003 - 2009 Action Levels	50,000	20,000	10,000
2010 - 2012 Action Levels	130,000	13,000	7,000

7.4.1 2009 Dry Weather Monitoring Program

Both rounds of the City's 2009 Dry Weather Monitoring Program were conducted during the 2009 dry season. For information about how the City addressed issues discovered during the 2009 Dry Weather Monitoring Program and responded to the resulting recommendations, see Section 7.5.1 of this report.

7.4.2 2010 Dry Weather Monitoring Program

Both rounds of the 2010 Dry Weather Monitoring Program were completed as scheduled during the 2010 dry season. Twenty-two routine site visits were made in Round One, and twenty-one site visits were conducted in Round Two.

If the results of the field or laboratory analyses exceed specific action levels, follow-up investigations are required within two business days. Upstream investigations are performed when exceedances are verified during confirmation visits. See the City's JURMP for a complete discussion of upstream investigation procedures.

Table 7-2 presents a summary of the action level exceedances observed in 2010. Tables 7-3 and 7-4 present the results of confirmation visits and, where necessary, upstream investigations conducted during Round One and Round Two, respectively. A list of all the monitoring stations visited is displayed in Table 7-5. At the end of this section, tables 7-6 and 7-7 provide the complete field analytical results and laboratory analytical results, respectively, from both rounds of the 2010 Dry Weather Monitoring Program.

Table 7-2
Summary of 2010 Action Level Exceedances

Field Screening (20 samples)						
Analyte	**Number of Exceedances**		**Percentage of Sites with Exceedance**		**Site Exceeding Action Level**	
	R1	**R2**	**R1**	**R2**	**R1**	**R2**
Odor	1	0	5	0	RCP3	---
Sheen	1	0	5	0	RCP3	---
pH	0	0	0	0	---	---
Conductivity	0	0	0	0	---	---
Turbidity	1	0	5	0	W30c	---
Surfactants	1	1	5	5	W30c*	O15f
Ammonia-N	1	2	5	10	W30c*	O15f and S15h
Nitrate-N	2	2	10	10	O40b and Q20a	Q20a and RCP1
Orthophosphate-P	1	0	5	0	W30c*	---
Laboratory Analyses (5 samples)						
Analyte	**Number of Exceedances**		**Percentage of Sites with Exceedance**		**Site Exceeding Action Level**	
	R1	**R2**	**R1**	**R2**	**R1**	**R2**
Oil & Grease	0	0	0	0	---	---
Cadmium	0	0	0	0	---	---
Copper	0	0	0	0	---	---
Lead	0	0	0	0	---	---
Zinc	0	0	0	0	---	---
Diazinon	0	0	0	0	---	---
Chlorpyrifos	0	0	0	0	---	---
Total Coliforms	0	1	0	20	---	J25c
Fecal Coliforms	0	1	0	20	---	J25c
Enterococci	1	1	20	20	J25c	V40d

Note: Table data is based on routine visits only. Confirmation, follow-up, and dry site visits not included. *Note possible false readings based on turbidity interference.

Follow-up investigations conducted in response to action level exceedances are summarized in Section 7.5.2 of this report.

A formal trash assessment was performed in 2010 in accordance with the Municipal Permit requirements. A qualitative estimate of the abundance of trash is made based upon a general impression of the site. The Trash Assessment Form's five categories are primarily qualitative descriptions of the amount and extent of trash although a number of trash pieces is also included in each category as a rough guideline. The five categories are defined as follows.

- Optimal: On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
- Suboptimal: On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
- Marginal: Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
- Submarginal: Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (~100-400 pieces). Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
- Poor: Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

The threat to human health and threat to aquatic health is also assessed at each site using the following definitions:

- *Threat to Human Health* – Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment.
- *Threat to Aquatic Health* – Large amount (50 pieces or more) of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amounts of settleable, degradable, and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries, or spray cans; any evidence of large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment.

Twenty-two sites in Round One and twenty-one sites in Round Two were assessed for trash. Most of the sites were rated optimal or suboptimal, having little or no trash. One site in Round One and three sites in Round Two received a marginal trash assessment rating. One site in Round Two received a submarginal rating. No sites in either round

were ranked as poor, and no sites were considered to pose a threat to human or aquatic health.

The 2010 Dry Weather Monitoring Program Report, which includes results of field screening and analytical monitoring, can be found as Attachment 7.1.

Note that no substantive changes were made to the City's MS4 map as a result of the 2010 Dry Weather Monitoring Program.

7.5 FOLLOW-UP AND ENFORCEMENT

7.5.1 ACTIONS TAKEN IN RESPONSE TO THE 2009 DRY WEATHER MONITORING PROGRAM FINDINGS

Based on the 2009 Dry Weather Monitoring Program results, recommendations were made. All the additional inspection and maintenance recommendations were implemented. The City continues to research the sources of elevated orthophosphate-phosphorus and turbidity at the location upstream of Site Q5l. A consultant who conducts groundwater monitoring and sampling at a well on Siesta Road was contacted to obtain data for turbidity (or related parameters) and phosphate, but no data has been made available to date.

7.5.2 2010 DRY WEATHER MONITORING FOLLOW-UP INVESTIGATIONS

If the results of the field or laboratory analyses exceed specific action levels, follow-up investigations are required within two business days. Upstream investigations are performed when exceedances are verified during confirmation visits. See the City's JURMP for a complete discussion of upstream investigation procedures.

Tables 7-3 and 7-4, below, present conclusions based on the results of confirmation visits and, where necessary, upstream investigations conducted during Round One and Round Two, respectively, of the 2010 Dry Weather Monitoring Program.

Table 7-3
Round One Summary of Follow-Up Investigations

Site	Follow-Up Investigation Target Constituent		Results / Probable Sources
	Field	Laboratory	
J25c	---	*Enterococcus*	Exceedance not confirmed
O40b	Nitrate-N	---	Landscape fertilization and overwatering
Q20a	Nitrate-N	---	Nitrate-containing groundwater seeping into the MS4 conveyance
RCP3	Odor, Sheen, Nitrate-N	---	Odor and sheen exceedances traced to automobile accident. Nitrate-N exceedance due to nitrate-containing groundwater seeping into the MS4 conveyance
W30c	Turbidity, Surfactants, Ammonia-N, and Nitrate-N	---	Exceedances not confirmed, possible field test kit interferences

Table 7-4
Round Two Summary of Follow-Up Investigations

Site	Follow-Up Investigation Target Constituent		Results / Probable Sources
	Field	Laboratory	
J25c	---	Total Coliforms, Fecal Coliforms	Fecal coliform exceedance not confirmed, total coliforms likely due to algal decomposition in warm, ponded water at upstream location
O15f	Surfactants, Ammonia-N	---	Surfactants possibly due to washing activities in residential neighborhood, Ammonia-N exceedance likely due to decomposing leaves in ponded water
Q20a	Nitrate-N	---	Nitrate-containing groundwater seeping into the MS4 conveyance
RCP1	Nitrate-N	---	Nitrate-containing groundwater seeping into the MS4 conveyance
S15h	Ammonia-N	---	Exceedance not confirmed
V40d	---	*Enterococcus*	Exceedance not confirmed

The City took the following actions during and following the 2010 Dry Weather Monitoring results:

- The City's Stormwater Program Manager was on-site during the clean-up of an automobile accident near Site RCP3 to ensure no discharges to the storm drain inlets. City public works cleaned the MS4 after the confirmation visit to Site RCP3 to remove any pollutants remaining in the system.
- Contacted the property management company for Maderaldo Industrial Park and provided landscaping best management practice education since improper fertilizer application and over-irrigation likely contributed to nitrate-N exceedances at Site O40b.
- Removed trash and debris from Site I10c, the only site which received a marginal trash assessment rating during Round One. City staff have been directed to remove trash and debris from Sites I10c, G30c, O40b, and V40d which received submarginal and marginal ratings during Round Two. In addition, the City contacted the Sheriff to advise them of the concern relating to the area around I10c, to ensure that any issues (such as dumping of shopping carts) relating to transient activity can be eliminated.

- City mailed residential storm water factsheets to 71 addresses upgradient of Site W30c where exceedances in turbidity, surfactants, ammonia-N, and orthophosphate-P were measured. The City has mailed residential factsheets to 278 addresses upgradient of O15f where exceedence in ammonia and surfactants were measured.

These actions and any other actions taken with respect to the City's Dry Weather Monitoring Program during the remainder of 2010/2011 will be described in the 2010/2011 JURMP Annual Report.

7.5.3 IC/IDs Identified

During the Reporting Period, 33 IC/IDs were identified and eliminated based on investigations of reports made to the City's public complaint hotline. Details of all storm water complaints made to the City's public complaint hotline are included in the City's complaint log, included with the September 2010 JURMP Annual Report submittal as Appendix B.

7.5.4 Enforcement

The enforcement actions taken by the City of Santee during the 2009/2010 Reporting Period are discussed in sections 4, 5 and 6 of this JURMP Annual Report, which was submitted in September 2010.

7.6 Illicit Discharge Detection and Elimination Component Effectiveness Assessment

The effectiveness assessment of this program component is provided in Section 11 of this JURMP Annual Report, which was submitted in September 2010.

7.7 Program Review and Modification

No changes to the City's illicit discharge detection and elimination component were made during the Reporting Period.

Table 7-5
2010 Dry Weather Monitoring Locations

Site	Location	Conveyance	Primary Land Use	Secondary Land Use	Hydrologic Subarea	Latitude	Longitude
A5c	Next to 8335 Carlton Oaks Drive, between Cadorette Avenue and Praful Street	Outlet	Residential	None	907.12	32.84081	-117.02160
E5g1	Santee Recreational Lakes, West side of entrance road, approximately 100 feet South of entrance toll booth in grassy area	Manhole	Residential	None	907.12	32.84885	-117.00471
G30c	South end of River Trail Place, north of San Diego River, down trail to the west	Outlet	Residential	Open	907.12	32.84501	-116.99122
H5e	South of River Park Drive, at end of walkway between Brookview Court and River Rock Court, north of San Diego River	Outlet	Residential	None	907.12	32.84561	-116.98769
I10c	South bank of the San Diego River, East of Cuyamaca Street, under bridge, westernmost outfalls	Outlet	Commercial	Residential	907.12	32.84561	-116.98340
J25c	West end of Carefree Drive, on the west side of channel	Outlet	Residential	None	907.12	32.85813	-116.97601
J25c2**	At the east end of Country Scenes, east of Conejo Road	Outlet	Residential	None	907.12	32.85639	-116.97598
J30d1	In the Woodglen Vista Channel at the Riverwalk Drive and Park Center Drive Intersection, on the north side of the bridge	Natural Creek	Residential	None	907.12	32.85175	-116.97606
O15f	North Side of Northcote Road, between Woodside Avenue and Via Madonna	Manhole	Residential	None	907.12	32.84653	-116.95520
O40b	At the north end of Abraham Way, south of San Diego River	Outlet	Commercial	Industrial	907.12	32.84851	-116.96392
P10a*	Manhole in the northbound lane of Graves Ave; in front of the northernmost gate of the Greystone Ridge Townhouses	Manhole	Residential	None	907.12	32.83647	-116.96145
P20f	East of North Magnolia Avenue, at the east end of Chubb Lane	Concrete Channel	Residential	Commercial	907.12	32.84674	-116.96920

Table 7-5 (Continued)
2010 Dry Weather Monitoring Locations

Site	Location	Conveyance	Primary Land Use	Secondary Land Use	Hydrologic Subarea	Latitude	Longitude
Q20a	In front of 10220 Buena Vista Avenue	Manhole	Residential	Commercial	907.12	32.83494	-116.97509
RCP1	North bank of the San Diego River in the RCP Brick Factory, across from the southwest corner of the antennae field	Outlet	Residential	None	907.12	32.84959	-116.96659
RCP3*	North bank of the San Diego River in the RCP Brick Factory, across from the southeast corner of the antennae field	Outlet	Residential	None	907.12	32.84975	-116.96341
S15h	North of Town Center Parkway, between Mission Gorge Road and Cuyamaca Street, north of Wal-Mart, west of trail	Outlet	Commercial	None	907.12	32.84326	-116.98969
S5c	North of Town Center Parkway, between Mission Gorge Road and Cuyamaca Street, northwest of Michael's	Outlet	Commercial	None	907.12	32.84363	-116.98795
T5e**	Northwest of the Prospect Avenue and Argent Street intersection, south of Forester Creek	Outlet	Commercial	Industrial	907.12	32.83393	-116.98956
V40d	On the south side of Prospect Avenue, east of Fanita Drive	Concrete Channel	Residential	None	907.12	32.83375	-117.00005
V45k	On the north side of Mission Gorge Road, at the north end of freeway 125	Natural Creek	Commercial	Open	907.12	32.83895	-117.00251
W30c	In the southbound lane of Mesa Road, at the intersection of Mesa Road and Graham Terrace	Manhole	Residential	None	907.12	32.83468	-117.01383
Z15a1	On the south side of Mission Gorge Road, east of Father Junipero Serra Trail	Manhole	Residential	None	901.12	32.83737	-117.03005

Notes:
*Alternate site RCP3 replaced primary dry site P10a in both sampling rounds.
**Site J25c2 was sampled during Round One only and replaced by alternate site T5e in Round Two.

Table 7-6
Field Analytical Results from the 2010 Dry Weather Monitoring Program

Site	Date	Time	Flow (gpm)	Temp (°C)	pH	Turbidity (NTU)	Conductivity (mS/cm)	Surfactants (mg/L)	Ammonia-N (mg/L)	Nitrate-N (mg/L)	Ortho-phosphate-P (mg/L)
Round One											
A5c	5/18/10	15:40	<1	20.2	8.5	0.79	2.09	0.25	0.10 J	3.00	0.97
E5g1	5/18/10	14:40	1	20.7	8.1	2.62	2.62	0.38	0.23	2.12	0.89
G30c	5/18/10	11:20	1	20.8	8.3	2.54	3.64	0.25	0.14 J	5.70	0.06 J
H5e	5/20/10	11:40	<1	20.8	8.2	10.1	2.78	0.25	0.20	0.99 J	1.08
I10c	5/21/10	15:00	5	22.6	7.9	1.15	1.66	0.25	0.18 J	9.40	0.12
J25c	5/19/10	12:10	3	20.4	8.2	4.79	4.32	0.50	0.28	5.60	0.38
J25c	6/02/10	9:40	3	18.6	8.3	na	4.64	na	na	na	na
J25c2	5/21/10	13:55	1	22.7	7.9	2.57	4.42	0.50	0.15 J	6.17	0.39
J30d1	5/19/10	14:10	5	21.6	7.6	2.48	2.93	0.25	0.17 J	1.62	0.11
O15f	5/21/10	12:00	0	21.0	7.8	5.35	0.99	0.25	0.06 J	0.68 J	0.86
O40b	5/18/10	9:45	<1	18.3	8.2	2.23	2.45	0.50	0.14 J	**23.6**	0.72
O40b	5/19/10	9:30	<1	18.7	8.3	na	2.32	na	na	**12.6**	na
O40b	5/21/10	9:30	<1	19.3	8.3	na	2.35	na	na	**16.4**	na
P10a	5/21/10	12:50	Dry	ns	ns	ns	ns	ns	ns	ns	ns
P20f	5/20/10	10:10	13	23.0	8.3	0.98	1.43	0.25	0.11 J	4.31	0.07 J
Q20a	5/21/10	10:00	<1	22.4	8.2	2.25	1.98	0.25	0.16 J	**11.6**	0.87
Q20a	5/21/10	15:40	<1	23.9	8.2	na	2.02	na	na	**12.5**	na

Table 7-6(Continued)
Field Analytical Results from the 2010 Dry Weather Monitoring Program

Site	Date	Time	Flow (gpm)	Temp (°C)	pH	Turbidity (NTU)	Conductivity (mS/cm)	Surfactants (mg/L)	Ammonia-N (mg/L)	Nitrate-N (mg/L)	Ortho-phosphate-P (mg/L)
Q20a	5/21/10	15:40	<1	25.0	8.3	na	1.86	na	na	6.32	na
RCP1	5/19/10	11:15	3	21.1	8.2	1.67	1.58	0.25	0.15 J	7.84	0.71
RCP3	5/20/10	15:00	13	22.8	7.9	1.55	5.07	0.50	0.21	9.57	0.36
RCP3	5/21/10	14:25	11	22.2	8.1	na	1.86	na	na	na	na
RCP3	6/02/10	12:20	8	22.2	8.2	na	1.82	na	na	na	na
S15h	5/20/10	13:30	<1	21.3	8.0	3.54	2.22	0.38	0.16 J	4.03	0.73
S5c	5/18/10	12:15	<1	20.1	7.7	4.04	0.87	0.25	0.03 J	7.73	0.14
T5e	5/20/10	14:10	Dry	ns	ns	ns	ns	ns	ns	ns	ns
V40d	5/20/10	9:15	28	20.1	8.3	0.50	4.24	0.50	0.16 J	nd	0.04 J
V45k	5/18/10	13:00	13	20.4	7.8	1.76	3.95	0.50	0.17 J	0.19 J	0.23
W30c	5/19/10	15:15	2	23.0	7.8	**147**	4.27	**>3**	**3.05**	0.88 J	**49.7**
W30c	5/19/10	15:15	<1	24.3	8.3	3.48	4.81	0.50	0.18 J	na	0.47
Z15a1	5/21/10	9:00	1	17.1	7.8	6.43	1.21	0.25	0.66	2.12	0.60
Round Two											
A5c	9/21/10	11:00	<1	18.1	8.1	1.08	1.43	0.25	0.10 J	2.21	0.08 J
E5g1	9/15/10	15:30	<1	23.2	7.9	3.66	2.82	0.50	0.16 J	1.35	0.31
G30c	9/20/10	14:30	Ponded	25.8	8.2	2.93	2.65	0.25	0.33	0.81 J	0.28
H5e	9/14/10	14:35	Ponded	23	7.7	1.55	1.92	0.13	0.13 J	0.30 J	0.21

Table 7-6(Continued)
Field Analytical Results from the 2010 Dry Weather Monitoring Program

Site	Date	Time	Flow (gpm)	Temp (°C)	pH	Turbidity (NTU)	Conductivity (mS/cm)	Surfactants (mg/L)	Ammonia-N (mg/L)	Nitrate-N (mg/L)	Ortho-phosphate-P (mg/L)
I10c	9/21/10	12:10	4	24.1	7.8	0.29	1.10	0.13	0.06 J	5.06	0.01 J
J25c	9/17/10	12:50	7	23.1	8.2	1.58	1.60	0.25	0.19 J	0.71 J	0.03 J
J25c	9/27/10	12:20	2	24.2	8.3	na	4.19	na	na	na	na
J30d1	9/16/10	12:10	3	19.4	7.6	0.01	3.04	0.25	0.28	0.26 J	0.03 J
O15f	9/16/10	14:15	Ponded	24	7.4	16.1	1.58	**2.50**	**3.68**	0.20 J	0.94
O15f	9/17/10	14:30	Ponded	24.8	7.4	23.5	1.35	1.50	**3.30**	na	na
O15f	9/20/10	13:30	Ponded	24.4	7.2	7.98	2.98	0.50	**2.23**	na	na
O40b	9/21/10	10:10	Ponded	17.8	8.1	18.6	2.00	0.75	0.52	9.02	0.54
P10a	9/21/10	9:20	Dry	ns	ns	ns	ns	ns	ns	ns	ns
P20f	9/17/10	12:15	5	29.7	8.7	0.22	1.38	0.25	0.18 J	4.42	0.03 J
Q20a	9/20/10	15:20	Ponded	25.3	8.3	2.90	2.08	0.50	0.19 J	**10.6**	0.39
Q20a	9/21/10	13:45	Dry	ns	ns	ns	ns	ns	ns	ns	ns
RCP1	9/16/10	10:50	3	21.8	8.2	0.25	1.65	0.25	0.15 J	**10.6**	0.07 J
RCP1	9/17/10	11:00	4	22.0	8.2	14.1	1.41	na	na	6.90	na
RCP3	9/14/10	13:45	4	24.6	7.9	4.29	1.84	0.25	0.17 J	9.89	0.13
S15h	9/15/10	14:15	<1	23.8	7.4	3.31	2.13	0.50	**1.06**	0.30 J	0.32
S15h	9/16/10	10:15	<1	19.9	8	na	2.20	na	0.36	na	na
S5c	9/16/10	15:20	<1	23.7	7.9	1.37	1.24	0.13	0.08 J	1.41	0.07 J

Table 7-6(Continued)
Field Analytical Results from the 2010 Dry Weather Monitoring Program

Site	Date	Time	Flow (gpm)	Temp (°C)	pH	Turbidity (NTU)	Conductivity (mS/cm)	Surfactants (mg/L)	Ammonia-N (mg/L)	Nitrate-N (mg/L)	Ortho-phosphate-P (mg/L)
T5e	9/20/10	11:00	Ponded	21.7	7.2	21.9	0.92	0.13	0.28	0.85 J	0.32
V40d	9/17/10	10:10	20	23.5	8.3	3.35	3.84	0.50	0.46	0.48 J	0.01 J
V40d	9/27/10	9:45	17	26.3	8.2	na	3.00	na	na	na	na
V45k	9/14/10	15:40	2	22.0	7.7	4.53	4.24	0.25	0.35	1.21	0.06 J
W30c	9/20/10	16:15	<1	24.4	8.2	2.73	4.71	0.50	0.25	0.61 J	0.08 J
Z15a1	9/17/10	9:10	<1	17.5	7.8	9.69	1.19	0.50	0.15 J	2.81	0.44
REPORTING LIMIT				**0.1**	**0.01**	**0.00**	**0.01**	**0.13**	**0.20**	**1.13**	**0.10**
ACTION LEVEL				**BPJ**	**9.0**	**BPJ**	**BPJ**	**1.0**	**1.0**	**10.0**	**2.0**

Notes:
na = not analyzed; nd = not detected; ns = not sampled (dry site)
J = Value reported is below the reporting limit; measurements have an increased percent error.
Red values exceed action level.

Table 7-7
Laboratory Analytical Results from the 2010 Dry Weather Monitoring Program

Site	Date	Time	Oil & Grease (mg/L)	Total Hardness (mg/L)	Cadmium (µg/L)	Copper (µg/L)	Lead (µg/L)	Zinc (µg/L)	Diazinon (µg/L)	Chlorpyrifos (µg/L)	Total Coliforms (MPN/100 mL)	Fecal Coliforms (MPN/100 mL)	Enterococci (MPN/100 mL)
Round One													
J25c	5/19/10	12:10	nd	757	0.4 J	9 J	nd	nd	nd	nd	23,000	1,700	**50,000**
J25c	6/2/10	9:40	na	na	na	na	na	na	na	na	na	na	3,448
J30d1	5/19/10	14:10	nd	785	0.2 J	2 J	nd	nd	nd	nd	5,000	nd	500
P20f	5/20/10	10:10	nd	467	0.3 J	2 J	nd	1 J	nd	nd	30,000	500	500
RCP1	9/16/10	10:50	nd	496	0.3 J	17	nd	20	nd	nd	3,000	20	2,300
V40d	5/20/10	9:15	nd	1130	0.3 J	2 J	nd	nd	nd	nd	1,700	1,300	170
Round Two													
J25c	9/17/10	12:50	nd	339	nd	10	nd	3 J	nd	nd	**130,000**	**50,000**	3,000
J25c	9/27/10	12:20	na	na	na	na	na	na	na	na	**130,000**	5,118*	na
J30d1	9/16/10	12:10	nd	777	0.2 J	1 J	nd	5 J	nd	nd	1,400	210	40
P20f	9/17/10	12:15	nd	893	nd	4 J	nd	3 J	nd	nd	3,000	800	60
RCP1	9/16/10	10:50	nd	572	nd	nd	nd	3 J	nd	nd	8,000	1,700	170
V40d	9/17/10	10:10	nd	749	nd	3 J	nd	2 J	nd	nd	17,000	3,000	**17,000**
V40d	9/27/10	9:45	na	na	na	na	na	na	na	na	na	na	1,396
ANALYTICAL REPORTING LIMITS			**5**	**10**	**1**	**10**	**5**	**20**	**0.05**	**0.05**	**20****	**20****	**20****
ACTION LEVELS			**15**	***	**CTR**	**CTR**	**CTR**	**CTR**	**0.50**	**0.50**	**130,000**	**13,000**	**7,000**

Notes:
nd = not detected; na = not analyzed.
Red values are at or exceed action level
J = Value reported is below the reporting limit; measurements have an increased percent error.
CTR = California Toxics Rule; CTR action levels for metals are calculated based upon on the total hardness value of the water sample.
* Number of fecal coliforms is derived from *E. coli* count. Number of fecal coliforms = (Number of *E. coli*) / 0.85.
** Reporting limit is 10 MPN/100 mL for IDEXX tests used during confirmation and upstream testing.
*** Total hardness is not considered a pollutant, and thus has no established action level for the purposes of dry weather monitoring. Total hardness is measured because the CTR action levels for metals are dependent on the total hardness value of the water sample.

IDDE

Permit Annual Reporting Requirement—Section J.3.a.(3).(f)	Location in Report
i. Correction of any inaccuracies in either the MS4 map or the Dry Weather Field Screening and Analytical Stations Map.	7.4
ii. Reporting of all dry weather field screening and analytical monitoring results. The data should be presented in tabular and graphical form. The reporting shall include station locations, all dry weather field screening and analytical monitoring results, identification of sites where results exceeded action levels, follow-up and elimination activities for potential illicit discharges and connections, the rationale for why follow-up investigations were not conducted at sites where action levels were exceeded, any Copermittee or consultant program recommendations/changes resulting from the monitoring, and documentation that these recommendations/changes have been implemented. Dry weather field screening and analytical monitoring reporting shall comply with all monitoring and standard reporting requirements in Attachment B of Order No. R9-2007-0001 and Receiving Waters Monitoring and Reporting Program No. R9-2007-0001.	7.4, 7.5; Tables 7-2 through 7-7; Attachment 7.1
iii. Any dry weather field screening and analytical monitoring consultant reports generated, to be provided as an attachment to the annual report.	Attachment 7.1
iv. A brief description of any other investigations and follow-up activities for illicit discharges and connections.	7.5; Appendix B
v. The number and brief description of illicit discharges and connections identified.	7.5; Appendix B
vi. The number of illicit discharges and connections eliminated.	7.5; Appendix B
vii. Identification and description of all spills to the MS4 and response to the spills.	4.9, 7.3; Appendix B
viii. A description of activities implemented to prevent sewage and other spills from entering the MS4.	4.9, 7.3
ix. A description of the mechanism whereby notification of sewage spills from private laterals and septic systems is received.	4.9, 7.3
x. Number of times the hotline was called, as compared to previous reporting periods, and a summary of the calls.	4.10, 7.2, Appendix B
xi. A description of efforts to publicize and facilitate public reporting of illicit discharges.	4.10, 7.2
xii. The number of violations and enforcement actions (including types) taken for illicit discharges and connections, including information on any necessary follow-up actions taken. The discussion should exhibit that compliance has been achieved, or describe actions that are being taken to achieve compliance.	4.10, 7.5, Table 7-1, Appendix B
xiii. A description of notable activities conducted to manage illicit discharges and connections.	7.1, 7.5

IDDE—Additional Dry Weather Monitoring Program Requirements

Permit Annual Reporting Requirement—Attachment B and Receiving Waters Monitoring and Reporting Program No. R9-2007-0001, Section II.B.3.c,d	Location in Report
Meets applicable standard monitoring and reporting requirements listed in Municipal Permit Attachment B.	Attachment 7.1
c. (1) Determining Sampling Frequency: Dry weather field screening and analytical monitoring shall be conducted at each identified station at least once between May 1st and September 30th of each year or as often as the Copermittee determines is necessary to comply with the requirements of section D.4 of Order No. R9-2007-0001.	7.4; Attachment 7.1
c. (2) If flow or ponded runoff is observed at a dry weather field screening or analytical monitoring station and there has been at least seventy-two (72) hours of dry weather, make observations and collect at least one (1) grab sample. Record general information such as time since last rain, quantity of last rain, site descriptions (i.e., conveyance type, dominant watershed land uses), flow estimation (i.e., width of water surface, approximate depth of water, approximate flow velocity, flow rate), and visual observations (i.e., odor, color, clarity, floatables, deposits/stains, vegetation condition, structural condition, and biology).	7.4; Attachment 7.1
c. (3) At a minimum, collect samples for analytical laboratory analysis of the following constituents for at least twenty five percent (25%) of the dry weather monitoring stations where water is present: (a) Total Hardness, (b) Oil and Grease, (c) Diazinon and Chlorpyrifos, (d) Cadmium (Dissolved), (e) Lead (Dissolved), (f) Zinc (Dissolved), (g) Copper (Dissolved), (h) Enterococcus bacteria, (i) Total Coliform bacteria, (j) Fecal Coliform bacteria	7.4; Table 7-7; Attachment 7.1
c.(4) At a minimum, conduct field screening analysis of the following constituents at all dry weather monitoring stations where water is present:	(see below)
c. (a) Specific conductance (calculate estimated Total Dissolved Solids), (b) Turbidity, (c) pH, (d) Reactive Phosphorus, (e) Nitrate Nitrogen, (f) Ammonia Nitrogen, (g) Surfactants (MBAS)	7.4; Table 7-6; Attachment 7.1
c. (5) If the station is dry (no flowing or ponded runoff), make and record all applicable observations and select another station from the list of alternate stations for monitoring.	7.4; Attachment 7.1
c. (6) Develop and/or update criteria for dry weather field screening and analytical monitoring results whereby exceedance of the criteria will require follow-up investigations to be conducted to identify and eliminate the source causing the exceedance of the criteria.	7.4; Attachment 7.1
c. (7) Assess the presence of trash in receiving waters and urban runoff at each dry weather field screening or analytical monitoring station. Assessments of trash shall provide information on the spatial extent and amount of trash present, as well as the nature of the types of trash present.	7.4; Attachment 7.1

IDDE—Additional Dry Weather Monitoring Program Requirements

Permit Annual Reporting Requirement—Attachment B and Receiving Waters Monitoring and Reporting Program No. R9-2007-0001, Section II.B.3.c,d	Location in Report
c. (8) Dry weather field screening and analytical monitoring stations identified to exceed dry weather monitoring criteria for any constituents shall continue to be screened in subsequent years.	7.4; Attachment 7.1
c. (9) Develop and/or update procedures for source identification follow up investigations in the event of exceedance of dry weather field screening and analytical monitoring result criteria. These procedures shall be consistent with procedures required in section D.4.d of Order No. R9-2007-0001.	7.5; Attachment 7.1
c. (10) Develop and/or update procedures to eliminate detected illicit discharges and connections. These procedures shall be consistent with each Copermittees Illicit Discharge and Elimination component of its Jurisdictional Urban Runoff Management Plan as discussed in section D.4 of Order No. R9-2007-0001.	7.5; Attachment 7.1
d. The Copermittees shall commence implementation of dry weather field screening and analytical monitoring under the requirements of this Order by May 1, 2008. Each Copermittee shall conduct dry weather analytical and field screening monitoring in accordance with its storm water conveyance system map and dry weather analytical and field screening monitoring procedures as described in section II.B.3 above. If monitoring indicates an illicit connection or illegal discharge, conduct the follow-up investigation and elimination activities as described in submitted dry weather field screening and analytical monitoring procedures and sections D.4.d and D.4.e of Order No. R9-2007-0001. Until the dry weather field screening and analytical monitoring program is implemented under the requirements of this Order, each Copermittee shall continue to implement dry weather field screening and analytical monitoring as it was most recently implemented pursuant to Order No. 2001-01.	7.4, 7.5; Attachment 7.1

ATTACHMENT 7.1

CITY OF SANTEE DRY WEATHER FIELD SCREENING AND ANALYTICAL MONITORING PROGRAM 2010

CITY OF SANTEE
DRY WEATHER FIELD SCREENING AND ANALYTICAL MONITORING PROGRAM
2010









Submitted to:

City of Santee
Development Services
10601 Magnolia Avenue
Santee, CA 92071-1266

Prepared by:

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D-MAX Engineering, Inc.

Consultants in Water & Environmental Sciences

December 3, 2010
Project No. 201022W-6

Ms. Helen Perry
Storm Water Program Manager
City of Santee
Department of Development Services
10601 Magnolia Avenue
Santee, CA 92071-1266

Re: 2010 Dry Weather Field Screening and Analytical Monitoring Program
City of Santee, California

Dear Ms. Perry:

Enclosed please find our final report for the City of Santee 2010 Dry Weather Field Screening and Analytical Monitoring Program.

This report presents the results from both rounds of the monitoring program conducted in the City of Santee during the 2010 dry weather season. The contents include field screening data, analytical laboratory test results, trash assessments, analyses of the collected data, and photographs of sampling locations. The report also presents the results of follow-up investigations conducted to identify the sources of pollutants detected and our recommendations for additional actions.

Review comments from the draft report submitted to the City have been incorporated into this final report. It has been our pleasure working with the City of Santee on this project. If you have any questions regarding this report, please feel free to contact us.

Sincerely,
D-MAX Engineering Inc.

Arsalan Dadkhah

Arsalan Dadkhah, Ph.D., P.E.
Project Manager

7220 Trade Street ■ Suite 119 ■ San Diego, CA 92121 ■ (858) 586-6600 ■ Fax (858) 586-6644

TABLE OF CONTENTS

SECTION **PAGE**

EXECUTIVE SUMMARY ES-1

1 INTRODUCTION 1

1.1 HYDROLOGIC SETTING 1
1.2 REGULATORY REQUIREMENTS 1
1.3 PROGRAM OVERVIEW 1
1.4 PREVIOUS WORK 2
1.5 REPORT OUTLINE 3

2 SAMPLING LOCATIONS 4

3 FIELD AND LABORATORY ANALYTICAL METHODS 7

3.1 FIELD SCREENING PROCEDURES AND METHODS 7
3.2 LABORATORY ANALYTICAL METHODS 9
3.3 QUALITY ASSURANCE AND QUALITY CONTROL 9
3.3.1 Field Sampling and Analysis QA/QC 9
3.3.2 Laboratory Sampling and Analysis QA/QC 11
3.4 FOLLOW-UP ACTION LEVELS 11

4 FIELD SCREENING RESULTS 14

4.1 ROUND ONE 14
4.1.1 Qualitative Observations 14
4.1.2 Field Analytical Results 18
4.2 ROUND TWO 22
4.2.1 Qualitative Observations 22
4.2.2 Field Analytical Results 25

5 TRASH ASSESSMENT 37

5.1 REGULATORY REQUIREMENTS 37
5.2 PROCEDURE AND DEFINITIONS 37
5.2 TRASH ASSESSMENT RESULTS 38

6 LABORATORY ANALYTICAL RESULTS 42

6.1 SUMMARY 42
6.2 RESULTS 42

7 DATA ANALYSIS 46

7.1 2010 RESULTS 46
7.2 PREVIOUS RESULTS 46

8 FOLLOW-UP INVESTIGATIONS 53

8.1 INVESTIGATION PROCEDURES 53
8.2 INVESTIGATED SITES 53

9 SUMMARY AND RECOMMENDATIONS 66

9.1 2010 DRY WEATHER MONITORING PROGRAM SUMMARY 66
9.2 SUMMARY OF FOLLOW-UP INVESTIGATION DATA 67
9.3 RECOMMENDATIONS AND FOLLOW-UP ACTIONS 68
9.3.1 Inspection and Maintenance 68

TABLE OF CONTENTS

TABLES

1-1 SUMMARY OF HISTORICAL DRY WEATHER SITES
2-1 2010 DRY WEATHER MONITORING STATIONS
3-1 FIELD ANALYTICAL METHODS
3-2 LABORATORY ANALYTICAL METHODS
3-3 FIELD ANALYSIS QA/AC RESULTS
3-4 ACTION LEVELS FOR FIELD SCREENING AND LABORATORY PARAMETERS
4-1 FIELD OBSERVATIONS - ROUND ONE
4-2 FIELD ANALYSIS STATISTICAL SUMMARY - ROUND ONE
4-3 FIELD ANALYTICAL RESULTS - ROUND ONE
4-4 FIELD OBSERVATIONS - ROUND TWO
4-5 FIELD ANALYSIS STATISTICAL SUMMARY - ROUND TWO
4-6 FIELD ANALYTICAL RESULTS - ROUND TWO
5-1 TRASH ASSESSMENT RESULTS – ROUND ONE
5-2 TRASH ASSESSMENT RESULTS – ROUND TWO
6-1 LABORATORY ANALYSIS STATISTICAL SUMMARY - ROUND ONE
6-2 LABORATORY ANALYSIS STATISTICAL SUMMARY - ROUND TWO
6-3 CTR – CMC FOR DISSOLVED METALS
6-4 LABORATORY ANALYTICAL RESULTS
7-1 2010 EXCEEDANCES SUMMARY
7-2 PERCENT OF SITES WITH EXCEEDANCES BY YEAR AND ROUND
8-1 SITE J25c BACTERIA UPSTREAM INVESTIGATION
8-2 SITE O15f SURFACTANTS AND AMMONIA-N INVESTIGATION
8-3 SITE O40b NITRATE-N UPSTREAM INVESTIGATION
8-4 SITE Q20a NITRATE-N UPSTREAM INVESTIGATION
8-5 SITE RCP3 NITRATE-N SUPPLEMENTAL INVESTIGATION
9-1 SUMMARY OF ACTION LEVEL EXCEEDANCES
9-2 ROUND ONE SUMMARY OF FOLLOW-UP INVESTIGATIONS
9-3 ROUND TWO SUMMARY OF FOLLOW-UP INVESTIGATIONS

FIGURES

5-1 ROUND ONE TRASH ASSESSMENT GIS MAP
5-2 ROUND TWO TRASH ASSESSMENT GIS MAP
8-1 SITE J25c BACTERIA UPSTREAM INVESTIGATION MAP
8-2 SITE O40b NITRATE-N UPSTREAM INVESTIGATION MAP
8-3 SITE Q20a NITRATE-N UPSTREAM INVESTIGATION MAP
8-4 SITE RCP3 CHEMICAL RESIDUE INVESTIGATION MAP
A CITY OF SANTEE 2010 DRY WEATHER SAMPLING LOCATION MAP
B WATERSHED MAP OF THE SANTEE AREA SHOWING THE HYDROLOGIC SUBAREAS

TABLE OF CONTENTS

GRAPHICAL DATA

4-1 FLOW
4-2 TEMPERATURE
4-3 pH
4-4 TURBIDITY
4-5 CONDUCTIVITY
4-6 SURFACTANTS
4-7 AMMONIA-N
4-8 NITRATE-N
4-9 ORTHOPHOSPHATE-P
5-1 TRASH ASSESSMENT SUMMARY
7-1 PERCENT OF SITES WITH FIELD SCREENING EXCEEDANCES BY YEAR AND ROUND – PART 1
7-2 PERCENT OF SITES WITH FIELD SCREENING EXCEEDANCES BY YEAR AND ROUND – PART 2
7-3 PERCENT OF SITES WITH LABORATORY CONSTITUENT EXCEEDANCES BY YEAR AND ROUND – PART 1
7-4 PERCENT OF SITES WITH LABORATORY CONSTITUENT EXCEEDANCES BY YEAR AND ROUND – PART 2

APPENDICES

A HISTORICAL DRY WEATHER MONITORING DATA
B PHOTOGRAPHS OF SAMPLING LOCATIONS
C LABORATORY ANALYTICAL REPORTS
D FIELD DATA AND TRASH ASSESSMENT SHEETS

ACRONYMS AND ABBREVIATIONS

℃	Degrees Celsius
µg/L	Micrograms per Liter
Basin Plan	Water Quality Control Plan for the San Diego Basin
CFR	Code of Federal Regulations
City	City of Santee
CMC	Criterion Maximum Concentration
COC	Constituent of Concern
Copermittees	The 18 cities within San Diego County, the County of San Diego, the Port of San Diego, and the San Diego County Regional Airport Authority
CTR	California Toxics Rule
CV	Coefficient of Variance
D-MAX	D-MAX Engineering, Inc.
E. coli	*Escherichia coli*
EC	Electrical Conductivity
EMA	EnviroMatrix Analytical, Inc.
FS	Functional Sensitivity
gpm	Gallons per Minute
GPS	Global Positioning System
HSA	Hydrologic Subarea
HU	Hydrologic Unit
IC/ID	Illicit Connection/Illegal Discharge
JURMP	Jurisdictional Urban Runoff Management Program
LED	Light-Emitting Diode
MBAS	Methylene Blue Active Substances
mg/L	Milligrams per Liter
MPN/100 mL	Most Probable Number (of colony-forming units) per 100 Milliliters
mS/cm	Millisiemens per Centimeter
MS4	Municipal Separate Storm Sewer System
Municipal Permit	San Diego Regional Water Quality Control Board Order No. R9-2007-0001
na	Not Analyzed
nd	Not Detected
ns	Not Sampled (dry site)
NTU	Nephelometric Turbidity Unit
PDL	Practical Detection Limit
ppb	Parts per Billion
QA/QC	Quality Assurance/Quality Control
RWQCB	Regional Water Quality Control Board
TDS	Total Dissolved Solids
USEPA	United States Environmental Protection Agency
WQO	Water Quality Objective
WURMP	Watershed Urban Runoff Management Program

EXECUTIVE SUMMARY

The Dry Weather Field Screening and Analytical Monitoring Program is conducted by the City of Santee (City) to find and eliminate illegal discharges and illicit connections within the City's storm drain system. Two rounds of monitoring are conducted at 20 locations between the months of May and September.

During recent years, the number of exceedances of water quality standards has decreased. While this shows an improvement in water quality within the City, the intent of the program is to identify illegal discharges. Therefore some monitoring locations for 2010 were adjusted to assess different locations while still having extensive coverage of the City. As a result of this adjustment, more exceedances were observed during 2010 than during 2009. Each exceedance was confirmed through a follow up visit, and where appropriate, an upstream investigation was conducted to ascertain the source of the exceedance and to eliminate it. When visible evidence of contamination was present at a site (e.g., substantial petroleum sheen, extremely high ammonia-N concentration, etc), then an immediate upstream investigation was conducted.

In two instances, (sites O15f and W30c, both new sampling locations), evidence of discharges were observed, but no definitive source identified. In these instances, educational information was provided to all the addresses where the discharge may have potentially occurred.

The City's Dry Weather Field Screening and Analytical Monitoring Program continues to provide information on the location and characteristics of dry weather flows within the storm drain system. This provides the City with an opportunity to eliminate any illegal discharges that occur and to adjust other program components (education, commercial, residential) to prevent future discharges.

1 INTRODUCTION

1.1 Hydrologic Setting

The City of Santee (City) is located entirely within the San Diego River Watershed. The largest receiving waterbody in the City is the San Diego River, which enters the City in the east and flows west towards the Pacific Ocean. Other major receiving waterbodies include Forester Creek and Sycamore Creek, both of which eventually drain to the San Diego River. Forester Creek enters the City from the southeast and drains into the San Diego River at a location west of Carlton Hills Boulevard. Sycamore Creek enters the City from the north, flows southward, entering the San Diego River just west of Santee Recreation Lakes. All storm water drainage in the City of Santee is routed either directly or indirectly to these creeks and ultimately to the San Diego River. The entire City of Santee, along with portions of the unincorporated area and cities of La Mesa, El Cajon, San Diego, and Poway, lie within the Lower San Diego River Hydrologic Area (HA) 907.1.

1.2 Regulatory Requirements

In accordance with the San Diego County Municipal Storm Water Permit Order R9-2007-001 (Municipal Permit), each of the Copermittees is required to annually perform dry weather monitoring of discharges into its storm water conveyance system. During the dry weather season, May 1 through September 30, selected locations along the storm drain conveyance system are evaluated. The City of Santee conducts two rounds of monitoring during this period. Round One occurs near the beginning of this time frame, while Round Two occurs near the end of this time frame. This provides a wider data spread. This procedure allows the City to make necessary improvements following Round One, and to evaluate the effectiveness of their actions when sites are revisited during Round Two.

Dry Weather Monitoring procedure includes recording field observations, estimating observed flow rates, and conducting field testing. The Municipal Permit also necessitates that the Copermittees conduct laboratory analyses for at least 25 percent of the visited sites with flowing or ponded water. If a sampling location is dry, meaning there is no flowing or ponded water, an alternative sampling station is selected. If the results of the field or laboratory analyses exceed specific action levels, follow-up investigations are required within two business days.

1.3 Program Overview

The purpose of the Dry Weather Field Screening and Analytical Monitoring Program (Dry Weather Monitoring Program) is to detect and eliminate illicit connections and illegal discharges (IC/ID) to the storm water conveyance system, minimizing the negative impact of human activities on receiving waterbodies. The Dry Weather Monitoring Program consists of the following components:

- Field visual observations
- Field sampling
- Trash assessments
- Laboratory analytical monitoring

The City of Santee has elected to perform two rounds of monitoring during each dry weather season. These two rounds typically occur near the beginning and end of the season. The data gathered from dry weather monitoring is used to characterize discharges to the storm

drain system and identify conveyances that are discharging elevated levels of pollutants. Follow-up studies and source investigations are conducted as needed to detect and eliminate the sources of these pollutants. This report presents the results of both rounds of the 2010 Dry Weather Monitoring Program conducted by D-MAX.

1.4 Previous Work

The City has conducted Dry Weather Monitoring Programs since 1996 at several locations within the City's storm water conveyance system. These programs are conducted in two rounds during each year, with the exception of 1996 and 2002. A summary of the number of sites sampled each year and round is displayed in Table 1-1. Historical dry weather monitoring data is included in Appendix A.

TABLE 1-1
SUMMARY OF HISTORICAL DRY WEATHER SITES

Year	Number of Sites Screened [1]		Number of Flowing Sites		Number of Ponded Sites		Number of Dry Sites		Number of Lab Analysis Sites [2]	
	R1	R2	R1	R2	R1	R2	R1	R2	R1	R2
1996 [3]	12		Data not available [4]				0		---	
1997	8	8	6	7	2	1	7	7	---	---
1998	14	12	11	7	3	5	1	4	---	---
1999	10	10	6	6	4	4	5	5	---	---
2000	12	12	9	10	3	2	4	4	---	---
2001	14	10	10	8	4	2	2	6	---	---
2002 [3]	20		13		7		1		6	
2003	20	20	17	17	3	3	2	0	5	5
2004	20	20	17	17	3	3	1	1	5	5
2005	20	20	19	18	1	2	1	1	5	5
2006	20	20	18	17	2	3	1	1	5	5
2007	20	20	17	17	3	3	1	1	5	5
2008	20	20	18	16	2	4	0	0	5	5
2009	20	20	18	16	2	4	2	2	5	5

Notes:
[1] Number of Sites Screened = Number Flowing + Number Ponded. Field screening cannot be conducted at sites found to be dry. Dry sites are replaced by either a flowing or ponded site.
[2] Laboratory analyses commenced in 2002 as required by RWQCB Order 2001-001.
[3] The City conducted one round of the field screening program for this year.
[4] Available information does not distinguish between flowing and ponded sites during this period.

1.5 Report Outline

This report is presented in the following order:

Section 1, Introduction, includes a discussion of the City's hydrologic setting, regulatory background, program overview, a summary of previous dry weather monitoring, and the report outline.

Section 2, **Sampling Locations,** describes the sampling locations and site selection criteria.

Section 3, Field and Laboratory Analytical Methods, includes field screening and laboratory analytical procedures, quality assurance protocols, and follow-up action levels.

Section 4, Field Screening Results, presents qualitative observations of the sampling locations and quantitative results of the field screening analyses.

Section 5, Trash Assessment, discusses the procedure and results of the trash assessment.

Section 6, Laboratory Analytical Results, presents results of the laboratory analyses.

Section 7, Data Analysis, provides an analysis of this year's field and laboratory data, as well as a comparison of past results.

Section 8, Follow-up Investigations, details the results of follow-up investigations undertaken to isolate the sources of action level exceedances measured during the monitoring program.

Section 9, Summary and Recommendations, provides a summary of the program results and recommendations for follow-up actions.

Appendix A Historical Dry Weather Monitoring Data

Appendix B Photographs of Sampling Locations

Appendix C Laboratory Analytical Reports

Appendix D Field Data and Trash Assessment Sheets

2 SAMPLING LOCATIONS

Twenty primary monitoring stations have been identified for the City's Dry Weather Monitoring Program. A set of alternative sites are also available for monitoring in the event that a primary station did not have flowing or ponded water. All primary and alternative sampling sites are located in San Diego HU 907.

In 2010, 20 primary sites were visited during both Round One and Round Two of dry weather monitoring. Site P10a was dry during both sampling rounds and replaced by alternative Site RCP3. Alternative Site J25c2 was sampled in Round One but was replaced by alternative Site T5e in Round Two. Eight sampling locations where exceedances were not being observed were substituted for nearby locations which were still representative of the area, but might allow other discharges to be identified and eliminated.

Table 2-1 provides the site name, location, conveyance configuration, land uses, hydrologic subarea, and GPS coordinates of the sampling locations that were visited. New sampling locations are indicated in Table 2-1 by italic and bold font. Photographs of sampling locations are included in Appendix B. A complete map of the Municipal Separate Storm Sewer System (MS4), including sampling locations and drainage basins, is presented in Figure A at the end of this report. A map of the watersheds in and around Santee, shown by Hydrologic Subareas (HSAs), is presented in Figure B.

TABLE 2-1
2010 DRY WEATHER MONITORING STATIONS

Site	Location	Conveyance	Primary Land Use	Secondary Land Use	Hydrologic Subarea	Latitude	Longitude
A5c	Next to 8335 Carlton Oaks Drive, between Cadorette Avenue and Praful Street	Outlet	Residential	None	907.12	32.84081	-117.02160
E5g1	Santee Recreational Lakes, west side of entrance road, approximately 100 feet south of entrance toll booth in grassy area	Manhole	Residential	None	907.12	32.84885	-117.00471
G30c	South end of River Trail Place, north of San Diego River, down trail to the west	Outlet	Residential	Open	907.12	32.84501	-116.99122
H5e	South of River Park Drive, at end of walkway between Brookview Court and River Rock Court, north of San Diego River	Outlet	Residential	None	907.12	32.84561	-116.98769
I10c	South bank of the San Diego River, east of Cuyamaca Street, under bridge, westernmost outfall	Outlet	Commercial	Residential	907.12	32.84561	-116.98340
J25c	West end of Carefree Drive, on the west side of channel	Outlet	Residential	None	907.12	32.85813	-116.97601
J25c2**	At the east end of Country Scenes, east of Conejo Road	Outlet	Residential	None	907.12	32.85639	-116.97598
J30d1	In the Woodglen Vista Channel at the Riverwalk Drive and Park Center Drive intersection, on the north side of the bridge	Natural Creek	Residential	None	907.12	32.85175	-116.97606
O15f	North side of Northcote Road, between Woodside Avenue and Via Madonna	Manhole	Residential	None	907.12	32.84653	-116.95520
O40b	At the north end of Abraham Way, south of San Diego River	Outlet	Commercial	Industrial	907.12	32.84851	-116.96392
P10a*	Manhole in the northbound lane of Graves Ave, in front of the northernmost gate of the Greystne Ridge Townhouses	Manhole	Residential	None	907.12	32.83647	-116.96145
P20f	East of North Magnolia Avenue, at the east end of Chubb Lane	Concrete Channel	Residential	Commercial	907.12	32.84674	-116.96920

TABLE 2-1
2010 DRY WEATHER MONITORING STATIONS (CONTINUED)

Site	Location	Conveyance	Primary Land Use	Secondary Land Use	Hydrologic Subarea	Latitude	Longitude
Q20a	In front of 10220 Buena Vista Avenue	Manhole	Residential	Commercial	907.12	32.83494	-116.97509
RCP1	North bank of the San Diego River in the RCP Brick Factory, across from the southwest corner of the antennae field	Outlet	Residential	None	907.12	32.84959	-116.96659
RCP3*	North bank of the San Diego River in the RCP Brick Factory, across from the southeast corner of the antennae field	Outlet	Residential	None	907.12	32.84975	-116.96341
S15h	North of Town Center Parkway, between Mission Gorge Road and Cuyamaca Street, north of Walmart, west of trail	Outlet	Commercial	None	907.12	32.84326	-116.98969
S5c	North of Town Center Parkway, between Mission Gorge Road and Cuyamaca Street, northwest of Michael's store	Outlet	Commercial	None	907.12	32.84363	-116.98795
T5e**	Northwest of the Prospect Avenue and Argent Street intersection, south of Forester Creek	Outlet	Commercial	Industrial	907.12	32.83393	-116.98956
V40d	On the south side of Prospect Avenue, east of Fanita Drive	Concrete Channel	Residential	None	907.12	32.83375	-117.00005
V45k	On the north side of Mission Gorge Road, at the north end of freeway 125	Natural Creek	Commercial	Open	907.12	32.83895	-117.00251
W30c	In the southbound lane of Mesa Road, at the intersection of Mesa Road and Graham Terrace	Manhole	Residential	None	907.12	32.83468	-117.01383
Z15a1	On the south side of Mission Gorge Road, east of Father Junipero Serra Trail	Manhole	Residential	None	901.12	32.83737	-117.03005

Notes:
Italicized and bold font indicates sites that are new to the Dry Weather Monitoring Program.
*Alternative Site RCP3 replaced primary dry Site P10a in both sampling rounds.
**J25c2 is an alternative site that was sampled in Round One. T5e is an alternative site that was sampled in Round Two.
Denotes a dry weather location sampled for both field screening and laboratory analysis

3 FIELD AND LABORATORY ANALYTICAL METHODS

3.1 Field Screening Procedures and Methods

Field screening techniques consist of flow measurements, qualitative field observations, and quantitative field analyses of selected water quality parameters. Weather conditions, time since last rainfall, and the type of storm water conveyance are recorded as well. Specific observations and results of the field water quality analyses are documented on field data sheets, which also serve as a record of the field visit. Data sheets are completed for every site visit whether or not samples were collected. Check boxes on the data sheets indicate if the visit is for routine field screening, confirmation of an exceedance, or an IC/ID follow-up visit. A confirmation visit is a revisit of the original site, whereas an IC/ID follow-up is an upstream investigation. Data sheets from the 2010 Dry Weather Monitoring Program are included as Appendix D.

Field screening and analyses were conducted according to the following procedures and methods:

Qualitative Observations

Qualitative field observations are made during each site visit. These observations include a general site assessment and description of water odor, clarity, the presence of floatable materials, visible deposits or stains, and organisms. Evidence of present or past IC/IDs to the storm drain system can also be discovered through careful field observations. Each field screening location is photographed to document site conditions. Photographs of each site visited are included in Appendix B.

Flow Measurement

Flow measurements can help estimate pollutant mass loading, prioritize storm drains for future investigation, and identify significant changes in discharge that may be indicative of the elimination of discharges or an illegal discharge. Various field methods are used in formulas to estimate the flow rate. These include measuring the velocity, depth, and width of the flowing water; recording the amount of time required to fill a bottle of known volume with sample water; or, if measuring flow within a cylindrical pipe, measuring the pipe diameter as well as the depth and velocity of the flow. Low levels of flow may also be assessed visually.

Field Water Quality Analyses

At each site with ponded or flowing water, water samples were collected and analyzed in the field for the following constituents:

- Specific Conductance
- Temperature
- pH
- Turbidity
- Nitrate-Nitrogen (Nitrate-N)
- Ammonia-Nitrogen (Ammonia-N)
- Orthophosphate-Phosphorus (Orthophosphate-P)
- Surfactants, measured as methylene blue active substances (MBAS)

The methods used to perform the above field analyses, along with the reporting limit, range, and accuracy of each method, are listed in Table 3-1.

TABLE 3-1
FIELD ANALYTICAL METHODS

Parameter	Method	Method Reporting Limit	Range	Accuracy
Specific Conductance	Hanna Instruments HI 991301 Portable pH/EC/TDS/Temperature Meter*	0.01 mS/cm	0 – 20 mS/cm	± 2% of FS[1]
Temperature	Hanna Instruments HI 991301 Portable pH/EC/TDS/Temperature Meter*	0.1 ℃	0.0 ℃ – 60.0 ℃	± 0.5 ℃
pH	Hanna Instruments HI 991301 Portable pH/EC/TDS/Temperature Meter*	0.01	0.00 – 14.00	± 0.01
Turbidity	Hanna Instruments HI 93703 Portable Turbidity Meter*	0.00 NTU	0.00 – 50.00 NTU and 50 – 1000 NTU	± 0.5 NTU or 5% of reading (whichever is greater)
Ammonia-N	CHEMetrics V-2000 Multi-Analyte LED Photometer – Ammonia 3 Vacu-vials® (K-1403) Salicylate*	0.20 mg/L**	0.20 mg/L – 3.00 mg/L***	Varies with measured concentration[2]
Nitrate-N	CHEMetrics V-2000 Multi-Analyte LED Photometer – Nitrate 3 Vacu-vials® (K-6933) Cadmium reduction[3]*	1.13 mg/L**	1.13 mg/L – 113 mg/L***	± 30% of PDL[2]
Ortho-phosphate-P	CHEMetrics V-2000 Multi-Analyte LED Photometer – Phosphate 2 Vacu-vials® (K-8513) Stannous chloride chemistry[4]*	0.10 mg/L**	0.10 mg/L – 2.61 mg/L***	Varies with measured concentration[2]
Surfactants	CHEMetrics CHEMets Kit (K-9400) methylene blue active substances*	0.13 mg/L	0.00 mg/L – 3.00 mg/L***	± 0.13 & ± 0.5 mg/L[5]

Notes:
EC = electrical conductivity
mS/cm = millisiemens per centimeter
℃ = degrees Celsius
NTU = nephelometric turbidity unit
mg/L = milligrams per liter
LED = light-emitting diode

[1] Functional sensitivity (FS) represents the lowest limit at which quantitative information is reliable. FS is estimated as the mean concentration for a spiked sample whose coefficient of variance (CV) is 20%. CV is the standard deviation divided by the mean.

[2] The Practical Detection Limit (PDL), also known as the reporting limit, is defined as the lower limit of the stated test range. Percent error adjusts as follows: ±30% at PDL, ±20% for 25% of full range, ±10% for 75% of full range, ±10% for 120% of full range.

[3] This method determines the concentration of nitrate in mg/L NO_3. To determine the amount of nitrate-N, the concentration of nitrogen must be adjusted for the presence of oxygen in the NO_3 molecule. Therefore, the result is multiplied by a conversion factor of 0.226, the ratio of the molecular weight of N (14g/mol) to NO_3 (62 g/mol). The PDL for nitrate is 5.0 mg/L; however, the PDL for nitrate-N is lower due to the conversion.

[4] This method determines the concentration of orthophosphate in mg/L PO_4. To determine the amount of orthophosphate-P, the concentration of phosphate must be adjusted for the presence of oxygen in the PO_4 molecule. Oxygen is 67.4% of phosphate by mass but is not a plant nutrient in this form. Therefore, the result is multiplied by a conversion factor of 0.326, the ratio of the molecular weight of P (31g/mol) to PO_4 (95 g/mol). The PDL for orthophosphate is 0.3 mg/L; however, the PDL for orthophosphate-P is lower due to the conversion.

[5] ± 0.13 for the range of 0.0 to 1.0 mg/L, ± 0.25 mg/L for the range of 1.0 to 2.0 mg/L and 0.5 mg/L for the range of 2.0 to 3.0 mg/L.

*Test method information taken from Hanna Instruments and CHEMetrics manuals, available online at www.hannainst.com and www.chemetrics.com.

** Readings below the PDL have increased percent error; measurements are reported, but are flagged as being below the PDL.

***Extended ranges in chemical analyses can be achieved through dilutions. Accuracies decrease proportionally with further dilutions.

3.2 Laboratory Analytical Methods

In accordance with the Municipal Permit, laboratory samples were collected at 5 sites, representing 25 percent of the sites where ponded or flowing water was observed. Samples were submitted to EnviroMatrix Analytical (EMA), Inc, a laboratory certified by the California Department of Health Services, for analysis of the following constituents:

- Oil and grease
- Total hardness
- Diazinon
- Chlorpyrifos
- Dissolved Cadmium
- Dissolved Copper
- Dissolved Lead
- Dissolved Zinc
- Total Coliform bacteria
- Fecal Coliform bacteria
- *Enterococcus* bacteria

The methods used to perform each of the above analyses along with method reporting limits and holding times are listed in Table 3-2.

3.3 Quality Assurance and Quality Control

The Quality Assurance and Quality Control (QA/QC) Plan used for this project includes the Environmental Protection Agency (EPA) approved test methods for the field and laboratory analysis of water samples, calibration of test equipment, and pre- and post-rinsing of sample collection containers and test vials. Key components of the QA/QC Plan are described below.

3.3.1 Field Sampling and Analysis QA/QC

The pH meters, turbidity meter, and conductivity meter are tested daily before field screening begins. The pH meters are calibrated as needed with sodium/potassium phosphate, monobasic buffer solutions with pH values equal to 4.00 ± 0.01, 7.00 ± 0.01, and 10.00 ± 0.01 units. The glass electrode tube is kept moist to preserve the meter's accuracy during fieldwork. The turbidity meter and conductivity meter are calibrated as needed using standard solutions.

Field sample collection containers are rinsed first with distilled water and then with the sample water prior to sample collection. Upon completion of sampling and testing at each site, sample collection containers, test vials, and ion-sensitive electrodes are rinsed twice with distilled water and dried.

Field test kit accuracy is assessed prior to commencing sampling. Each lot, or batch, of Chemetrics ampoules is analyzed against standard solutions of known concentrations of ammonia-N, nitrate, orthophosphate, and surfactants. The results of these tests are shown in Table 3-3.

TABLE 3-2
LABORATORY ANALYTICAL METHODS

Analyte	Analytical Method	Method Reporting Limit	Method Detection Limit	Maximum Holding Time [1]
Oil and Grease	EPA 1664	5 mg/L	5 mg/L	28 days
Total Hardness	EPA 200.7	10 mg/L	10 mg/L	14 days
Dissolved Cadmium	EPA 200.8	1 µg/L	0.2 µg/L	24 hours
Dissolved Copper	EPA 200.8	10 µg/L	1 µg/L	24 hours
Dissolved Lead	EPA 200.8	5 µg/L	1 µg/L	24 hours
Dissolved Zinc	EPA 200.8	20 µg/L	0.3 µg/L	24 hours
Diazinon	EPA 8141A	0.05 µg/L	0.04 µg/L	7 days
Chlorpyrifos	EPA 8141A	0.05 µg/L	0.04 µg/L	7 days
Total Coliforms[2]	SM 9221	20 – 1,600,000 MPN/100 mL	20 MPN/100 mL	6 hours
Fecal Coliforms[2]	SM 9221	20 – 160,000 MPN/100 mL	20 MPN/100 mL	6 hours
Enterococci[2]	SM 9230	20 – 160,000 MPN/100 mL	20 MPN/100 mL	6 hours
Total Coliforms	SM 9223 (IDEXX Colilert)[3]	10 – 2,419,600 MPN/100 mL	10 MPN/100 mL	6 hours
Escherichia coli (E. coli) [4]	SM 9223 (IDEXX Colilert)[3]	10 – 2,419,600 MPN/100 mL	10 MPN/100 mL	6 hours
Enterococci	IDEXX Enterolert[3]	10 – 241,960 MPN/100 mL	10 MPN/100 mL	6 hours

Notes:

µg/L = micrograms per liter

MPN/100 mL = most probable number (of colony-forming units) per 100 milliliters

[1] Maximum Holding Time values listed apply to samples collected and preserved in accordance with the quality assurance and quality control procedures listed in Section 3.3.2.

[2] For D-MAX's Dry Weather Monitoring Program, EMA performs standard dilutions for total coliforms to quantify from 20-1,600,000 most probable number per 100 milliliters (MPN/100 mL). For fecal coliforms and Enterococci, EMA performs standard dilutions to quantify from 20-160,000 MPN/100 mL. During the analysis and interpretation of the results, the number of tubes used to quantify the sample must fit the MPN index table from Standard Method 9221. The dilution set used will determine the detection limit. A standard dilution analysis is set up with 15 tubes at different concentrations. The reporting limit will always be adjusted depending on the dilution factor used for quantifying the actual results based on the MPN table. If the result for the analysis was less than 16,000 MPN/100 mL, the reporting limit will always be 20, and the dilution factor will be 10. As the dilution factor goes up, the reporting limit listed in the results from EMA will also go up based on the calculation made with EMA's data system. However, the lowest quantifiable number or reporting limit would still be 20 based on how the standard tubes for the sample is set up.

[3] IDEXX Colilert and Enterolert tests are performed by EMA. This test is used during upstream investigations only.

[4] Number of fecal coliforms is derived from number of *E. coli* through the following formula:
Fecal Coliforms = *E. coli* / 0.85. The converted fecal coliform count, not the number of *E. coli*, is reported in this report's data tables.

TABLE 3-3
FIELD ANALYSIS QA/QC RESULTS

Analyte	Known Concentration (mg/L)	Acceptable Range* (mg/L)	Lot Number	Date	Field Test Kit Results (mg/L)
Ammonia-N	0.85	0.68 - 1.02	73707/2	5/17/2010	0.811
			74559/8	5/27/2010	0.821
			75425/13	6/30/2010	0.811
			75608/7	8/27/2010	0.691
Nitrate**	44.3	31.0 - 57.6	75362/2	5/17/2010	42.77
			73960/4	5/17/2010	41.02
			75655/6	6/30/2010	38.56
			75655/8	6/30/2010	36.49
			75998/8	8/6/2010	46.63
Orthophosphate**	6.13	4.29 - 7.97	75263/4	5/17/2010	6.023
			73677/4	5/17/2010	5.265
			75756/4	6/30/2010	5.015
Surfactants	1.0	0.75 - 1.25	75440/75293/12	5/17/2010	1.0
			74268/74253/2	5/17/2010	1.0
			75638/75460/12	6/30/2010	1.0
			75638/75631/2	6/30/2010	1.0
			75928/75791/6	7/28/2010	1.0
			75928/75937/2	8/27/2010	1.0

Notes: *Acceptable range is calculated based on the error associated with the methods as listed in Table 3-1. **Nitrate and orthophosphate are converted to nitrate-N and orthophosphate-P, respectively, when conducting standard field screening. This is accomplished by multiplying the results by 0.226 for nitrate and 0.326 for orthophosphate. To simplify the calibration process, the unconverted numbers are used when calibrating the instruments.

3.3.2 Laboratory Sampling and Analysis QA/QC

Samples for laboratory analysis are collected concurrently with field samples and use the same sampling procedures. Pre-sterilized sample bottles are obtained from the laboratory and thus do not require rinsing with sample water prior to sample collection. After sample collection, all laboratory samples are kept in a cooler on ice until picked up by the lab. Strict chain of custody procedures are followed, and samples are delivered and analyzed within the appropriate holding times listed in Table 3-2. Completed chain of custody forms are included in Appendix C.

3.4 Follow-up Action Levels

Based on dry weather field screening results, immediate follow-up investigations are sometimes necessary to identify and eliminate pollutant sources. In order to determine whether an immediate source investigation is necessary, numeric action levels and best professional judgment are used to interpret the field screening results. If visual and/or analytical evidence of gross contamination are present at a site (e.g., substantial petroleum sheen, extremely high ammonia-N concentration, evidence of a sewage release, etc.), then

an immediate source identification investigation is initiated. For sites that exceed numeric action levels but are not perceived as an immediate threat to water quality, a confirmation visit is conducted within two business days. An upstream pollutant source investigation is conducted thereafter if elevated concentrations persist and no sources can be identified in the immediate vicinity of the monitoring station. If elevated levels of pollutants are detected by the laboratory analyses, a comprehensive follow-up pollutant source investigation is initiated within two business days of receiving the laboratory results. A discussion of follow-up investigations is included in Section 8.

The following three methods are employed to determine whether immediate or comprehensive follow-up investigations are necessary: (1) Numeric Action Levels; (2) California Toxics Rule (CTR); and (3) Best Professional Judgment (BPJ). The three approaches are described below and presented with associated constituents in Table 3-4.

Numeric Action Levels

Numeric action levels are used as the primary approach for interpreting pH, orthophosphate-P, nitrate-N, ammonia-N, surfactants, oil and grease, diazinon, chlorpyrifos, total coliforms, fecal coliforms, and *Enterococcus* analytical results. Prior to the 2003 dry weather season, no standard action levels had been adopted for use throughout San Diego County. D-MAX calculated the current set of numeric action levels based on county-wide sampling data. These action levels have been used by all San Diego County Copermittees since the 2003 dry weather season. For implementation in 2010, D-MAX performed statistical analysis on county-wide data to update action levels for bacterial indicators.

California Toxics Rule

The CTR criterion maximum concentration (CMC) is a short term concentration limit in which aquatic life can be sustained. The CMC is used to determine appropriate action levels for dissolved trace metals, including cadmium, copper, lead, and zinc. The CTR equations, as provided in EPA Federal Register Doc. 40 Code of Federal Regulations (CFR) Part 131, are used to calculate benchmarks based on the total hardness of the sampled water, with the action levels increasing as hardness increases. More information on the CTR is available at http://www.epa.gov/region09/water/ctr.

Best Professional Judgment

Best professional judgment is used as the primary approach for interpreting turbidity, water temperature, and conductivity and as a secondary approach for interpreting the results of all other field and laboratory analyses. Under BPJ, the need for a follow-up investigation is left to the discretion of the D-MAX field crew. BPJ may indicate that results which either exceed certain action levels or are statistical outliers may be the result of natural or background factors.

TABLE 3-4
ACTION LEVELS FOR FIELD SCREENING AND LABORATORY PARAMETERS

Field Screening Analytes	Action Levels[1]	Source/ Notes
Conductivity (mS/cm)	BPJ	Conductivity may be highly elevated in some regions due to high TDS, groundwater exfiltration to surface water, mineral dissolution, drought, and seawater intrusion. Normal source ID and discharge elimination work is not effective in these situations. Knowledge of area background conditions is important. Values <0.75 may indicate excessive potable water discharge or flushing.
Temperature (°C)	BPJ	Base judgment on season, air temperature, channel type, shading, etc.
pH	<6.5 or >9.0	Basin Plan[2], with allowance for elevated pH due to excessive photosynthesis. Elevated pH is especially problematic in combination with high ammonia.
Turbidity (NTU)	BPJ	WQOs relevant to inland surface waters are not available. Base judgment on channel type and bottom, time since last rain, background levels, and most importantly visual observation (e.g. unusual colors and lack of clarity) and unusual odors.
Ammonia-N (mg/L)	1.0	Based on Sub-Workgroup experience. May also consider unionized ammonia fraction.
Nitrate-N (mg/L)	10.0	Basin Plan and drinking water standards
Orthophosphate-P (mg/L)	2.0	EPA Multi-sector General Permit
Surfactants (MBAS) (mg/L)	1.0	Basin Plan, with allowance based on Sub-Workgroup field experience and possible field reagent interferences.
Laboratory Analytes	**Action Levels**	**Source/ Notes**
Oil and Grease (mg/L)	15	EPA Multi-sector General Permit. If petroleum sheen is observed, the sample should be collected from the water surface. Visual observations may justify immediate investigation.
Diazinon (µg/L)	0.5	Response to diazinon and chlorpyrifos levels above 0.5 µg/L should focus on education and outreach to potential dischargers in the target drainage basin. Highly elevated levels should be investigated aggressively as with other potential IC/IDs.
Chlorpyrifos (µg/L)	0.5	
Dissolved Cadmium (µg/L)	CTR	Use California Toxics Rule, 1-hour criteria to determine appropriate action level for individual samples. Table provides benchmarks based on hardness and dissolved metals concentration. For example, at 300 mg/L hardness the following action levels would apply: Cd – 14 ppb; Cu – 38 ppb; Pb – 209 ppb; and Zn – 297 ppb.
Dissolved Copper (µg/L)		
Dissolved Lead (µg/L)		
Dissolved Zinc (µg/L)		
Total Coliforms (MPN/100 mL)	130,000	Bacteria action levels were updated for implementation in 2010 by the Dry Weather Monitoring Sub-Workgroup. Bacteria levels in many storm drains are likely to exceed public health guidance criteria. Use confidence interval test and best professional judgment to identify conveyances for source ID.
Fecal Coliforms (MPN/100 mL)	13,000	
Enterococci (MPN/100 mL)	7,000	

Notes:
BPJ = Best Professional Judgment
WQO = Water Quality Objective
ppb = parts per billion
[1] The referenced action levels should not be the sole criteria for initiating a source identification investigation. Dry weather monitoring data should be interpreted using a variety of available information, including within-site and between-site sample variability.
[2] Basin Plan = Water Quality Control Plan for the San Diego Basin

4 FIELD SCREENING RESULTS

4.1 Round One

Round One of the Dry Weather Monitoring Program began in May 2010. Field visits were conducted at 20 primary sites and two alternative sites.

4.1.1 Qualitative Observations

Qualitative observations for all Round One routine field screening visits are summarized below. Routine field screening and confirmation visit observations are presented in Table 4-1.

Light Conditions
The weather was sunny during the majority of Round One routine visits; six site visits occurred under partly cloudy conditions, and the weather was overcast during one visit.

Odor
Water samples collected from two sites had a chemical odor; all other samples were odorless.

Color
Water at one site was yellow in color; one additional site had gray water. All other samples were colorless.

Clarity
Water at one site had a slightly cloudy appearance; all other samples were clear.

Floatable Materials
Dust was observed on the water's surface at one site. A second site had a chemical/oil sheen. No other types of floatable materials were observed.

Deposits
Sediment, gravel, and/or fine particulates were observed at all sites. No other types of deposits were noted.

Vegetation
Most sites contained normal or no vegetation, appropriate to the amount of sunlight exposure and soil at the site. One site had limited vegetation.

Biology
The presence of organisms can be an indication of healthy waters. The presence of algae often indicates that flow is persistent, though an overabundance of algae may imply high levels of nutrients in the water and can have negative effects on aquatic life. No sites had excessive algal growth this year. Insects and algae were prevalent at most sites. Some sites were also host to snails, crayfish, and/or fish.

TABLE 4-1
FIELD OBSERVATIONS - ROUND ONE

Site	Date	Time	Light Conditions	Odor	Color	Clarity	Floatables	Deposits	Vegetation	Biology
A5c	5/18/10	15:40	Sunny	None	None	Clear	None	Fine Particulates	Limited	Algae
E5g1	5/18/10	14:40	Partly Cloudy	None	None	Clear	None	Fine Particulates	None	None
G30c	5/18/10	11:20	Partly Cloudy	None	None	Clear	None	Sediment/ Gravel	Normal	Insects, Algae, Fish, Snails
H5e	5/20/10	11:40	Sunny	None	None	Clear	Sheen (Dust)	Fine Particulates	Normal	Insects, Algae
I10c	5/21/10	15:00	Sunny	None	None	Clear	None	Sediment/ Gravel, Fine Particulates	Normal	Insects, Frog
J25c	5/19/10	12:10	Sunny	None	None	Clear	None	Fine Particulates	None	Insects, Algae
J25c	6/02/10	9:40	Sunny	None	None	Clear	None	Fine Particulates	None	Insects, Algae
J25c2	5/21/10	13:55	Sunny	None	None	Clear	None	Fine Particulates	None	Insects, Algae
J30d1	5/19/10	14:10	Sunny	None	None	Clear	None	Sediment/ Gravel, Fine Particulates	Normal	Insects, Fish, Crayfish
O15f	5/21/10	12:00	Sunny	None	None	Clear	None	Sediment/ Gravel	None	None
O40b	5/18/10	9:45	Partly Cloudy	None	None	Clear	None	Fine Particulates	Normal	Insects, Algae

TABLE 4-1
FIELD OBSERVATIONS - ROUND ONE (CONTINUED)

Site	Date	Time	Light Conditions	Odor	Color	Clarity	Floatables	Deposits	Vegetation	Biology
O40b	5/19/10	9:30	Partly Cloudy	None	None	Clear	None	Fine Particulates	Normal	Insects, Algae
O40b	5/21/10	9:30	Sunny	None	None	Clear	None	Fine Particulates	Normal	Insects, Algae
P10a	5/21/10	12:50	Sunny	ns	ns	ns	ns	Sediment/ Gravel	None	None
P20f	5/20/10	10:10	Sunny	None	None	Clear	None	Fine Particulates	None	Insects, Algae, Snails
Q20a	5/21/10	10:00	Sunny	None	None	Clear	None	Sediment/ Gravel	None	None
Q20a	5/21/10	15:40	Sunny	None	None	Clear	None	Sediment/ Gravel	None	None
Q20a	6/02/10	14:20	Sunny	None	None	Clear	None	Sediment	None	Insects
RCP1	5/19/10	11:15	Sunny	None	None	Clear	None	Sediment/ Gravel, Fine Particulates	Normal	Insects, Algae, Crayfish
RCP3	5/20/10	15:00	Sunny	Chemical	None	Clear	Sheen	Sediment/ Gravel, Fine Particulates	Normal	Insects, Algae, Snails
RCP3	5/21/10	14:25	Sunny	Chemical	None	Clear	Sheen	Sediment/ Gravel, Fine Particulates	Normal	Insects, Algae, Snails
RCP3	6/02/10	12:20	Sunny	Chemical	None	Clear	Sheen	Sediment/ Gravel, Fine Particulates	Normal	Insects, Algae, Snails

TABLE 4-1
FIELD OBSERVATIONS - ROUND ONE (CONTINUED)

Site	Date	Time	Light Conditions	Odor	Color	Clarity	Floatables	Deposits	Vegetation	Biology
S15h	5/20/10	13:30	Sunny	None	Yellow	Clear	None	Fine Particulates	Normal	Insects, Algae
S5c	5/18/10	12:15	Partly Cloudy	None	None	Clear	None	Sediment/ Gravel, Fine Particulates	Normal	Insects
T5e	5/20/10	14:10	Sunny	ns	ns	ns	ns	None	Normal	None
V40d	5/20/10	9:15	Sunny	None	None	Clear	None	Fine Particulates	None	Insects, Algae, Snails
V45k	5/18/10	13:00	Partly Cloudy	None	None	Clear	None	Sediment/ Gravel, Fine Particulates	Normal	Insects, Algae
W30c	5/19/10	15:15	Sunny	Chemical	Gray	Slightly Cloudy	None	Fine Particulates	None	None
W30c	5/20/10	11:00	Sunny	None	None	Clear	None	Fine Particulates	None	None
Z15a1	5/21/10	9:00	Overcast	None	None	Clear	None	Sediment/ Gravel	None	None

Notes:
Denotes a confirmation visit
ns = not sampled (dry site)

4.1.2 Field Analytical Results

Field analyses are conducted at all sites with flowing or ponded water. The measured constituents are described below.

Flow rate quantifies the volume of fluid passing across a given surface per unit time. Flow rate measurements are needed to calculate the load or particular amount of a pollutant discharged.

Water temperature is needed to assess the significance of other parameters, such as pH and conductivity. Also, the aquatic habitat must remain within a certain temperature range in order to sustain sensitive aquatic life. In the field, water temperature is measured immediately upon sample collection at each site.

The **pH** is an expression of acidity or alkalinity of a water sample. The pH of an aquatic system will affect a variety of chemical reactions, including the availability of nutrients and the solubility of chemical substances, particularly heavy metals.

Turbidity describes the clarity or cloudiness of a water sample, or the degree to which light is blocked by suspended material in the water. Turbid waters not only limit the amount of light that reaches submerged vegetation, thus reducing photosynthetic capacity, but excessive suspended particles can also absorb heat and increase water temperatures.

Specific conductance (conductivity) measurements indicate the total concentration of ions in an aquatic system and the ability of the water to conduct electricity. This parameter can be used to assess the mineral content of water and potentially help indicate the presence of dissolved pollutants.

Surfactant concentrations in water samples often reflect illegal discharges from industrial, commercial, or residential sources. Pollution resulting from surfactants alters the surface tension of water and disrupts the breathing mechanisms of fish gills and other aquatic organisms.

Ammonia-nitrogen (ammonia-N) is an indicator of pollution from decomposing organic matter, agricultural or household fertilizer runoff, or the presence of sewage. Ammonia occurs naturally in the environment; however, in higher quantities it can become toxic to fish and other organisms.

Nitrate-nitrogen (nitrate-N) is a common sign of nutrient pollution from agricultural or household fertilizer runoff. Nitrate pollution can cause excessive algal growth, resulting in oxygen depletion as algae decomposes and may eventually suffocate other aquatic life. During the field analysis, nitrate is measured and converted into nitrate-N using a conversion factor of 0.226. This process is explained in Note 3 of Table 3-1.

Orthophosphate-phosphorus (orthophosphate-P) is also an indicator of nutrient pollution from agricultural or household fertilizer runoff. Similar to nitrate-N, orthophosphate-P pollution can cause nutrient enrichment, stimulate algal growth, and thus deplete oxygen in the water to levels that are dangerous for aquatic life. Even low levels of orthophosphate-P can cause significant algal growth, as it is commonly the limiting nutrient in plant growth. During the field analysis, orthophosphate is measured and converted into orthophosphate-P using a conversion factor of 0.326. This process is explained in Note 4 of Table 3-1.

A statistical summary of the routine field analytical results for Round One data is presented in Table 4-2. Table 4-3 shows the results of all field analyses conducted at each dry weather monitoring station during Round One. Graphs of the various parameters and appropriate action levels for follow-up investigations are included at the end of this section.

TABLE 4-2
FIELD ANALYSIS STATISTICAL SUMMARY – ROUND ONE

Parameter (units)	Maximum	Minimum	Average	Median	Standard Deviation	Number of Exceedances	Graph
Flow Rate (gpm)	28	ponded	4.7	1.0	7.1	---	4-1
Temperature (ºC)	23.0	17.1	21.0	20.9	1.5	0	4-2
pH	8.5	7.6	8.0	8.1	0.25	0	4-3
Turbidity (NTU)	147	0.50	10.22	2.51	32.28	1	4-4
Conductivity (mS/cm)	5.07	0.87	2.74	2.54	1.30	0	4-5
Surfactants (mg/L)	>3	0.25	0.48	0.25	0.60	1	4-6
Ammonia-N (mg/L)	3.05	0.03 J	0.32	0.16	0.65	1	4-7
Nitrate-N (mg/L)	23.6	nd	5.36	4.17	5.51	2	4-8
Orthophosphate-P (mg/L)	16.21	0.01 J	0.96	0.16	3.59	1	4-9

Notes:
The data used in statistical calculations in this table are from routine visits only; data for confirmation visits and upstream investigations have not been incorporated.
nd = not detected; considered to be half of detection limit in statistical calculations.
J = Value reported is below the reporting limit; measurements have an increased percent error.

TABLE 4-3
FIELD ANALYTICAL RESULTS - ROUND ONE

Site	Date	Time	Flow (gpm)	Temp. (°C)	pH	Turbidity (NTU)	Conductivity (mS/cm)	Surfactants (mg/L MBAS)	Ammonia-N (mg/L NH_3-N)	Nitrate-N (mg/L NO_3-N)	Orthophosphate-P (mg/L PO_4-P)
A5c	5/18/10	15:40	<1	20.2	8.5	0.79	2.09	0.25	0.10 J	3.00	0.32
E5g1	5/18/10	14:40	1	20.7	8.1	2.62	2.62	0.38	0.23	2.12	0.29
G30c	5/18/10	11:20	1	20.8	8.3	2.54	3.64	0.25	0.14 J	5.70	0.02 J
H5e	5/20/10	11:40	<1	20.8	8.2	10.07	2.78	0.25	0.20	0.99 J	0.35
I10c	5/21/10	15:00	5	22.6	7.9	1.15	1.66	0.25	0.18 J	9.40	0.04 J
J25c	5/19/10	12:10	3	20.4	8.2	4.79	4.32	0.50	0.28	5.60	0.13
J25c	6/02/10	9:40	3	18.6	8.3	na	4.64	na	na	na	na
J25c2	5/21/10	13:55	1	22.7	7.9	2.57	4.42	0.50	0.15 J	6.17	0.09 J
J30d1	5/19/10	14:10	5	21.6	7.6	2.48	2.93	0.25	0.17 J	1.62	0.04 J
O15f	5/21/10	12:00	0	21.0	7.8	5.35	0.99	0.25	0.06 J	0.68 J	0.29
O40b	5/18/10	9:45	<1	18.3	8.2	2.23	2.45	0.50	0.14 J	**23.6**	0.24
O40b	5/19/10	9:30	<1	18.7	8.3	na	2.32	na	na	**12.6**	na
O40b	5/21/10	9:30	<1	19.3	8.3	na	2.35	na	na	**16.4**	na
P10a	5/21/10	12:50	Dry	ns	ns	ns	ns	ns	ns	ns	na
P20f	5/20/10	10:10	13	23.0	8.3	0.98	1.43	0.25	0.11 J	4.31	0.02 J
Q20a	5/21/10	10:00	<1	22.4	8.2	2.25	1.98	0.25	0.16 J	**11.6**	0.29
Q20a	5/21/10	15:40	<1	23.9	8.2	na	2.02	na	na	**12.5**	na
Q20a	6/02/10	14:20	<1	25.0	8.3	na	1.86	na	na	6.32	na
RCP1	5/19/10	11:15	3	21.1	8.2	1.67	1.58	0.25	0.15 J	7.84	0.23

TABLE 4-3
FIELD ANALYTICAL RESULTS - ROUND ONE

Site	Date	Time	Flow (gpm)	Temp. (°C)	pH	Turbidity (NTU)	Conductivity (mS/cm)	Surfactants (mg/L MBAS)	Ammonia-N (mg/L NH_3-N)	Nitrate-N (mg/L NO_3-N)	Orthophosphate-P (mg/L PO_4-P)
RCP3	5/20/10	15:00	13	22.8	7.9	1.55	5.07	0.50	0.21	9.57	0.12
RCP3	5/21/10	14:25	11	22.2	8.1	na	1.86	na	na	na	na
RCP3	6/02/10	12:20	8	22.2	8.2	na	1.82	na	na	na	na
S15h	5/20/10	13:30	<1	21.3	8.0	3.54	2.22	0.38	0.16 J	4.03	0.24
S5c	5/18/10	12:15	<1	20.1	7.7	4.04	0.87	0.25	0.03 J	7.73	0.04 J
T5e	5/20/10	14:10	Dry	ns	ns	ns	ns	ns	ns	ns	ns
V40d	5/20/10	9:15	28	20.1	8.3	0.50	4.24	0.50	0.16 J	nd	0.01 J
V45k	5/18/10	13:00	13	20.4	7.8	1.76	3.95	0.50	0.17 J	0.19 J	0.08 J
W30c	5/19/10	15:15	2	23.0	7.8	**147**	4.27	**>3**	**3.05**	0.88 J	**16.21**
W30c	5/20/10	11:00	<1	24.3	8.3	3.48	4.81	0.50	0.18 J	na	0.15
Z15a1	5/21/10	9:00	1	17.1	7.8	6.43	1.21	0.25	0.66	2.12	0.20
REPORTING LIMIT			**0**	**0.1**	**0.01**	**0.00**	**0.01**	**0.13**	**0.20**	**1.13**	**0.10**
ACTION LEVEL			**	**BPJ**	**<6.5, >9.0**	**BPJ**	**BPJ**	**1.0**	**1.0**	**10.0**	**2.0**

Notes:
J = Value reported is below the reporting limit; measurements have an increased percent error.
na = not analyzed; nd = not detected; ns = not sampled (dry site)
Red values exceed action level.
Denotes a confirmation visit

4.2 Round Two

Round Two was conducted in September 2010. Nineteen primary sites and two alternative sites were visited.

4.2.1 Qualitative Observations

Qualitative observations for all Round Two routine field screening visits are summarized below. Routine field screening and confirmation visit observations are presented in Table 4-4.

Light Conditions
The weather was mostly sunny during Round Two routine visits; there were only four samples collected during overcast conditions.

Odor
The water sample at one site had a musty odor; all other water samples were odorless.

Color
The water at three sites was yellow in color; all other samples were colorless.

Clarity
Water collected from all sites was clear.

Floatable Materials
Trash was observed in the water at three sites. One of these sites also had dust on the water's surface. One additional site had bubbles and foam floating on the surface of the water. No other floatable materials were observed.

Deposits
Sediment, gravel, and/or fine particulates were observed at all sites. No other types of deposits were noted.

Vegetation
All sites contained vegetation appropriate to the amount of sunlight exposure and soil at the site. One site had limited vegetation, while all other sites had either normal or no vegetation.

Biology
Insects and algae were prevalent at most sites; some sites were also host to snails.

TABLE 4-4
FIELD OBSERVATIONS - ROUND TWO

Site	Date	Time	Light Conditions	Odor	Color	Clarity	Floatables	Deposits	Vegetation	Biology
A5c	9/21/10	11:00	Overcast	None	None	Clear	Sheen, Trash	Sediment, Fine Particulates	None	Algae, Snails
E5g1	9/15/10	15:30	Sunny	None	None	Clear	None	Sediment, Fine Particulates	None	None
G30c	9/20/10	14:30	Sunny	None	Yellow	Clear	Trash	Sediment, Fine Particulates	Normal	Insects
H5e	9/14/10	14:35	Sunny	None	None	Clear	None	Sediment, Gravel, Fine Particulates	Normal	Insects, Algae, Snails
I10c	9/21/10	12:10	Sunny	None	None	Clear	Trash	Sediment, Fine Particulates	Normal	Insects
J25c	9/17/10	12:50	Sunny	None	None	Clear	None	Sediment, Fine Particulates	None	Algae
J25c	9/27/10	12:20	Sunny	None	None	Clear	None	Sediment, Fine Particulates	None	Algae
J30d1	9/16/10	12:10	Sunny	None	None	Clear	None	Sediment, Fine Particulates	Normal	None
O15f	9/16/10	14:15	Sunny	Musty	Yellow	Clear	None	Sediment, Fine Particulates	None	None
O15f	9/17/10	14:30	Sunny	None	Yellow	Clear	None	Sediment, Fine Particulates	None	None
O15f	9/20/10	13:30	Sunny	None	None	Clear	None	Sediment, Fine Particulates	None	None
O40b	9/21/10	10:10	Overcast	None	None	Clear	None	Sediment, Fine Particulates	None	Algae
P10a	9/21/10	9:20	Overcast	ns	ns	ns	ns	Sediment, Fine Particulates	None	None
P20f	9/17/10	12:15	Sunny	None	None	Clear	None	Sediment, Fine Particulates	None	Algae
Q20a	9/20/10	15:20	Sunny	None	None	Clear	Bubbles, Foam	Sediment, Fine Particulates	None	None
Q20a	9/21/10	13:45	Sunny	ns	ns	ns	ns	Sediment, Fine Particulates	None	None

TABLE 4-4
FIELD OBSERVATIONS - ROUND TWO (CONTINUED)

Site	Date	Time	Light Conditions	Odor	Color	Clarity	Floatables	Deposits	Vegetation	Biology
RCP1	9/16/10	10:50	Sunny	None	None	Clear	None	Sediment, Fine Particulates	Normal	Algae
RCP1	9/17/10	11:00	Sunny	None	None	Clear	None	Sediment, Fine Particulates	Normal	Algae
RCP3	9/14/10	13:45	Sunny	None	None	Clear	None	Sediment, Gravel, Fine Particulates	Normal	Insects, Algae
S15h	9/15/10	14:15	Sunny	None	None	Clear	None	Sediment, Fine Particulates	Normal	Insects, Algae
S15h	9/16/10	10:15	Sunny	None	None	Clear	None	Sediment, Fine Particulates	Normal	Insects, Algae
S5c	9/16/10	15:20	Sunny	None	None	Clear	None	Sediment, Fine Particulates	Normal	Insects, Algae
T5e	9/20/10	11:00	Sunny	None	None	Clear	None	Sediment, Fine Particulates	None	None
V40d	9/17/10	10:10	Sunny	None	None	Clear	None	Sediment, Fine Particulates	Limited	Algae, Snails
V40d	9/27/10	9:45	Sunny	None	None	Clear	None	Sediment, Fine Particulates	Limited	Insects, Algae, Snails
V45k	9/14/10	15:40	Sunny	None	None	Clear	None	Sediment, Gravel, Fine Particulates	Normal	Insects, Algae
W30c	9/20/10	16:15	Sunny	None	None	Clear	None	Sediment, Fine Particulates	None	None
Z15a1	9/17/10	9:10	Overcast	None	Yellow	Clear	None	Sediment, Fine Particulates	None	None

Notes:
Denotes a confirmation visit
ns = not sampled (dry site)

4.2.2 Field Analytical Results

Field analyses for Round Two of the Dry Weather Monitoring Program were conducted at all sites with flowing or ponded water. The measured constituents are described in Section 4.1.2 of this report.

A statistical summary of the routine field analytical results for Round Two data is presented in Table 4-5. Table 4-6 shows the results of all field analyses conducted at the sampled sites during Round Two. Graphs of the various parameters and appropriate action levels for follow-up investigations are included at the end of this section.

TABLE 4-5
FIELD ANALYSIS STATISTICAL SUMMARY – ROUND TWO

Parameter (units)	Maximum	Minimum	Average	Median	Standard Deviation	Number of Exceedances	Graph
Flow Rate (gpm)	20	ponded	2.6	0.5	4.6	---	4-1
Temperature (ºC)	29.7	17.5	22.8	23.4	2.9	0	4-2
pH	8.7	7.2	7.9	7.9	0.4	0	4-3
Turbidity (NTU)	22	0.01	5.01	2.92	6.41	0	4-4
Conductivity (mS/cm)	4.71	0.92	2.17	1.88	1.07	0	4-5
Surfactants (mg/L)	2.50	0.13	0.44	0.25	0.51	1	4-6
Ammonia-N (mg/L)	3.68	0.06 J	0.44	0.19	0.79	2	4-7
Nitrate-N (mg/L)	10.60	0.20 J	3.15	1.28	3.77	2	4-8
Orthophosphate-P (mg/L)	0.94	0.01 J	0.22	0.11	0.23	0	4-9

Notes:
The data used in statistical calculations in this table are from routine visits only; data for confirmation visits and upstream investigations have not been incorporated.
nd = not detected; considered to be half of detection limit in statistical calculations.
J = Value reported is below the reporting limit; measurements have an increased percent error.

TABLE 4-6
FIELD ANALYTICAL RESULTS - ROUND TWO

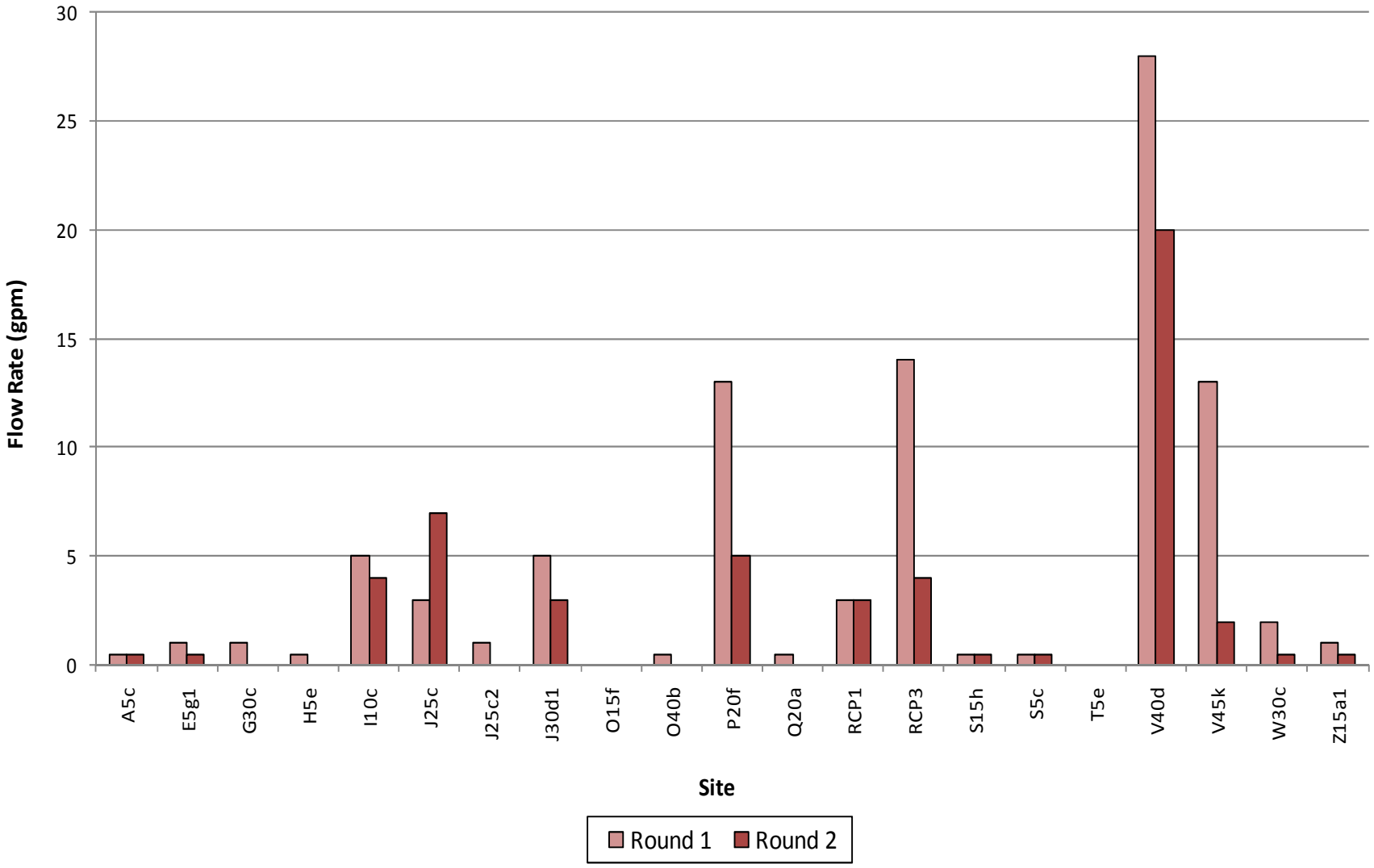
Site	Date	Time	Flow (gpm)	Temp (ºC)	pH	Turbidity (NTU)	Conductivity (mS/cm)	Surfactants (mg/L)	Ammonia-N (mg/L)	Nitrate-N (mg/L)	Ortho-phosphate-P (mg/L)
A5c	9/21/10	11:00	<1	18.1	8.1	1.08	1.43	0.25	0.10 J	2.21	0.08 J
E5g1	9/15/10	15:30	<1	23.2	7.9	3.66	2.82	0.50	0.16 J	1.35	0.31
G30c	9/20/10	14:30	Ponded	25.8	8.2	2.93	2.65	0.25	0.33	0.81 J	0.28
H5e	9/14/10	14:35	Ponded	23.0	7.7	1.55	1.92	0.13	0.13 J	0.30 J	0.21
I10c	9/21/10	12:10	4	24.1	7.8	0.29	1.10	0.13	0.06 J	5.06	0.01 J
J25c	9/17/10	12:50	7	23.1	8.2	1.58	1.60	0.25	0.19 J	0.71 J	0.03 J
J25c	9/27/10	12:20	2	24.2	8.3	na	4.19	na	na	na	na
J30d1	9/16/10	12:10	3	19.4	7.6	0.01	3.04	0.25	0.28	0.26 J	0.03 J
O15f	9/16/10	14:15	Ponded	24.0	7.4	16.1	1.58	**2.50**	**3.68**	0.20 J	0.94
O15f	9/17/10	14:30	Ponded	24.8	7.4	23.5	1.35	**1.50**	**3.30**	na	na
O15f	9/20/10	13:30	Ponded	24.4	7.2	7.98	2.98	0.50	**2.23**	na	na
O40b	9/21/10	10:10	Ponded	17.8	8.1	18.6	2.00	0.75	0.52	9.02	0.54
P10a	9/21/10	9:20	Dry	ns	ns	ns	ns	ns	ns	ns	ns
P20f	9/17/10	12:15	5	29.7	8.7	0.22	1.38	0.25	0.18 J	4.42	0.03 J
Q20a	9/20/10	15:20	Ponded	25.3	8.3	2.90	2.08	0.50	0.19 J	**10.6**	0.39
Q20a	9/21/10	13:45	Dry	ns	ns	ns	ns	ns	ns	ns	ns
RCP1	9/16/10	10:50	3	21.8	8.2	0.25	1.65	0.25	0.15 J	**10.6**	0.07 J
RCP1	9/17/10	11:00	4	22.0	8.2	14.1	1.41	na	na	6.90	na
RCP3	9/14/10	13:45	4	24.6	7.9	4.29	1.84	0.25	0.17 J	9.89	0.13

TABLE 4-6
FIELD ANALYTICAL RESULTS - ROUND TWO (CONTINUED)

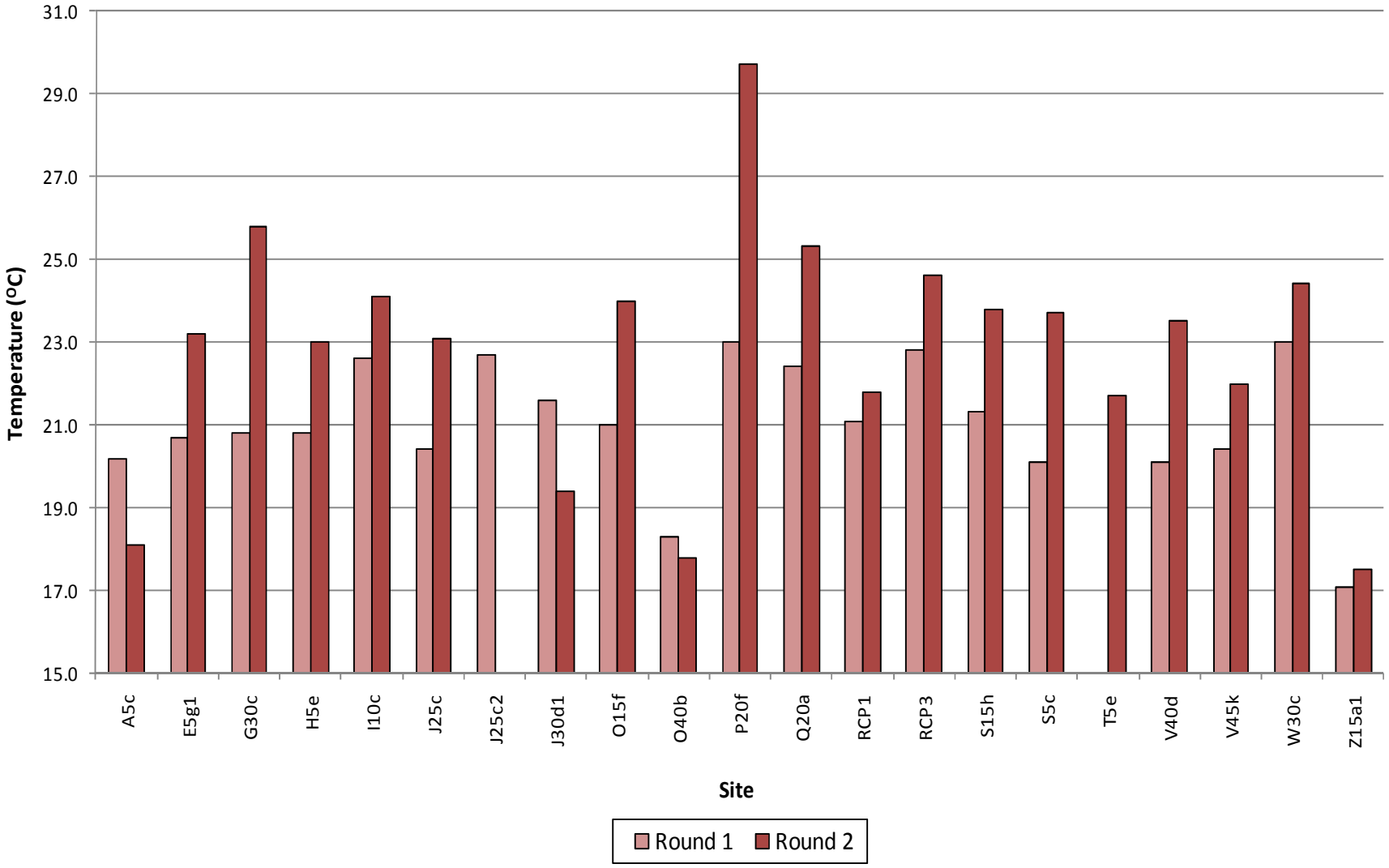
Site	Date	Time	Flow (gpm)	Temp (ºC)	pH	Turbidity (NTU)	Conductivity (mS/cm)	Surfactants (mg/L)	Ammonia-N (mg/L)	Nitrate-N (mg/L)	Ortho-phosphate-P (mg/L)
S15h	9/15/10	14:15	<1	23.8	7.4	3.31	2.13	0.50	**1.06**	0.30 J	0.32
S15h	9/16/10	10:15	<1	19.9	8.0	na	2.20	na	0.36	na	na
S5c	9/16/10	15:20	<1	23.7	7.9	1.37	1.24	0.13	0.08 J	1.41	0.07 J
T5e	9/20/10	11:00	Ponded	21.7	7.2	21.9	0.92	0.13	0.28	0.85 J	0.32
V40d	9/17/10	10:10	20	23.5	8.3	3.35	3.84	0.50	0.46	0.48 J	0.01 J
V40d	9/27/10	9:45	17	26.3	8.2	na	3.00	na	na	na	na
V45k	9/14/10	15:40	2	22.0	7.7	4.53	4.24	0.25	0.35	1.21	0.06 J
W30c	9/20/10	16:15	<1	24.4	8.2	2.73	4.71	0.50	0.25	0.61 J	0.08 J
Z15a1	9/17/10	9:10	<1	17.5	7.8	9.69	1.19	0.50	0.15 J	2.81	0.44
REPORTING LIMIT			**0**	**0.1**	**0.01**	**0.00**	**0.01**	**0.13**	**0.20**	**1.13**	**0.10**
ACTION LEVEL			**	**BPJ**	**<6.5, >9.0**	**BPJ**	**BPJ**	**1.0**	**1.0**	**10.0**	**2.0**

Notes:
J = Value reported is below the reporting limit; measurements have an increased percent error.
na = not analyzed; nd = not detected; ns = not sampled (dry site)
Red values exceed action level.
Denotes a confirmation visit

GRAPH 4-1: FLOW

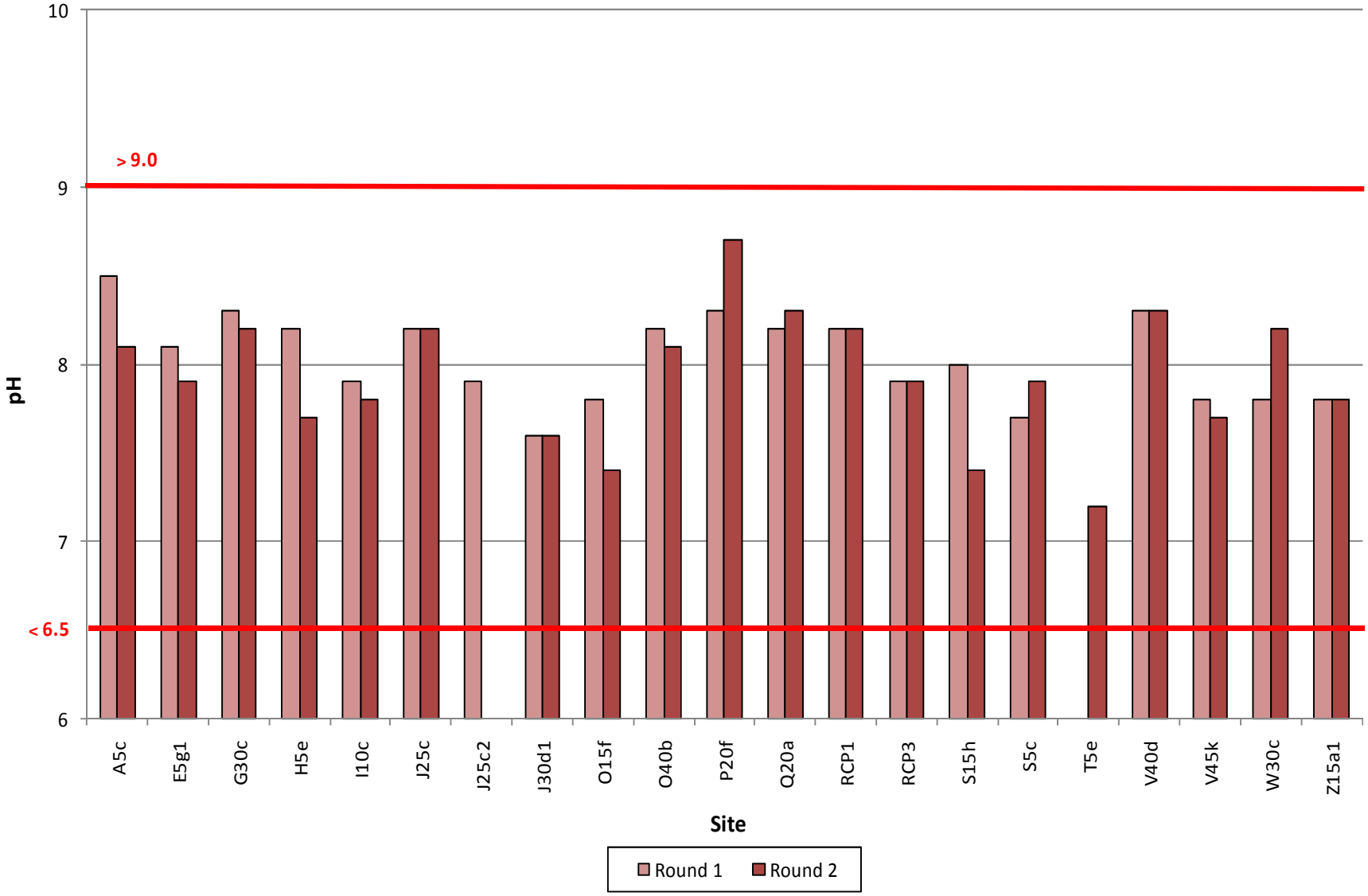


GRAPH 4-2: TEMPERATURE

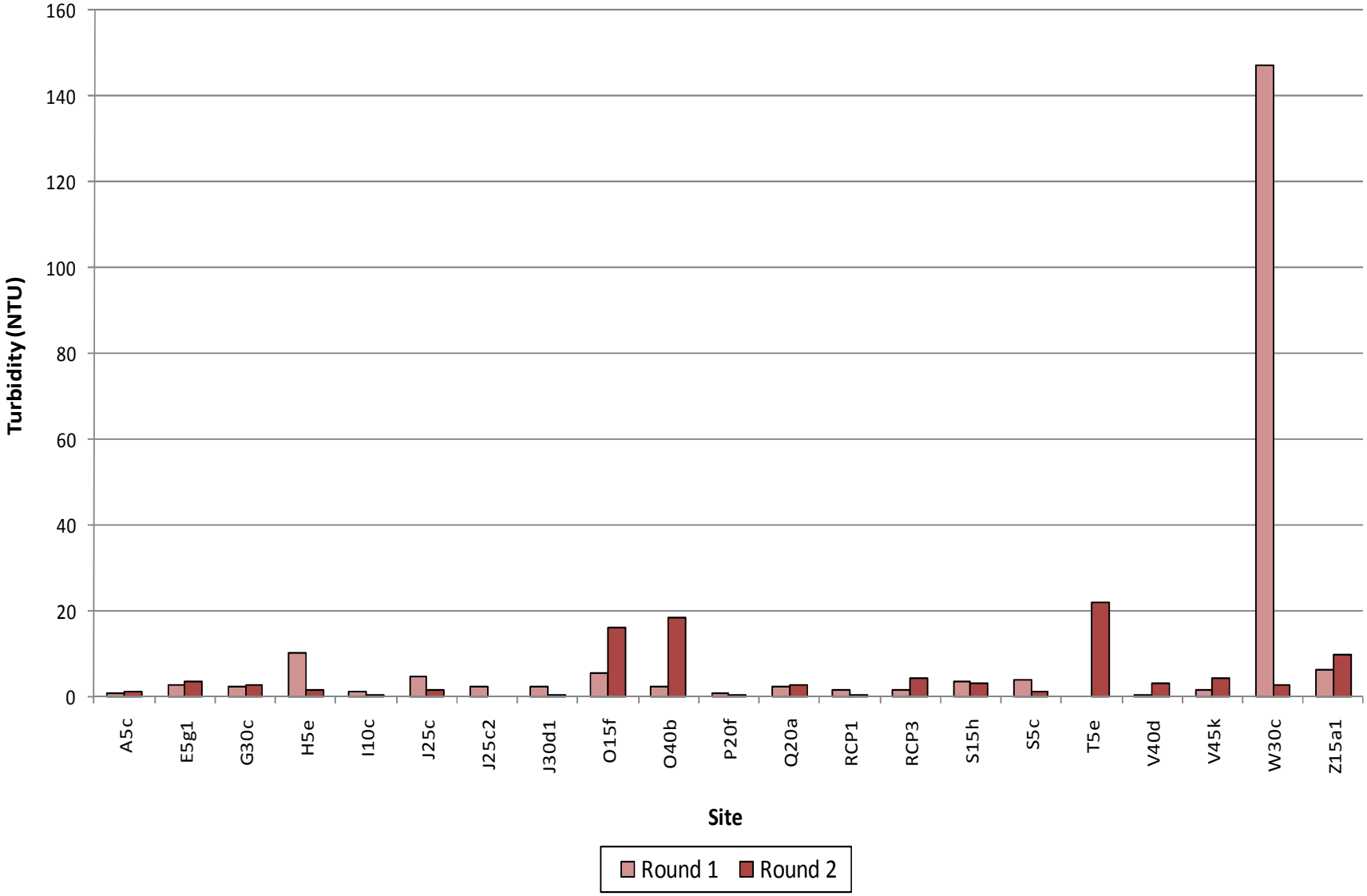


GRAPH 4-3: pH

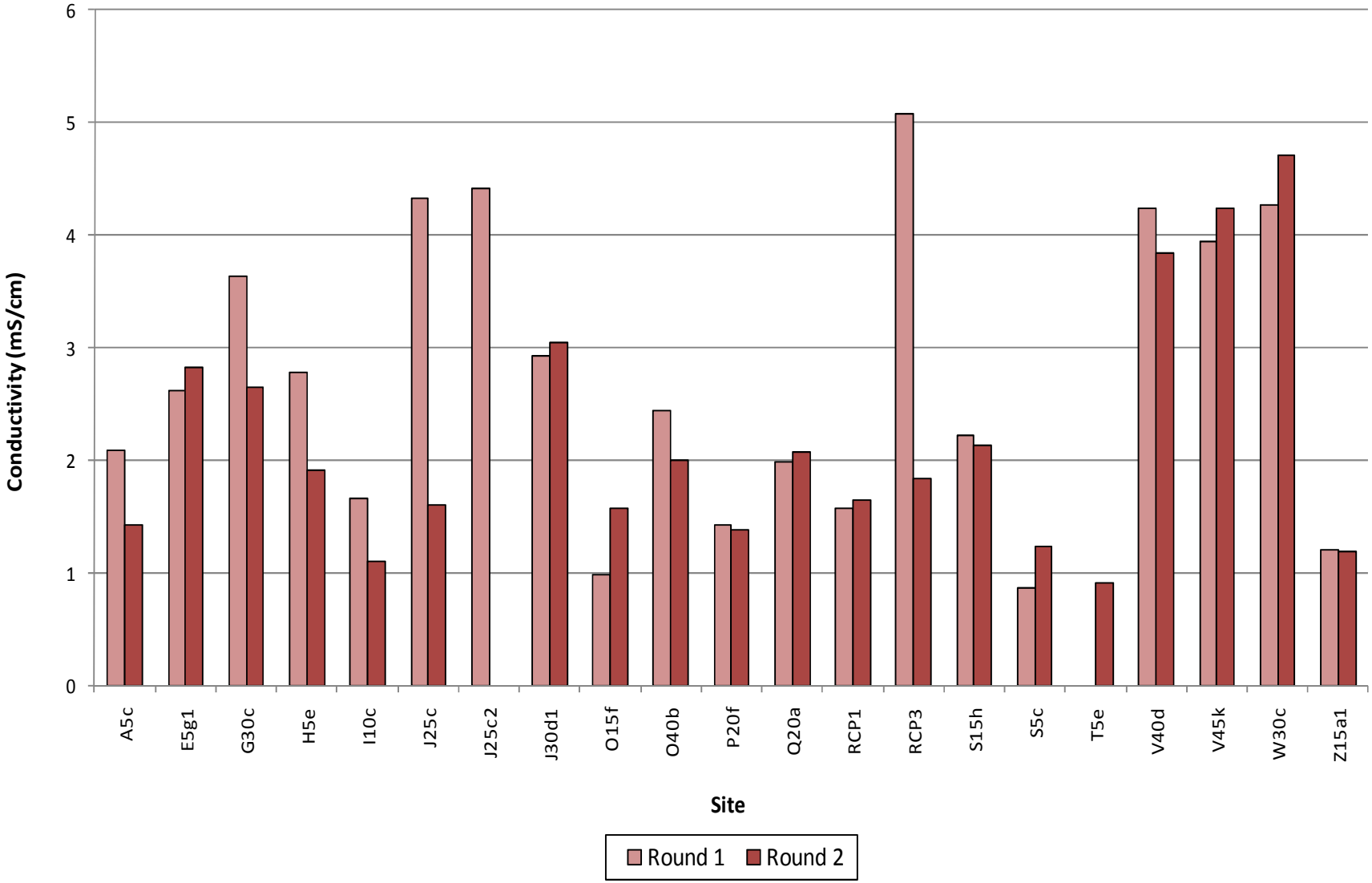
Action Level is < 6.5 or > 9.0



GRAPH 4-4: TURBIDITY

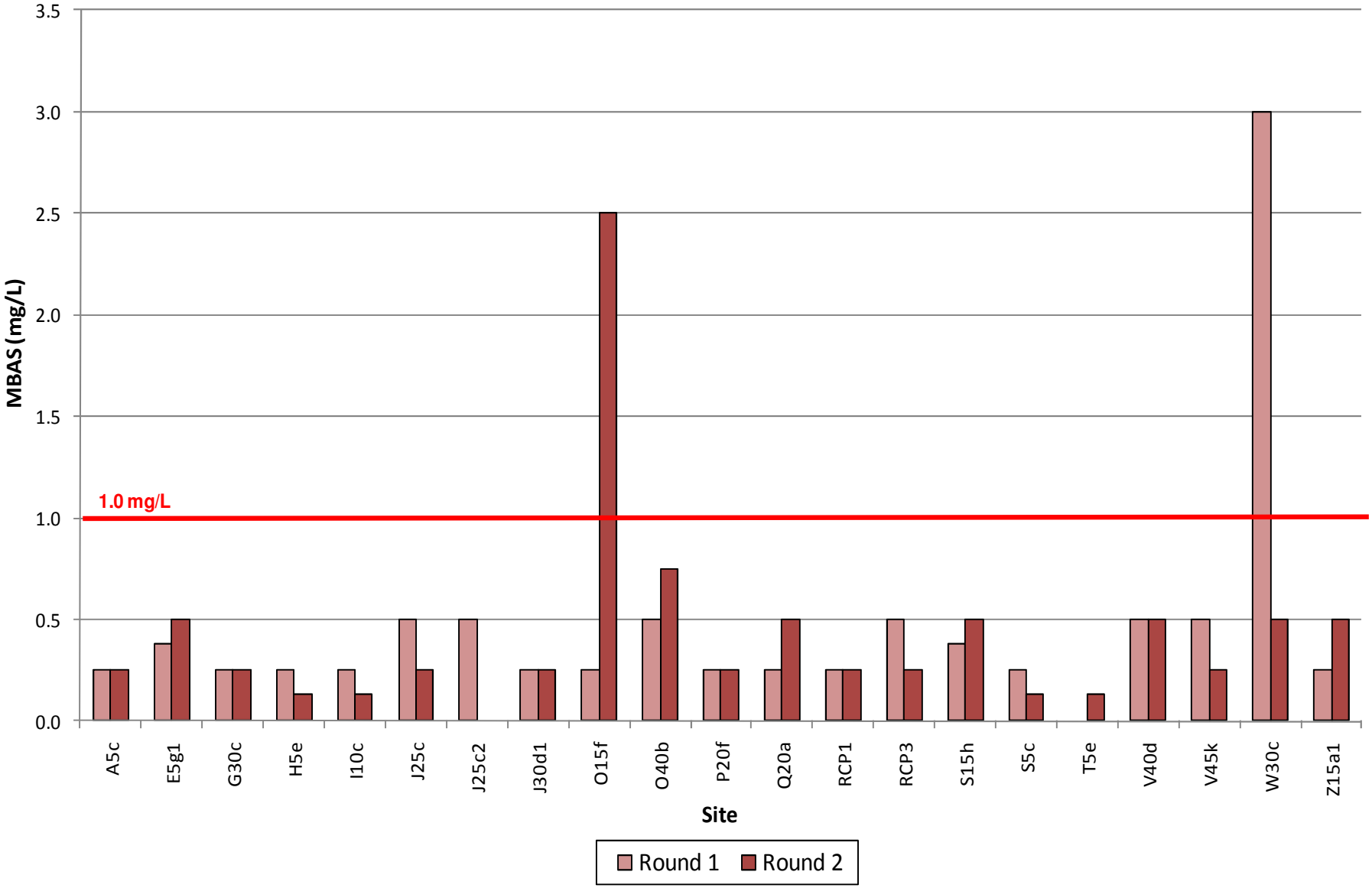


GRAPH 4-5: CONDUCTIVITY



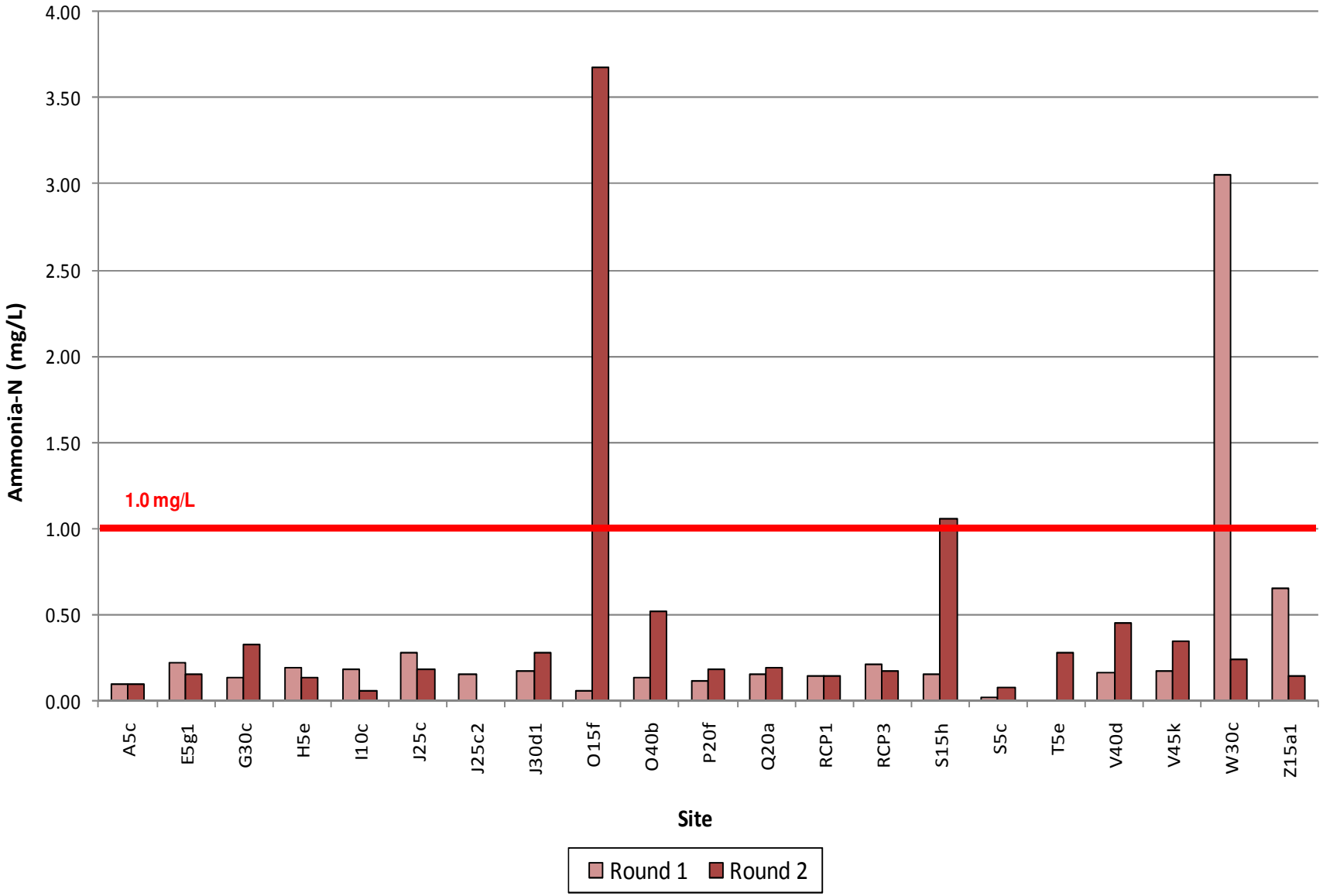
GRAPH 4-6: SURFACTANTS

Action Level = 1.0 mg/L



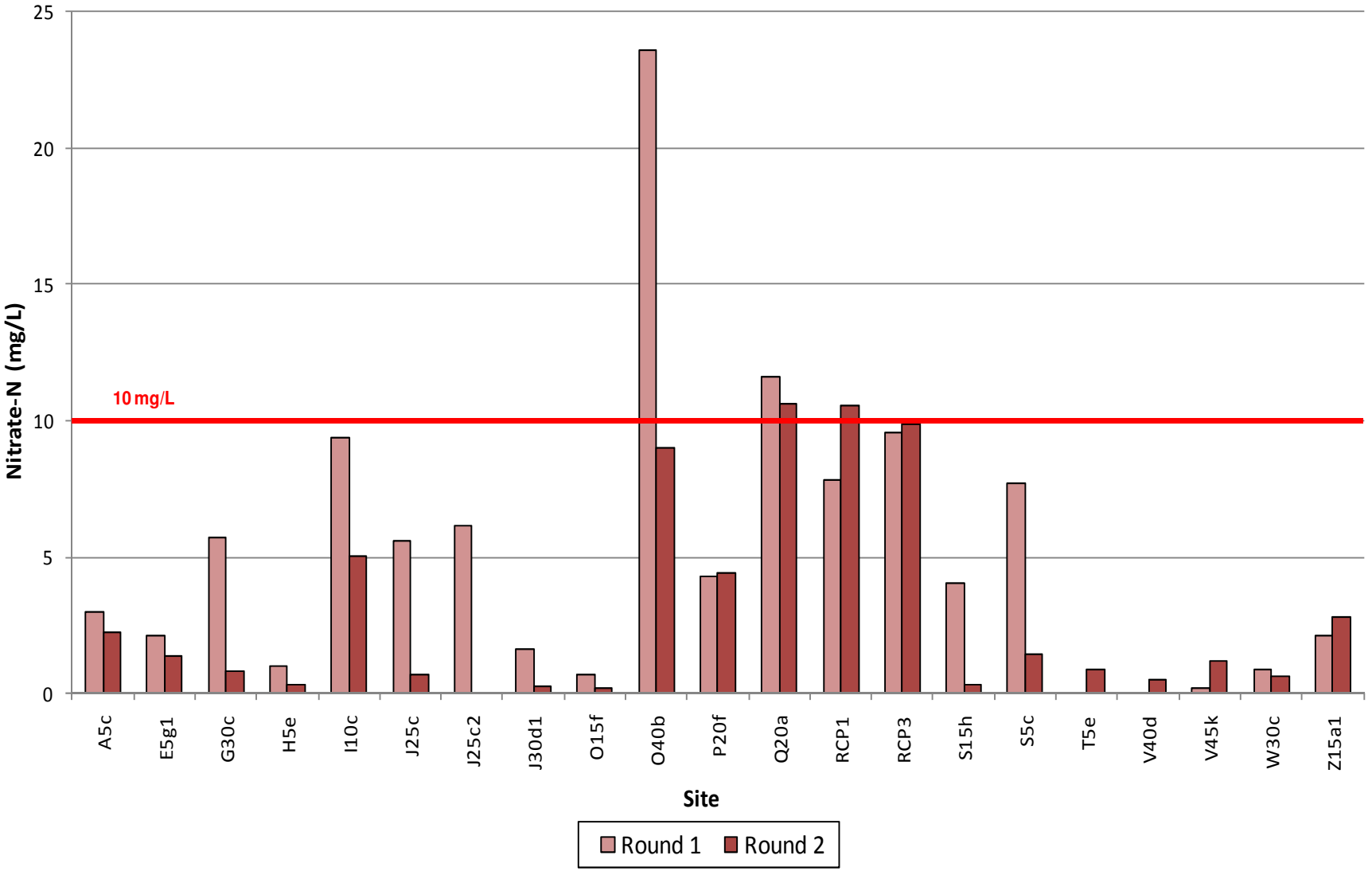
GRAPH 4-7: AMMONIA-N

Action Level = 1.0 mg/L



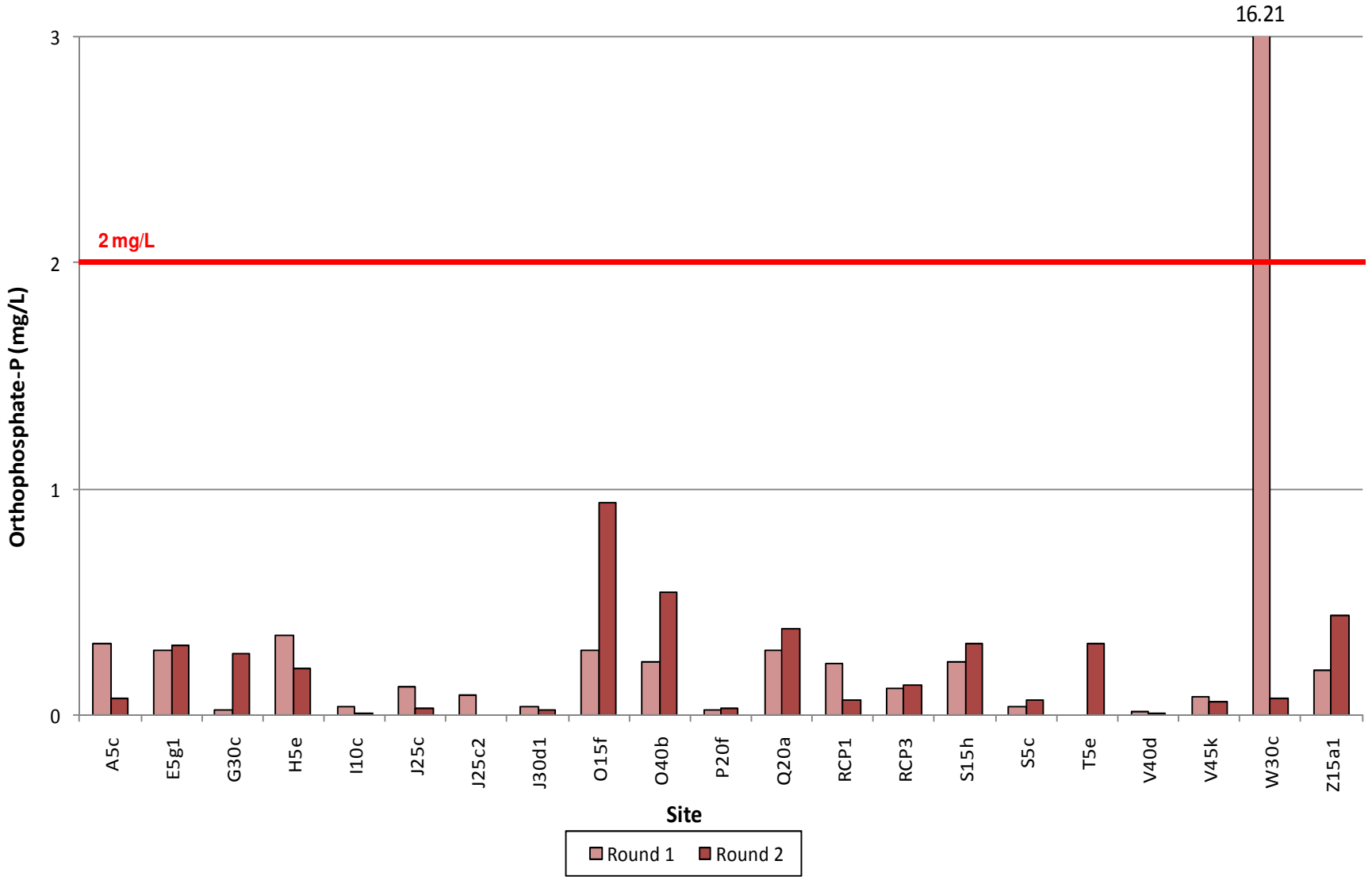
GRAPH 4-8: NITRATE-N

Action Level = 10.0 mg/L



GRAPH 4-9: ORTHOPHOSPHATE-P

Action Level = 2.0 mg/L



5 TRASH ASSESSMENT

5.1 Regulatory Requirements

Section II.B.3.C.(7) of the Municipal Permit's Receiving Waters and Urban Runoff Monitoring and Reporting Program requires all Copermittees, including the City of Santee, to assess the presence of trash in receiving waters and urban runoff at each dry weather monitoring site. This trash assessment program is designed to provide information on the spatial extent and relative amount of trash present, as well at the nature and origin of the trash at the site.

5.2 Procedure and Definitions

The San Diego Copermittee Dry Weather Monitoring Sub-Workgroup developed a Trash Assessment Form to document the amount and extent of trash at each evaluated site. The form categorizes the site into one of five trash categories: optimal, suboptimal, marginal, submarginal, or poor. The form also addresses any potential threats that the trash may pose to human or aquatic health. For sites rating submarginal or poor, the form includes a section to record types, prevalence, potential routes, and sources of trash.

- A qualitative estimate of the abundance of trash is made based upon a general impression of the site. The Trash Assessment Form's five categories are primarily qualitative descriptions of the amount and extent of trash although a number of trash pieces is also included in each category as a rough guideline. The five categories are defined as follows.
- Optimal: On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
- Suboptimal: On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
- Marginal: Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
- Submarginal: Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (~100-400 pieces). Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
- Poor: Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

The threat to human health and threat to aquatic health is assessed at each site using the following definitions:

- *Threat to Human Health* – Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment.

- *Threat to Aquatic Health* – Large amount (50 pieces or more) of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amounts of settleable, degradable, and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries, or spray cans; any evidence of large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment.

In the event that a site is noted as potentially posing a threat to human or aquatic health, additional descriptive comments are recorded in the "Comments" section of the Trash Assessment Form.

If a site is labeled as submarginal or poor, it is assessed for types of trash present (e.g., automotive, biohazard, food waste), which are ranked based on their prevalence and the potential threat to water quality they pose. Lastly, the potential mechanism through which trash reached the site (e.g., dumping, littering, upstream sources) and the potential source of the trash (e.g., construction, commercial, transient) are identified.

5.2 Trash Assessment Results

During both Round One and Round Two, the majority of sites in the City of Santee were rated optimal or suboptimal. One of the sites was rated submarginal in Round 2. No sites were rated poor or were determined to pose a threat to human or aquatic health.

Tables 5-1 and 5-2 and Graph 5-1 summarize the trash assessment results for both rounds of monitoring. Figures 5-1 and 5-2 are maps of sampling sites and their corresponding trash assessment in Round One and Round Two, respectively. Trash Assessment Forms completed at each site are included in Appendix D.

TABLE 5-1
TRASH ASSESSMENT RESULTS – ROUND ONE

Optimal (19 Sites)			Suboptimal (2 Sites)	Marginal (1 Site)	Submarginal (0 Sites)	Poor (0 Sites)
A5c E5g1 G30c H5e J25c J25c2 J30d1	O15f P10a P20f Q20a RCP1 RCP3 S5c	T5e V40d V45k W30c Z15a1	O40b S15h	I10c	(None)	(None)

TABLE 5-2
TRASH ASSESSMENT RESULTS – ROUND TWO

Optimal (12 Sites)		Suboptimal (5 Sites)	Marginal (3 Sites)	Submarginal (1 Site)	Poor (0 Sites)
E5g1 H5e J25c J30d1 O15f P10a	Q20a RCP1 RCP3 V45k W30c Z15a1	A5c P20f S15h S5c T5e	G30c O40b V40d	I10c	(None)

GRAPH 5-1
TRASH ASSESSMENT SUMMARY

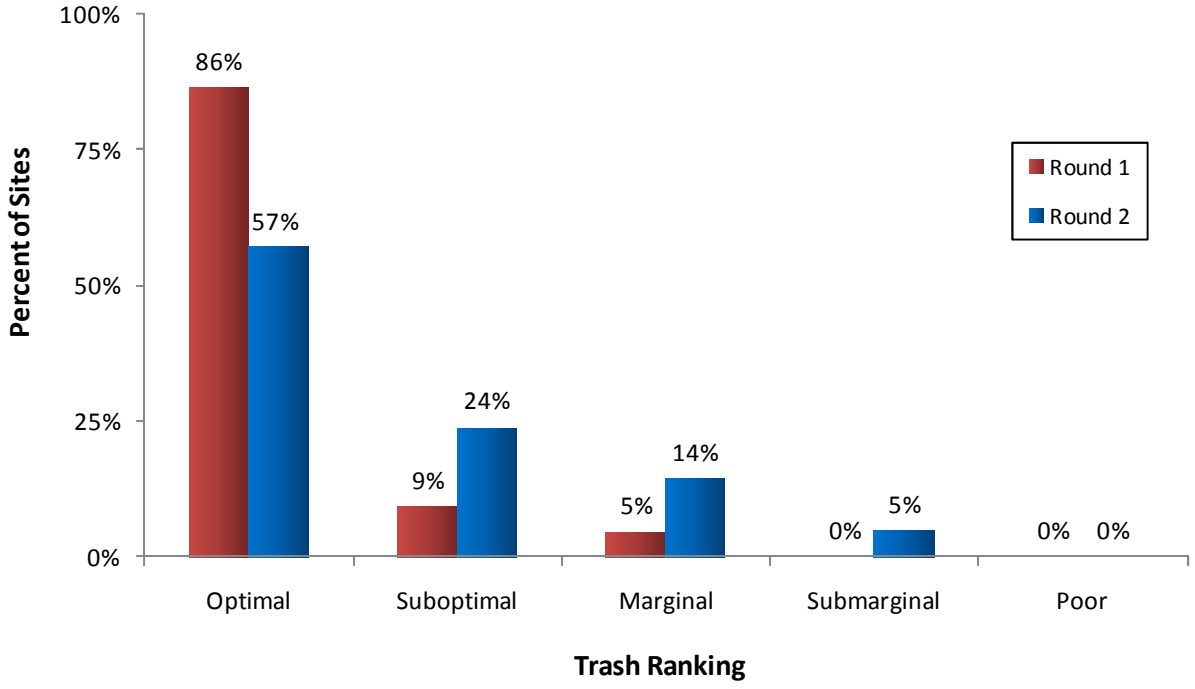


FIGURE 5-1
ROUND ONE TRASH ASSESSMENT GIS MAP

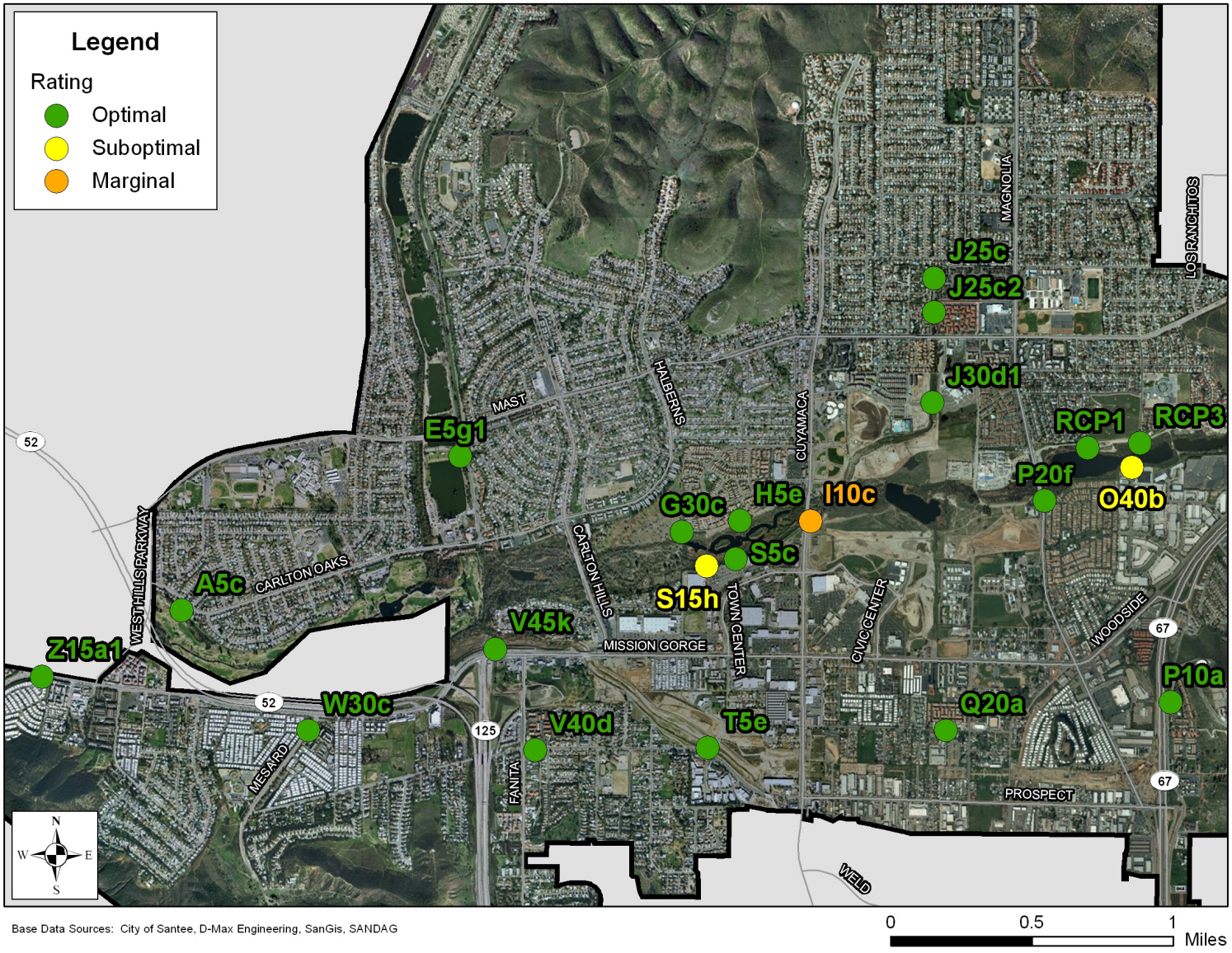
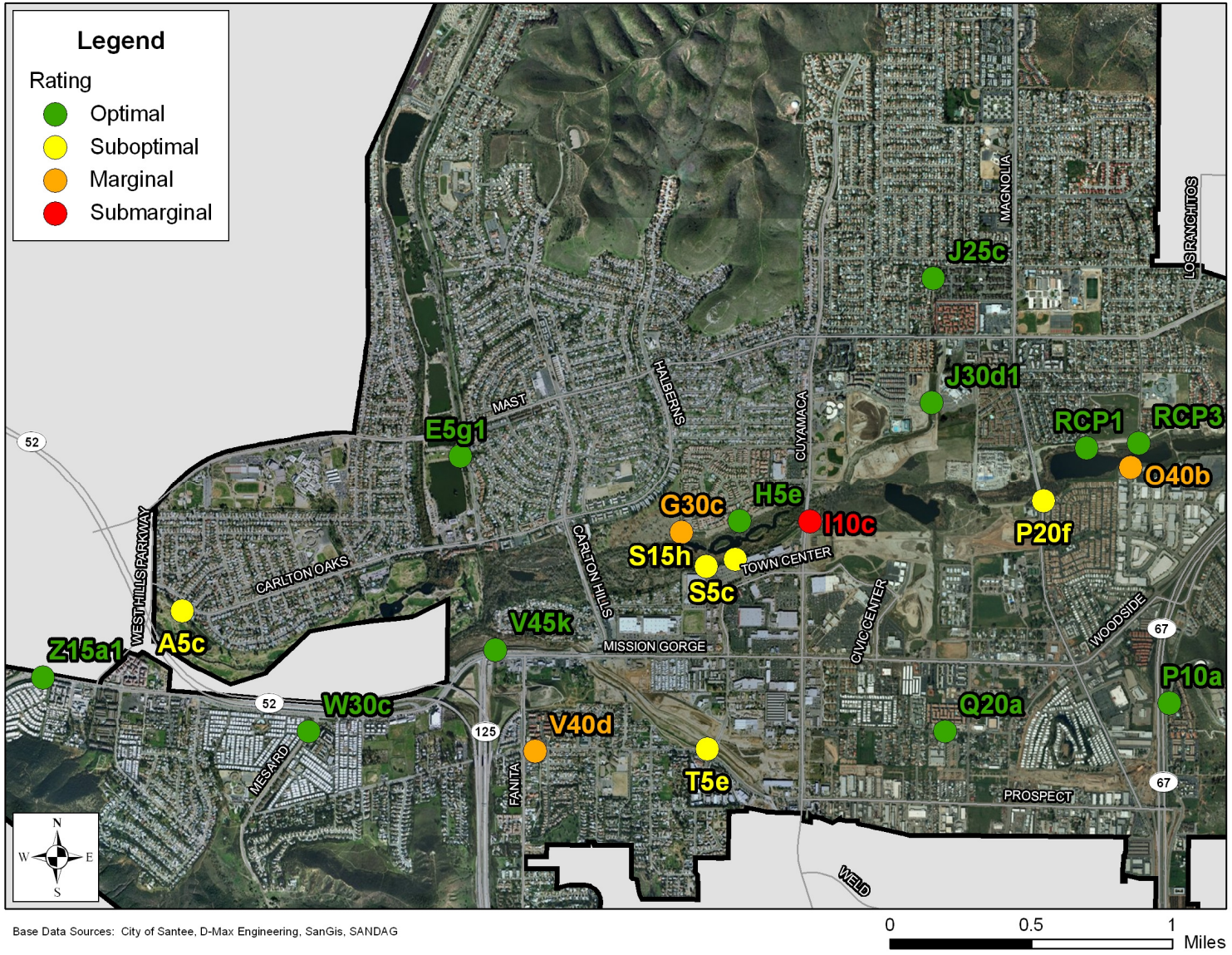


FIGURE 5-2
ROUND TWO TRASH ASSESSMENT GIS MAP



6 LABORATORY ANALYTICAL RESULTS

6.1 Summary

Laboratory analyses were conducted at five sites in each of the two rounds, representing over 25 percent of all sites with ponded or flowing water. The laboratory constituents measured are defined below.

Oil and grease analysis is used to detect hydrocarbon pollution from a variety of sources, including parking lots and streets, washing activities, illegal discharges, and automobile repair facilities.

Total hardness measures the amount of calcium and magnesium ions in a water sample, with the result expressed in mg/L of $CaCO_3$. Hardness itself is not considered a pollutant, but is measured to calculate CTR limits for dissolved metals. Hardness affects the solubility of dissolved metals as well as other minerals and ions.

Diazinon and **chlorpyrifos** are organophosphate pesticides that are highly toxic to insects, birds, and mammals, freshwater fish, and invertebrates. In 2005, the Environmental Protection Agency banned the sale of diazinon in the United States and tightened restrictions on chlorpyrifos use.

Metal contamination of water can arise from a variety of sources, including automobile operation, automobile repair, vehicle washing, galvanizing of metal, and electronics manufacturing. Certain dissolved metals are toxic pollutants that are hazardous to the survival and development of aquatic organisms.

The California Toxics Rule for Dissolved Metals in Fresh Waters defines metal toxicity as a function of water hardness. As hardness increases, so does the Criterion Maximum Concentration (CMC), a concentration limit in which aquatic life can be sustained. CMC values differ for various metals. Dry weather monitoring laboratory samples are analyzed for the presence of dissolved cadmium, copper, lead, and zinc.

Coliform bacteria are relatively harmless to humans and are present in mammalian digestive tracts, most surface waters, and soils. Testing water samples for total coliform bacteria is a standard practice in public health. Total coliform is measured as an indicator of other more harmful pathogens, since these pathogens are generally present in much smaller quantities and are difficult to detect.

Fecal coliform, a subset of coliform bacteria, and ***Enterococcus*** are found primarily in the gastro intestinal tracts of humans and animals and are commonly used as indicators of water contamination by fecal matter. Without the use of significantly more expensive methods, such as ribotyping, it is not possible to determine whether the source of fecal material is human or animal. Human fecal material is known to contain pathogens dangerous to humans, but the relationship between animal waste and threat to human health is less certain.

6.2 Results

Tables 6-1 and 6-2 present the statistical summaries of the laboratory results from Round One and Round Two samples, respectively. Table 6-3 shows the sites with metal concentrations during each round, the measured total hardness of the sample, and the associated CMC. Dissolved lead was not detected during either Round One or Round Two and is, therefore, not included in Table 6-3. Laboratory reports are included in Appendix C.

TABLE 6-1
LABORATORY ANALYSIS STATISTICAL SUMMARY – ROUND ONE

Parameter (units)	Maximum	Minimum	Number of Exceedances
Oil and Grease (mg/L)	nd	nd	0
Total Hardness (mg/L CaCo3)	1130	467	*
Dissolved Cadmium (µg/L)	0.4	0.2	0
Dissolved Copper (µg/L)	17	2	0
Dissolved Lead (µg/L)	nd	nd	0
Dissolved Zinc (µg/L)	20	nd	0
Diazinon (µg/L)	nd	nd	0
Chlorpyrifos (µg/L)	nd	nd	0
Total Coliform (MPN/100 mL)	30,000	1,700	0
Fecal Coliform (MPN/100 mL)	1,700	nd	0
Enterococcus (MPN/100 mL)	50,000	170	1

Notes:
Calculations include complete routine visit data only. Confirmation visits, follow-up visits and dry sites not incorporated.
nd = not detected
*Total hardness is not considered a pollutant and does not have an established action level.

TABLE 6-2
LABORATORY ANALYSIS STATISTICAL SUMMARY – ROUND TWO

Parameter (units)	Maximum	Minimum	Number of Exceedances
Oil and Grease (mg/L)	nd	nd	0
Total Hardness (mg/L CaCo3)	893	339	*
Dissolved Cadmium (µg/L)	0.2	nd	0
Dissolved Copper (µg/L)	10	nd	0
Dissolved Lead (µg/L)	nd	nd	0
Dissolved Zinc (µg/L)	5	2	0
Diazinon (µg/L)	nd	nd	0
Chlorpyrifos (µg/L)	nd	nd	0
Total Coliform (MPN/100 mL)	130,000	1,400	1
Fecal Coliform (MPN/100 mL)	50,000	210	1
Enterococcus (MPN/100 mL)	17,000	40	1

Notes:
Calculations include complete routine visit data only. Confirmation visits, follow-up visits and dry sites not incorporated.
nd = not detected
*Total hardness is not considered a pollutant and does not have an established action level.

TABLE 6-3
CTR – CMC FOR DISSOLVED METALS

Dissolved Copper			
Site	**Total Hardness (mg/L)**	**CMC (µg/L)**	**Concentration (µg/L)**
Round One			
J25c	757	49.6	9
J30d1	785	49.6	2
P20f	467	49.6	2
RCP1	496	49.6	17
V40d	1130	49.6	2
Round Two			
J25c	339	42.5	10
J30d1	777	49.6	1
P20f	893	49.6	4
V40d	749	49.6	3
Dissolved Zinc			
Site	**Total Hardness (mg/L)**	**CMC (µg/L)**	**Concentration (µg/L)**
Round One			
P20f	467	379.3	1
RCP1	496	379.3	20
Round Two			
J25c	339	329.7	3
J30d1	777	379.3	5
P20f	893	379.3	3
RCP1	572	379.3	3
V40d	749	379.3	2
Dissolved Cadmium			
Site	**Total Hardness (mg/L)**	**CMC (µg/L)**	**Concentration (µg/L)**
Round One			
J25c	757	19.1	0.4
J30d1	785	19.1	0.2
P20f	467	19.1	0.3
RCP1	496	19.1	0.3
V40d	1130	19.1	0.3
Round Two			
J30d1	785	19.1	0.2

Note:
Only those sites where a particular dissolved metal was detected are listed. Dissolved lead was not detected in any samples. For equations and constants used in California Toxics Rule calculations, see http://www.epa.gov/ost/standards/ctr/toxic.pdf.

TABLE 6-4
LABORATORY ANALYTICAL RESULTS

Site	Date	Time	Oil & Grease (mg/L)	Total Hardness (mg/L)	Dissolved Cadmium (µg/L)	Dissolved Copper (µg/L)	Dissolved Lead (µg/L)	Dissolved Zinc (µg/L)	Diazinon (µg/L)	Chlorpyrifos (µg/L)	Total Coliforms (MPN/100 mL)	Fecal Coliforms (MPN/100 mL)	Enterococci (MPN/100 mL)
Round One													
J25c	5/19/10	12:10	nd	757	0.4 J	9 J	nd	nd	nd	nd	23,000	1,700	**50,000**
J25c	6/2/10	9:40	na	na	na	na	na	na	na	na	na	na	3,448
J30d1	5/19/10	14:10	nd	785	0.2 J	2 J	nd	nd	nd	nd	5,000	nd	500
P20f	5/20/10	10:10	nd	467	0.3 J	2 J	nd	1 J	nd	nd	30,000	500	500
RCP1	9/16/10	10:50	nd	496	0.3 J	17	nd	20	nd	nd	3,000	20	2,300
V40d	5/20/10	9:15	nd	1130	0.3 J	2 J	nd	nd	nd	nd	1,700	1,300	170
Round Two													
J25c	9/17/10	12:50	nd	339	nd	10	nd	3 J	nd	nd	**130,000**	**50,000**	3,000
J25c	9/27/10	12:20	na	na	na	na	na	na	na	na	**130,000**	5,118*	na
J30d1	9/16/10	12:10	nd	777	0.2 J	1 J	nd	5 J	nd	nd	1,400	210	40
P20f	9/17/10	12:15	nd	893	nd	4 J	nd	3 J	nd	nd	3,000	800	60
RCP1	9/16/10	10:50	nd	572	nd	nd	nd	3 J	nd	nd	8,000	1,700	170
V40d	9/17/10	10:10	nd	749	nd	3 J	nd	2 J	nd	nd	17,000	3,000	**17,000**
V40d	9/27/10	9:45	na	na	na	na	na	na	na	na	na	na	1,396
Reporting Limits			**5**	**10**	**1**	**10**	**5**	**20**	**0.05**	**0.05**	**20****	**20****	**20****
Action Levels			**15**	*******	**CTR**	**CTR**	**CTR**	**CTR**	**0.50**	**0.50**	**130,000**	**13,000**	**7,000**

Notes:
nd = not detected; na = not analyzed.
J = Value reported is below the reporting limit; measurements have an increased percent error.
Red values are at or exceed action level
Denotes a confirmation visit
* Number of fecal coliforms for confirmation samples is derived from *E. coli* count. Number of fecal coliforms = (Number of *E. coli*) / 0.85.
** Reporting limit is 10 MPN/100 mL for IDEXX tests used during confirmation and upstream testing.
*** Total hardness is not considered a pollutant (see section 3.4), and thus has no established action level for the purposes of dry weather monitoring.
CTR = California Toxics Rule; CTR action levels for metals are calculated based upon the total hardness value of the water sample.

7 DATA ANALYSIS

This section provides an overall evaluation of test results of the 2010 Dry Weather Monitoring Program, as well as a discussion of historical trends for various constituent exceedances.

7.1 2010 Results

Of the 40 routine field screening visits performed for 370 constituents in 2010, 15 exceedances were observed, three of which were likely due to interference from turbidity. A summary of 2010 exceedances is presented in Table 7-1.

TABLE 7-1
2010 EXCEEDANCES SUMMARY

Site	Turbidity	Surfactants	Ammonia-N	Nitrate-N	Ortho-phosphate-P	Total Coliforms	Fecal Coliforms	Enterococci
Round One								
J25c								✓
O40b				✓				
Q20a				✓				
W30c	✓	✓*	✓*		✓*			
Round Two								
J25c						✓	✓	
O15f		✓	✓					
Q20a				✓				
RCP1				✓				
S15h			✓					
V40d								✓

Note: Table reflects exceedances occurring during routine visits only, not confirmation or follow-up visits.
* Possible false positives due to interference from turbidity reading.

7.2 Previous Results

Historical exceedance results are presented in Table 7-2, and graphs 7-1, 7-2, 7-3, and 7-4. Table 7-2 shows the percentage of sampled sites that have had exceedances each year and round of the Dry Weather Monitoring Program. Graphs 7-1 and 7-2 illustrate the percentage

of exceedances for field screening, and graphs 7-3 and 7-4 present the percentage exceedances for laboratory analyses.

Since the time that testing began in accordance with Order 2001-01, no exceedances have been measured in temperature, dissolved cadmium, dissolved lead, dissolved zinc, or chlorpyrifos. Thus, these constituents have not been included in the following table and graphs.

Based on current and historical dry weather data, the following observations have been made:

- Total coliform exceedances have decreased in the last few years. No exceedances have occurred during Round One sampling since 2007. [1]
- No fecal coliform exceedances have occurred during Round One sampling since 2003. No apparent trend exists in Round Two fecal coliform data. [1]
- *Enterococcus* exceedances have generally been less frequent in the first round of monitoring in most years.[1]
- Conductivity has not exceeded the action level since 2003. The action level for conductivity was changed from a numeric value to BPJ to account for sites which contain salt water or groundwater which increases conductivity.
- Ammonia-N and nitrate-N exceedances have been consistently lower than their peak exceedance levels in 2002 and 2003/2004, respectively.
- No apparent trend is seen in data for pH, turbidity, surfactants, or orthophosphate-P.
- There have been no diazinon exceedances since 2006 and no oil and grease or copper exceedances since 2003.

[1] Note that dry weather action levels for bacterial indicators were revised in 2010. Constituents have been compared to action levels in effect at the time of sampling to identify exceedances.

TABLE 7-2
PERCENT OF SITES WITH EXCEEDANCES BY YEAR AND ROUND

Year and Round	Field Screening								Laboratory Analysis						
	Number of Field Screening Sites	pH	Turbidity	Conductivity*	Surfactants	Ammonia-N	Nitrate-N	Orthophosphate-P	Number of Laboratory Analysis Sites	Oil & Grease	Dissolved Copper	Diazinon	Total Coliforms**	Fecal Coliforms**	Enterococci**
2002	20	10	5	0	5	25	10	0	6	0	0	0	17	17	17
2003-1	20	5	0	0	0	5	5	0	5	20	0	0	20	20	0
2003-2	20	0	0	10	5	15	25	0	5	0	20	0	80	80	0
2004-1	20	5	5	0	5	5	5	0	6	0	0	17	50	0	0
2004-2	20	0	5	0	5	15	10	0	5	0	0	0	80	20	40
2005-1	20	5	0	0	0	15	25	5	5	0	0	0	0	0	0
2005-2	20	0	5	0	5	5	15	0	5	0	0	0	100	20	20
2006-1	20	5	5	0	5	0	10	0	5	0	0	0	80	0	20
2006-2	20	10	0	0	5	5	10	0	5	0	0	20	60	20	40
2007-1	20	10	0	0	10	0	10	0	5	0	0	0	20	0	0
2007-2	20	0	0	0	0	0	10	5	5	0	0	0	40	40	20
2008-1	20	5	0	0	0	5	20	0	5	0	0	0	0	0	0
2008-2	20	15	5	0	0	5	5	5	5	0	0	0	40	20	60
2009-1	20	0	0	0	0	5	0	0	5	0	0	0	0	0	0
2009-2	20	5	5	0	0	0	5	5	5	0	0	0	20	20	20
2010-1	20	0	5	0	5	5	10	5	5	0	0	0	0	0	20
2010-2	20	0	0	0	5	10	10	0	5	0	0	0	20	20	20

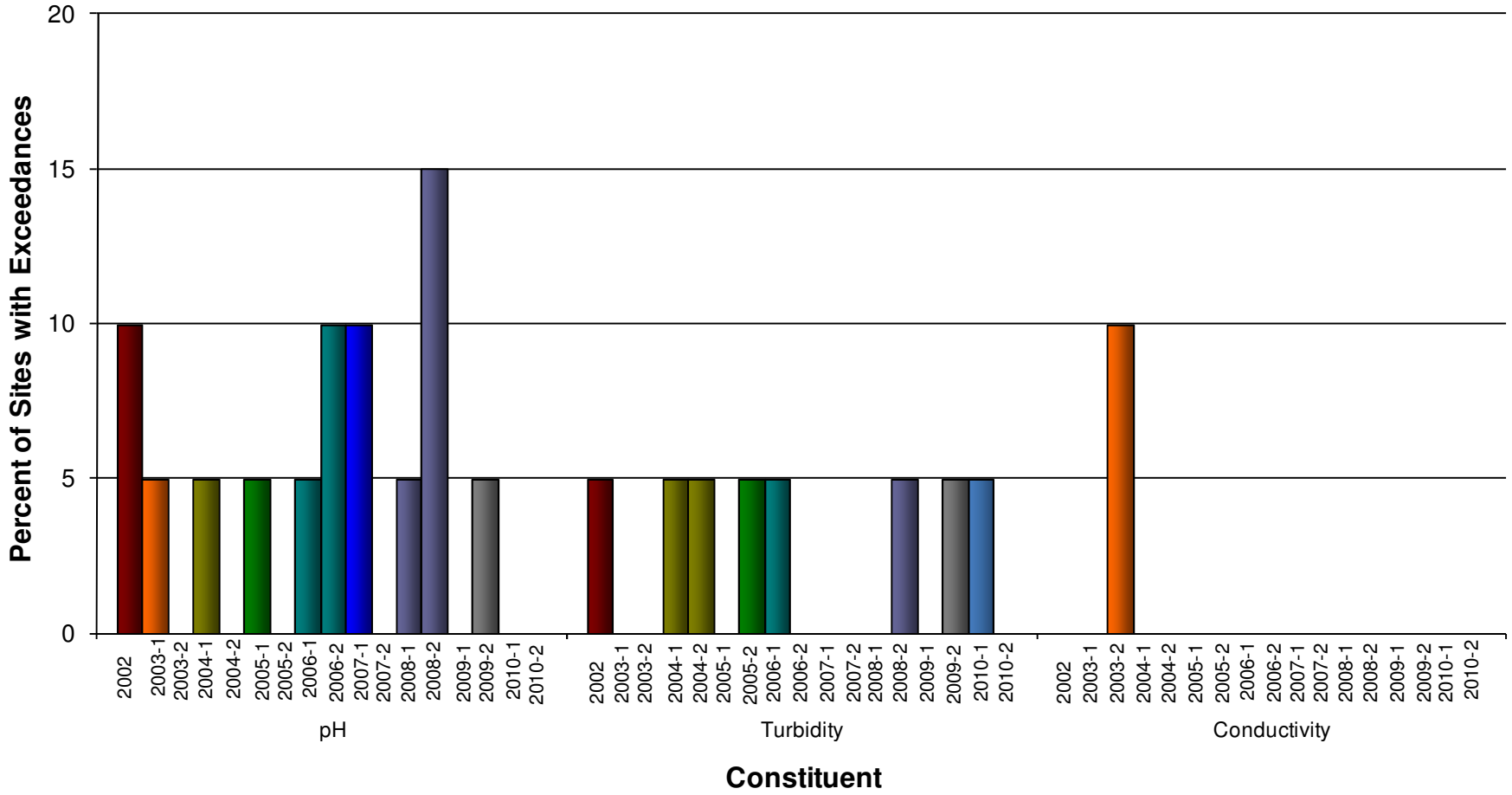
Notes:

Results based on complete routine visits only. Confirmation visits, follow-up visits and dry sites not included.

* By regional consensus, the action level for conductivity has been changed during past years from numeric values to best professional judgment in order to account for sites in which salt water and groundwater increase conductivity. High conductivity levels at these sites are not necessarily exceedances or considered to be a water quality concern.

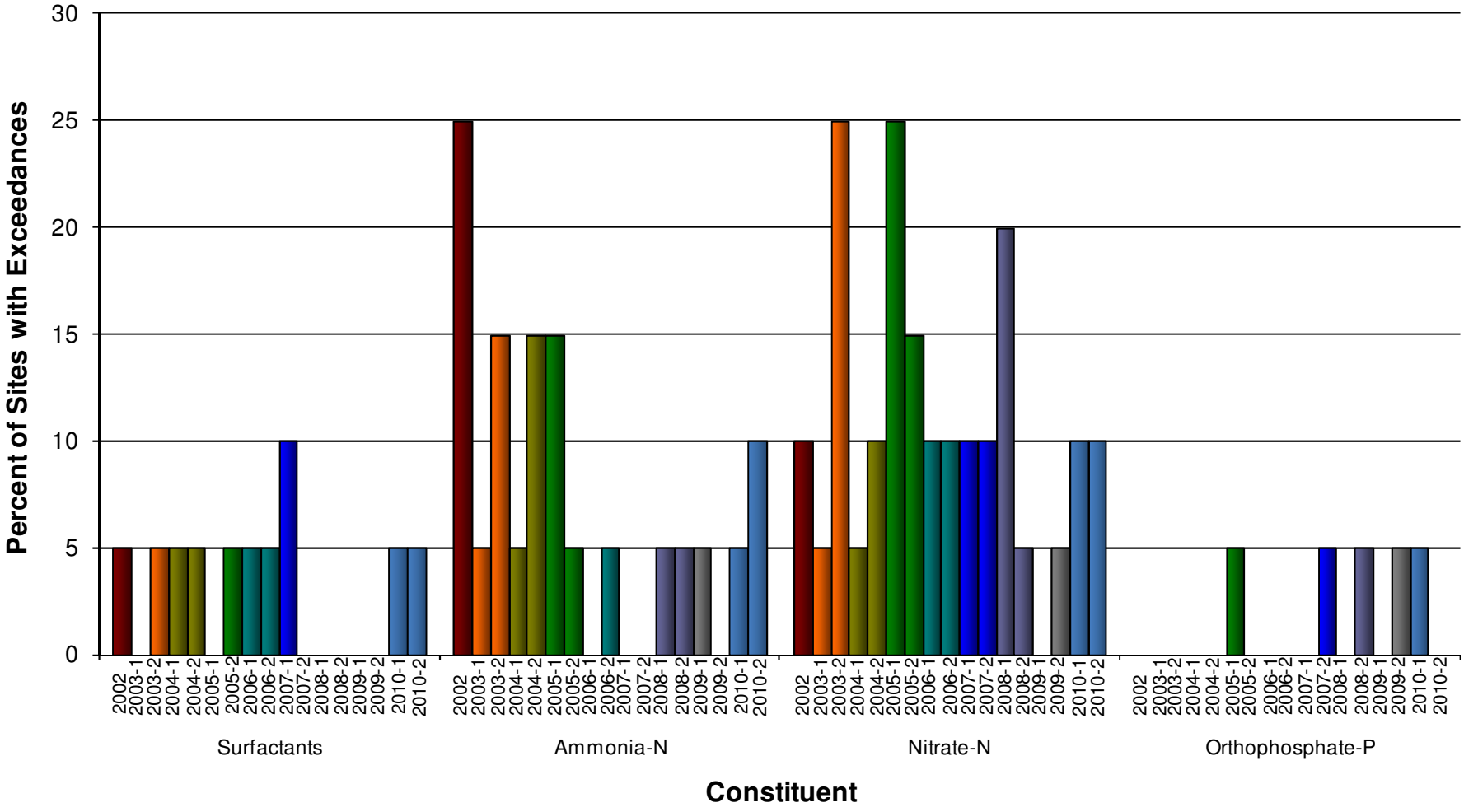
** Note that dry weather action levels for bacterial indicators were revised in 2010. Constituents have been compared to action levels in effect at the time of sampling to identify exceedances.

GRAPH 7-1
PERCENT OF SITES WITH FIELD SCREENING EXCEEDANCES BY YEAR AND ROUND – PART 1



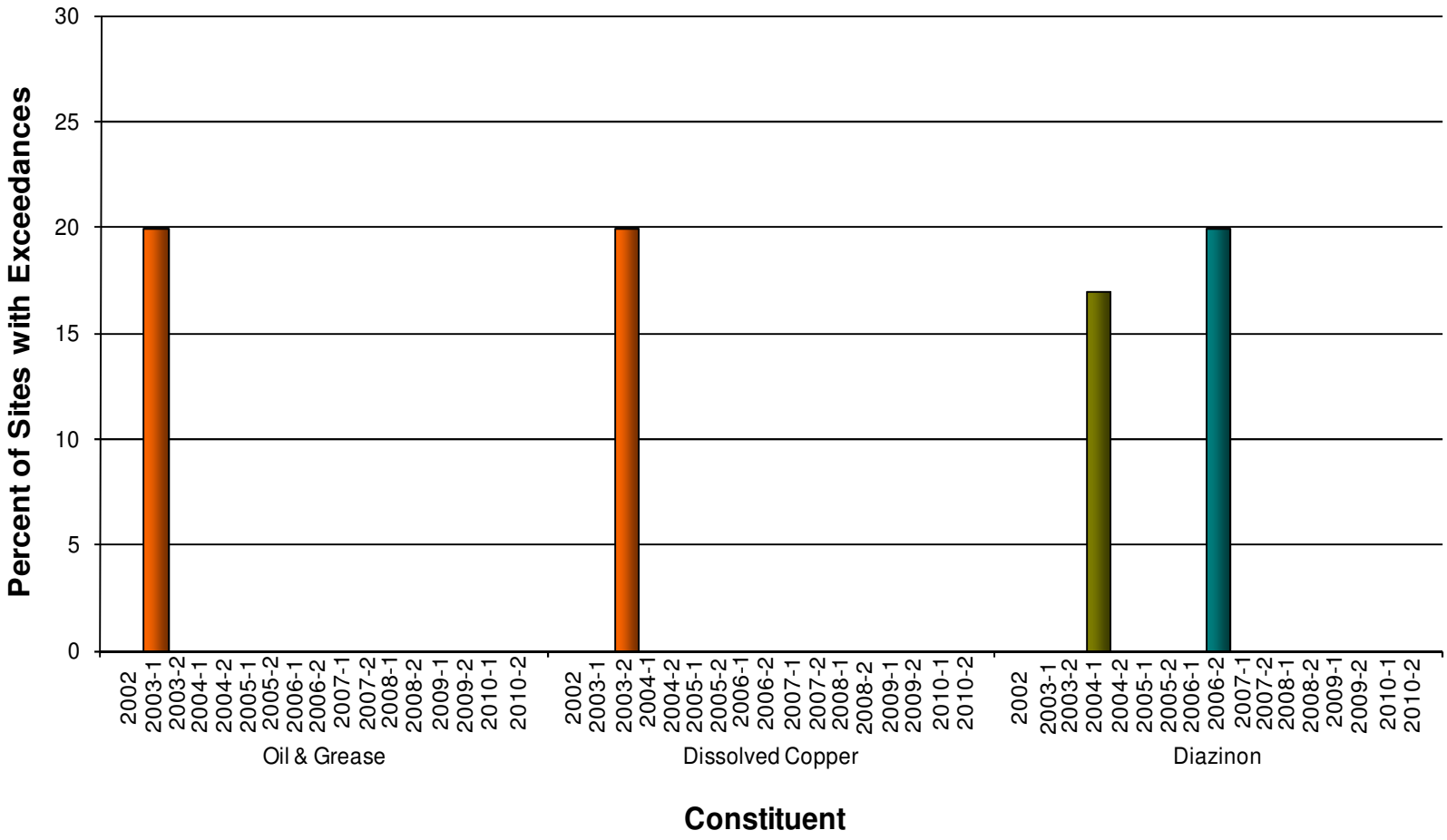
Note: Presented data are from routine visits only. Confirmation visits, follow-up visits and dry sites not included.

GRAPH 7-2
PERCENT OF SITES WITH FIELD SCREENING EXCEEDANCES BY YEAR AND ROUND – PART 2



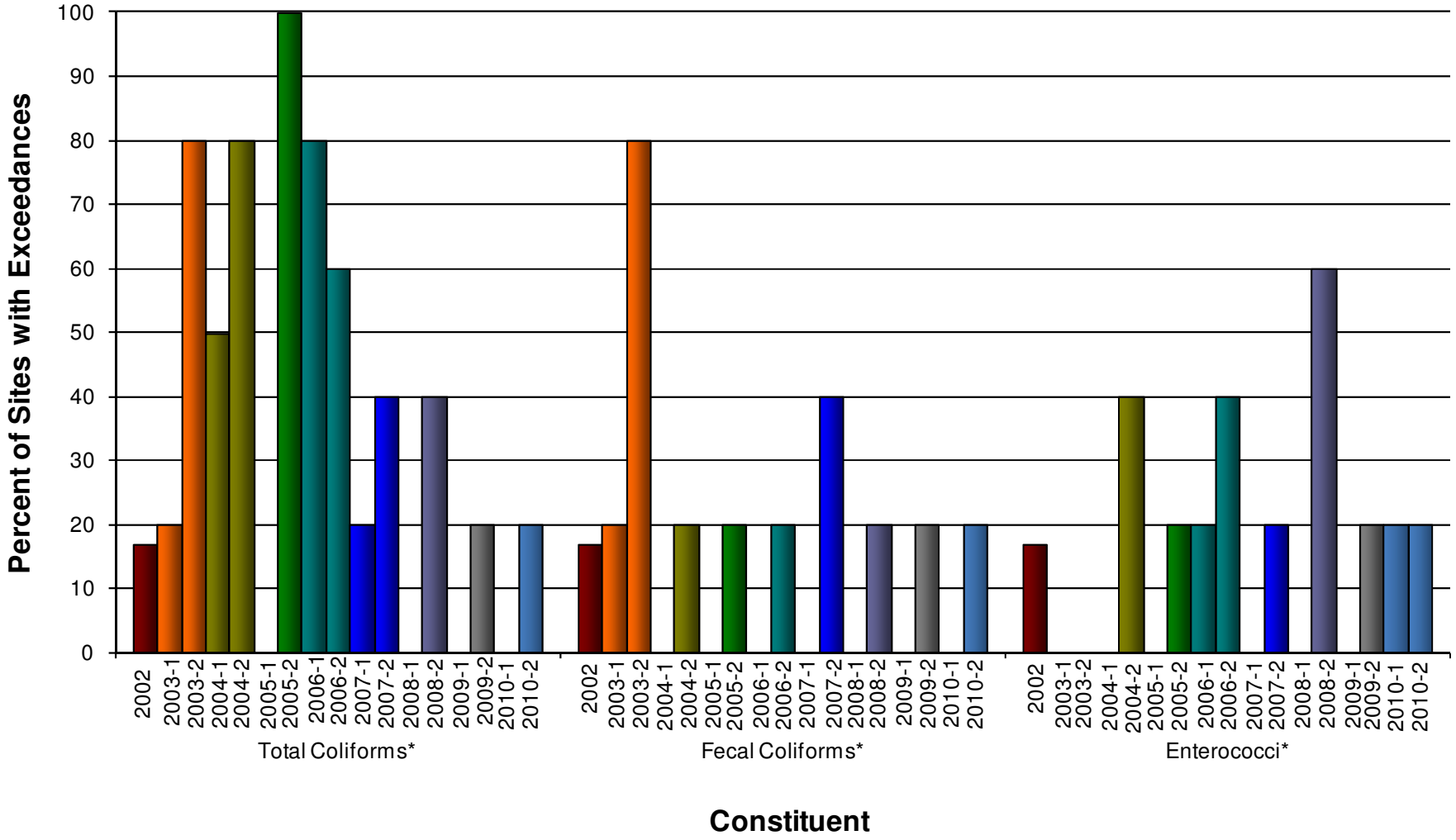
Note: Presented data are from routine visits only. Confirmation visits, follow-up visits and dry sites not included.

GRAPH 7-3
PERCENT OF SITES WITH LABORATORY CONSTITUENT EXCEEDANCES BY YEAR AND ROUND – PART 1



Note: Presented data are from routine visits only. Confirmation visits, follow-up visits and dry sites not included.

GRAPH 7-4
PERCENT OF SITES WITH LABORATORY CONSTITUENT EXCEEDANCES BY YEAR AND ROUND – PART 2



Notes: Presented data are from routine visits only. Confirmation visits, follow-up visits and dry sites not included.
*Dry weather action levels for bacterial indicators were revised in 2010. Constituents have been compared to action levels in effect at the time of sampling to identify exceedances.

8 FOLLOW-UP INVESTIGATIONS

One of the primary purposes of the Dry Weather Monitoring Program is to identify IC/IDs. When a parameter is measured at or above the regionally accepted action level, it is possible that an IC/ID is present and further investigation is performed. Procedures for such investigations are described below, followed by a discussion of the 2010 investigations.

8.1 Investigation Procedures

In the event that a constituent measurement is above the associated action level during the routine visit, a confirmation visit is conducted within two business days of receiving the result. The purpose of the confirmation visit is to verify whether the initial exceedance is persistent. The visit includes returning to the site to retest the parameters initially in exceedance.

If the constituent measures below specified action levels during the confirmation visit, the initial exceedance may have been due to a transient flow. If, however, the constituent concentration is found to exceed the action level during the confirmation visit, an upstream investigation is performed. In this case, the field crew progresses upstream to isolate and identify potential pollutant sources.

Follow-up investigations include visual observations of areas upstream of the routine site and collection of samples for field or lab analysis. Flow rates of branches contributing to the site are measured and visual observations are recorded on field data sheets. Field data sheets are included in Appendix D.

8.2 Investigated Sites

In the 2010 Dry Weather Monitoring Program, four sites in Round One and six sites in Round Two had action level exceedances. A brief description of each site, analytical results, photographs of selected upstream locations, and the results of the investigations are discussed in this section.

Site J25c is located at an outlet to the Woodglen Vista Channel, at the west end of Carefree Drive.

Round One

Enterococcus bacteria were measured at 50,000 MPN/100 mL during the routine site visit, above the action level of 7,000 MPN/100 mL. At the time of the confirmation visit, samples were taken at Site J25c as well as upstream locations J25c-1, J25c-2, J25c-3 and J25c-4. All samples had *Enterococcus* counts below the action level, with the exception of location J25c-2 which had a count of 19,863 MPN/100 mL. Location J25c-2 is in a concrete channel where warm, slow moving water, decomposing trash and organic debris, and an abundance of algae provide a favorable environment for bacterial growth.



PHOTO 8-1: Site J30d1, in the naturalized portion of the Woodglen Vista Channel, downstream of Site J25c

The City recently naturalized a portion of Woodglen Vista Channel downstream of Site J25c (Photo 8-1). A sample collected in this channel at Site J30d1, two hours after the initial sampling at Site J25c, did not have bacteria measuring above the action level. This indicates that the portion of vegetated earthen channel effectively reduces bacteria, and that the higher levels of bacteria noted during the initial visit to Site J25c were not likely to reach receiving waters.

Round Two

Both total coliform and fecal coliform were in exceedance at Site J25c during the routine visit, measuring 130,000 MPN/100 mL (at the 130,000 MPN/100 mL action level) and 50,000 MPN/100 mL (above the 13,000 MPN/100 mL action level), respectively. Total coliform was measured at the action level during the confirmation visit, while fecal coliform was below the action level. Since the fecal coliform exceedance was not confirmed and no significant sources were observed, it was concluded that the exceedance had been a result of a transient flow.



PHOTO 8-2: Location J25c-2

An upstream investigation identified total coliform exceedances at additional locations. A sample taken from the ponded water in a concrete channel upstream (location J25c-2) had the highest total coliform count. The exceedances in total coliforms upstream are likely the result of decomposing algae observed in the warm and stagnant channel at location J25c-2 (Photo 8-2) and in the sedimentation basin at location J25c-4 (Photo 8-3).

The monitoring results of the investigation are presented in Table 8-1, and a map of sampling locations is provided in Figure 8-1.



PHOTO 8-3: Location J25c-4

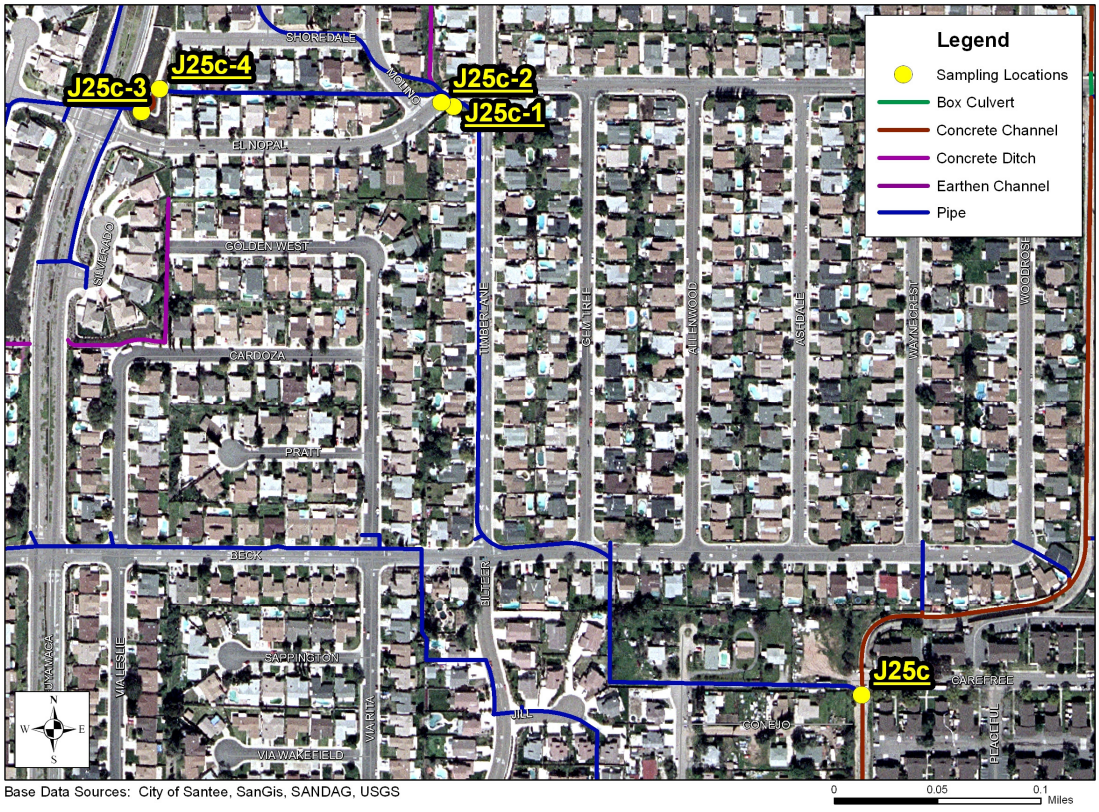
The City of Santee has been nominated for Proposition 84 funding for a pilot project to introduce infiltration strips in concrete channels. The channelized portion of Woodglen Vista Creek has been identified as a prime location to be used in this pilot study to reduce flows and reduce bacteria exceedances in the channel. If the funds are awarded, this project is likely to take place during 2012.

TABLE 8-1
SITE J25C BACTERIA UPSTREAM INVESTIGATION

Site	Date	Location	Flow (gpm)	Total Coliform (MPN/100 mL)	Fecal Coliform (MPN/100 mL)
J25c	9/17/10	Outlet on west end of Carefree Drive on the west side of the channel	7	**130,000**	**50,000**
J25c *(Confirmation)*	9/27/10	*Same as above*	2	**130,000**	5,118
J25c-1	9/27/10	Manhole at El Nopal and Molino Road on the west side	<1	**72,700**	**35,176**
J25c-2	9/27/10	Concrete channel upstream of J25c-1, at El Nopal and Molino Road on the west side	Ponded	**>2,420,000***	nd
J25c-3	9/27/10	Outlet to the sedimentation basin at west end of Shoredale Drive	<1	**173,000**	1,541
J25c-4	9/27/10	Downstream of sedimentation basin at the west end of Shoredale Drive	<1	**1,990,000**	1,388

Notes:
Red values were at or above the measured constituent's action level.
nd = not detected
* Value is above the upper limit of the test.

FIGURE 8-1
SITE J25C BACTERIA UPSTREAM INVESTIGATION MAP



Site O15f is a manhole located on the north side of Northcote Road between Woodside Avenue and Via Madonna.

Round One

No exceedances were observed at Site O15f during Round One of the Dry Weather Monitoring Program.

Round Two

Ponded water collected from Site O15f was yellow in color and had a musty odor. Decomposing leaves were observed in and around the water. During both the routine and confirmation visits, ammonia-N and surfactants were measured above the respective action levels. Ammonia-N was measured above the action level during a second confirmation visit when the water was clear and had no odor. It is likely that the elevated levels of ammonia-N were the result of decomposing leaves in the ponded water.

No sources of surfactants were observed in the residential area upstream of the site along Northcote Road or along Meadow Terrace Drive. No active flow was contributing to the site and no damp pavement was observed in the area. Therefore, it was concluded that the surfactants exceedance was likely the result of washing activities that had previously occurred. The City is undertaking outreach in the area draining to this location to advise residents about appropriate best management practices to use during washing activities.

The test results of the investigation are presented in Table 8-2.

TABLE 8-2
SITE O15F SURFACTANTS AND AMMONIA-N INVESTIGATION

Site	Date	Location	Flow (gpm)	Surfactants (mg/L)	Ammonia-N (mg/L)
O15f	9/16/10	North Side of Northcote Road, between Woodside Avenue and Via Madonna	ponded	**2.50**	**3.68**
O15f *(Confirmation 1)*	9/17/10	*Same as above*	ponded	**1.50**	**3.30**
O15f *(Confirmation 2)*	9/20/10	*Same as above*	ponded	0.50	**2.23**

Note: **Red** values were at or above the measured constituent's action level.

Site O40b is located at an outlet on the south side of the San Diego River, at the north end of Abraham Way.

Round One

An exceedance of nitrate-N was noted at Site O40b. Landscape fertilization and overwatering in upstream Maderaldo Industrial Park were the likely cause of the exceedance. This conclusion was supported by:

- Fertilizer granules were observed in the landscaping (Photo 8-4) and directly in the curb gutter (Photo 8-5) in an upstream industrial park. The granules were dissolved in water and tested, and found to contain nitrate-N.



PHOTO 8-4: Upstream location O40b-2b, where fertilizer granules in the landscaping of Maderaldo Industrial Park were observed



PHOTO 8-5: Fertilizer granules in the curb gutter where irrigation runoff has ponded, in front of Maderaldo Industrial Park

- Irrigation runoff likely transported nitrate-N to the storm drain system. Irrigation water that had pooled in the curb gutter was sampled and found to contain nitrate-N (Photo 8-6). Irrigation runoff was the only source of flow observed.
- Portions of the landscaping had green-stained soil, which appeared to be disintegrated fertilizer granules (Photo 8-7). A sample of this soil was mixed with distilled water and tested and found to contain nitrate-N.



PHOTO 8-6: Upstream location O40b-2a, where ponded irrigation runoff in the curb gutter of Maderaldo Industrial Park was sampled



PHOTO 8-7: Upstream location O40b-2c, where soil was. Note green staining, believed to be fertilizer

Other considerations are discussed below:

- The nitrate-N concentration was greater at Site O40b than recorded at upstream locations on each day of sampling.
    - Since the flow rate at Site O40b was relatively low and the area was warm due to shallow depth and sunlight exposure, it is possible that some of the runoff water upstream evaporated as it flowed toward Site O40b, thereby increasing the concentration of nitrate-N in the discharge.

- Irrigation water had collected in the gutter after irrigation had ceased. This water was likely to have evaporated over the course of the day and created a high concentration of nitrogen in the gutter. Subsequent overwatering could have transported this into the MS4, which caused downstream concentrations to be higher than the active irrigation discharge.

City staff contacted the property manager who informed them that the property was irrigated using groundwater. Based on data reported for groundwater in Santee, groundwater may be a source of higher levels of nitrate-N in samples. However, City staff explained that fertilizer granules were observed in the curb and gutter during dry weather monitoring and directed the property manager to advise his landscaping contractor of the issue and to ensure that fertilizer applications and irrigation practices are revised to prevent further discharges.

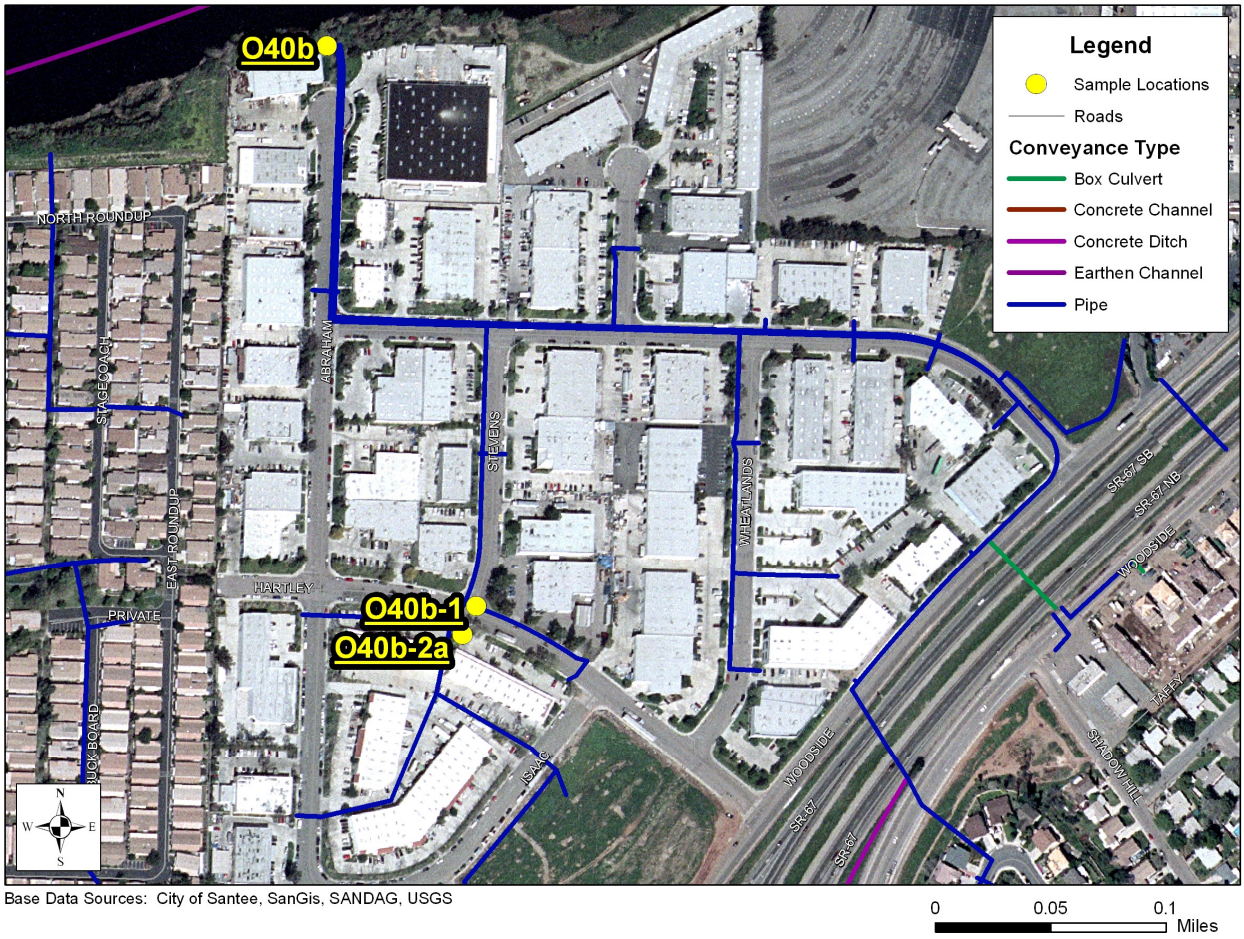
The test results of the upstream investigation are presented in Table 8-3, and a map of the location with corresponding sample locations is provided in Figure 8-2.

TABLE 8-3
SITE O40B NITRATE-N UPSTREAM INVESTIGATION

Site	Date	Location	Flow (gpm)	Nitrate-N (mg/L)
O40b	5/18/10	At the north end of Abraham Way, south of the San Diego River	<1	**23.57**
O40b *(Confirmation 1)*	5/19/10	*Same as above*	<1	**12.64**
O40b-1	5/19/10	Manhole at the corner of Stevens Road and Hartley Road	Trickling	**17.02**
O40b *(Confirmation 2)*	5/21/10	At the north end of Abraham Way, south of the San Diego River	<1	**16.37**
O40b-2a	5/21/10	Irrigation runoff collected in curb gutter in front of 10965 Hartley Road	Ponded	**12.88**
O40b-2b	5/21/10	Fertilizer granules collected from the landscaping in front of 10965 Hartley Road, dissolved in water	Not applicable	1.09*
O40b-2c	5/21/10	Soil sample from landscaping in front of 10965 Hartley Road	Not applicable	2.90*

Notes:
Red values were at or above the measured constituent's action level.
*These tests were intended to indicate only whether nitrate-N was present in the fertilizer granules and soil, actual concentration is not significant as the tests were performed by diluting the substances with distilled water.

FIGURE 8-2
SITE O40B NITRATE-N UPSTREAM INVESTIGATION MAP



Round Two

No exceedances were observed at Site O40b during Round Two of the Dry Weather Monitoring Program, indicating that the follow-up actions after Round One were sufficient to eliminate the discharge.

Site Q20a is located in a manhole in front of 10220 Buena Vista Avenue, downstream of the former dry weather monitoring location, Site Q5l. Upstream land uses include residential and commercial areas and a large Caltrans construction area during the first round of this year's dry weather monitoring.

Round One

A nitrate-N exceedance was noted at this location during Round One. Historical data for upstream Site Q5l and evidence acquired during the current upstream investigation suggest that the exceedance was due to groundwater seepage into the storm drain system. This conclusion was supported by the following factors:

- Seepage water appeared to be the only source of flow to the site.
    - Flow rates increased from trickling at the furthest upstream point to nearly 1 gpm only a few hundred feet downstream without any visible surface flow.
    - The storm drain pipe depth coincided with reported ground water levels in the area. Helix water district's historical data show that the groundwater level in

this area consistently measured between 3 and 11 feet below ground level between 1994 and 2000. Data for more recent years were not available, however, given the above average rainfall during the 2009-2010 rainy season, groundwater in this area was likely to have been shallow. These data were confirmed by local property owners during previous years, who encountered shallow groundwater during construction site activities. Water quality testing confirmed that the groundwater in this area is high in nitrate-N, ranging up to 17.8 mg/L. [2]

    - No surface flow was observed at any point upstream of Site Q20a during the upstream investigation.
- The vicinity has a history of nitrate-N exceedances.
    - Exceedances that have been attributed to groundwater seepage have occurred upstream of Site Q5l during Round One sampling of 2003, 2005, 2007, and 2008.
    - Groundwater levels were likely to be higher during Round One, earlier in the dry weather season, than in Round Two after less precipitation has occurred. Nitrate-N exceedances have historically been detected more frequently in this area during Round One of the dry weather program. In other words, nitrate-N exceedances tend to occur in this area around the time that the water table is higher. This may indicate that earlier in the year, groundwater is at a level that can seep into MS4 pipes, but the water table typically subsides later in the season and less frequently infiltrates the MS4.

Other considerations are discussed below:

- The nitrate-N level at Site Q20a on the day of the upstream investigation was lower than at upstream sample points, without a discernable change in flow rate.
    - A large amount of sediment was present within the MS4 between Site Q5l and Site Q20a. This sediment may have extracted some of the nitrate-N from the water as it passed through. Note that City crews have since removed this sediment.
    - Flow rates measured in this investigation were all less than 1 gpm, which encompassed the range from just greater than 0 to just under 1 gpm. It was possible for flow to double (e.g., from 0.4 gpm to 0.8 gpm) but still be considered "less than 1 gpm". In the scenario of doubling the flow, the concentration of a pollutant would be halved when the same amount of pollutant is present. Therefore, even though the downstream measurement of nitrate-N could be lower, at such low levels of flow, changes in the actual amount of pollutant may not be reflected accurately by changes in pollutant concentrations.

As stated above, all flows measured during this investigation were less than 1 gpm. These low levels of flow were not likely to reach or significantly impact receiving waterbodies.

The results of the field investigation are presented in Table 8-4, and a map of sample locations is provided in Figure 8-3, below.

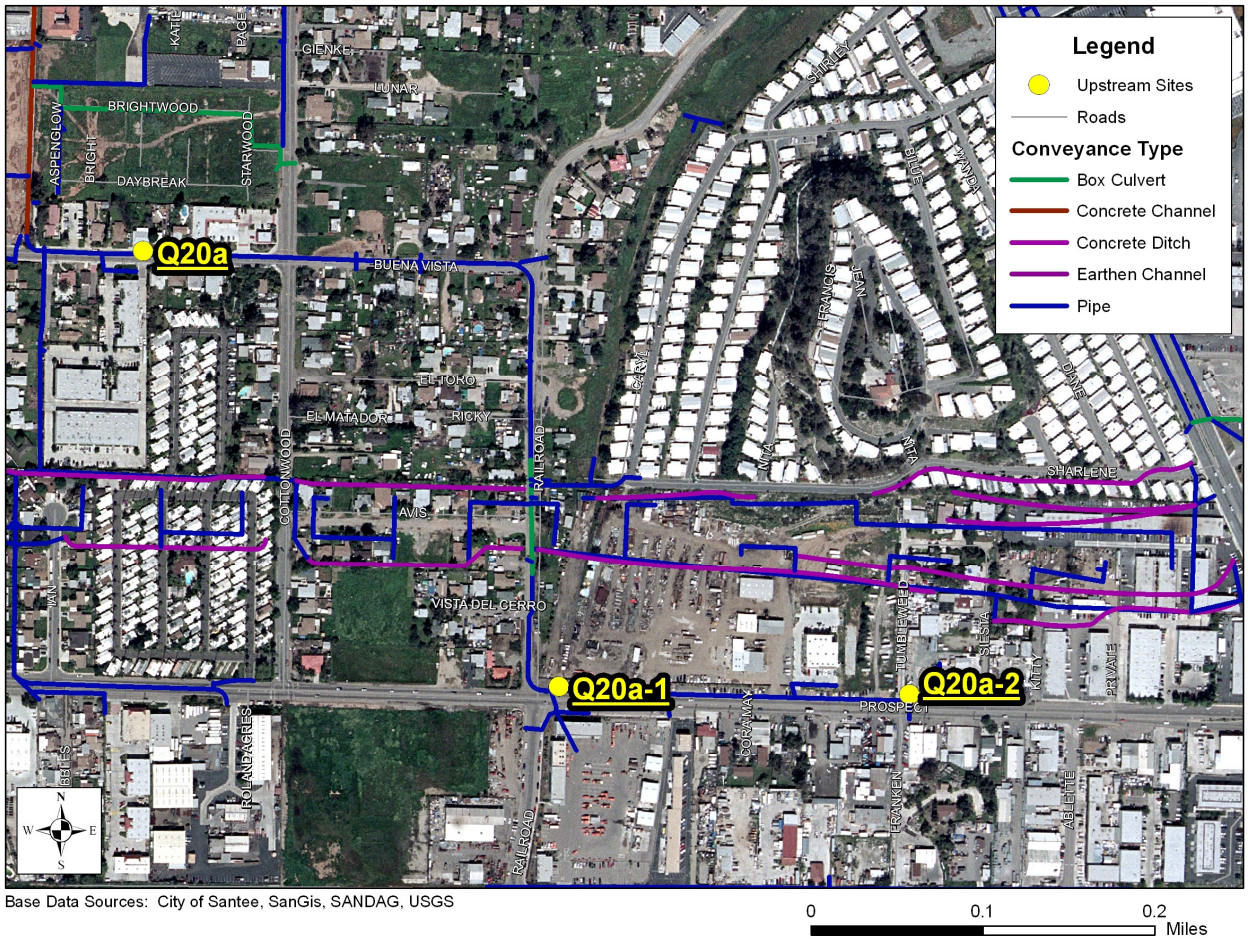
[2] http://www.mwdh2o.com/mwdh2o/pages/yourwater/supply/groundwater/PDFs/SanDiegoCountyBasins/SouthSanDiegoCountyBasins.pdf

TABLE 8-4
SITE Q20A NITRATE-N UPSTREAM INVESTIGATION

Site	Date	Location	Flow (gpm)	Nitrate-N (mg/L)
Q20a	5/21/10	Manhole in front of 10220 Buena Vista Avenue	<1	**11.61**
Q20a *(Confirmation 1)*	5/21/10	*Same as above*	<1	**12.54**
Q20a *(Confirmation 2)*	6/2/10	*Same as above*	<1	6.32
Q20a-1	6/2/10	Former dry weather site Q5l; in the catch basin on the north side of Prospect Avenue, 50 feet east of Railroad Avenue	<1	**13.80**
Q20a-2	6/2/10	In the parking area in front of 10612 Prospect Avenue	Trickling	9.45

Note: **Red** values were at or above the measured constituent's action level.

FIGURE 8-3
SITE Q20A NITRATE-N UPSTREAM INVESTIGATION MAP



Round Two
During the routine site visit a nitrate-N exceedance of 10.6 mg/L was measured from the ponded water. The manhole was dry and could not be sampled during a confirmation visit on the following day. As discussed in Round One, upstream investigations have concluded that nitrate-containing groundwater seepage is likely the source of nitrate-N to the area.

Site RCP1 is a concrete outlet located inside the RCP Block and Brick factory on the northern bank of the San Diego River.

Round One
No exceedances were observed at Site RCP1 during Round One of the Dry Weather Monitoring Program.

Round Two
During the routine site visit a nitrate-N exceedance of 10.6 mg/L was measured from flowing water at RCP1. Nitrate-N was measured below the action level in the confirmation sample. Historically, nitrate-N concentrations have been measured close to or above the action level at this site. Previous investigations have indicated nitrate-containing groundwater likely infiltrates the MS4 conveyance between the area upstream of Site RCP1 and the northern end of the Santana High School athletic fields.

Site RCP3 is located at an outlet on the north bank of the San Diego River.

Round One
During the routine site visit, a chemical odor comparable to paint thinner or gasoline was noted in the sample water, and a clear residue was visible on the surface. Information gathered from City personnel and through the upstream investigation indicated the exceedances were likely the result of firefighting activities at the scene of an automobile accident in a neighborhood upstream. This conclusion was supported by the following factors:

- The odor and residue were traced to the neighborhood where the accident took place.
    - Prior to contacting City personnel, the D-MAX field crew performed an upstream investigation which traced the odor and residue to the neighborhood north of El Nopal, adjacent to Julio Place.
    - City personnel recognized the area described by the field crew as the location of the accident, which had occurred a few days prior to sampling. The accident involved an overturned vehicle that had also caught on fire.
- The accident and subsequent firefighting efforts were likely to have introduced chemicals to the storm drain system.
    - City personnel observed staining and residual water flow in the curb and gutter from the initial firefighting activities (as soon as they were able, firefighters placed berms in the curb and gutter to prevent further discharge); however the presence of any chemical residue was not observed at the time by them.

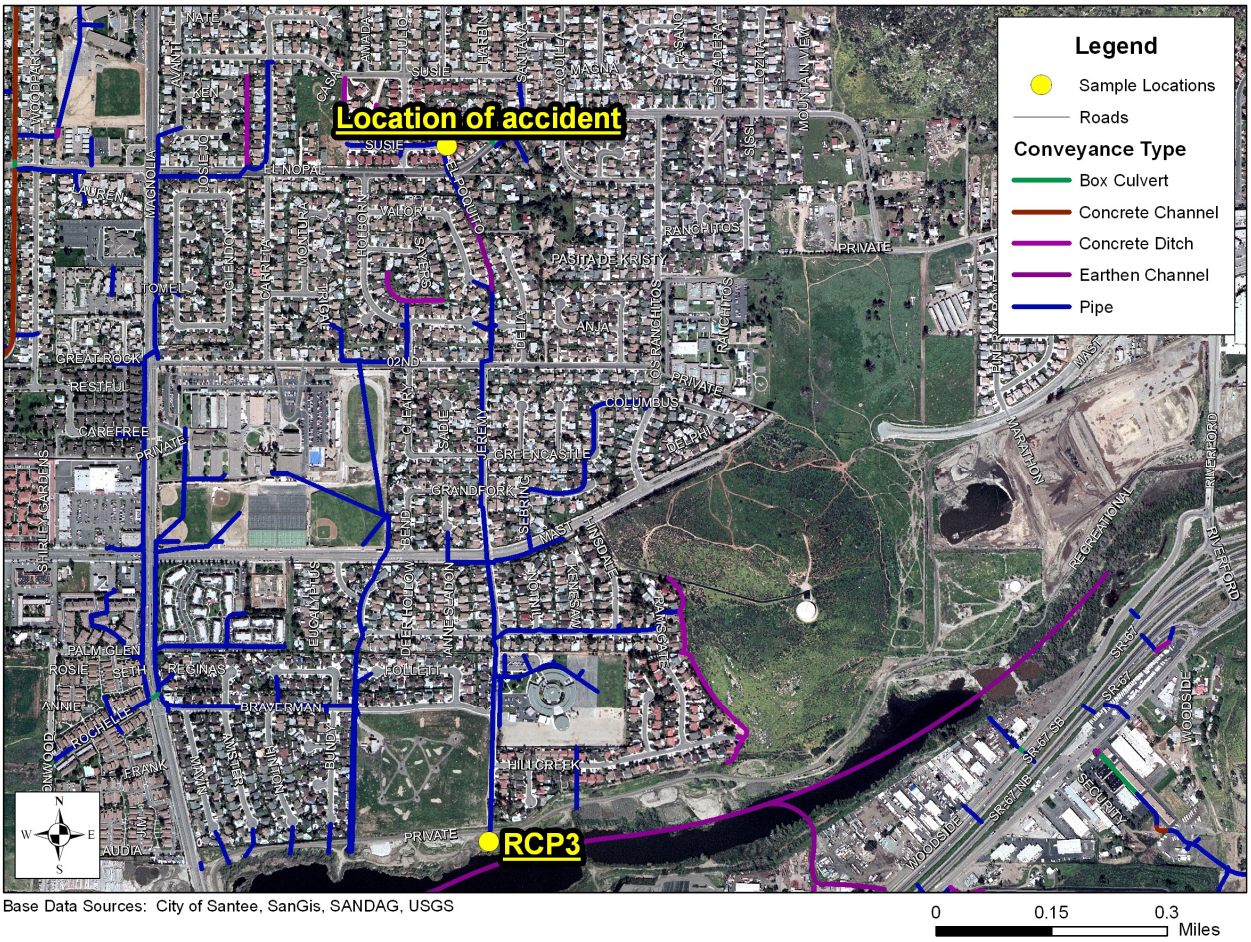
The storm water program manager was on-site at the clean-up and observed that the entire area was covered in absorbent, before the car was removed from the scene of the accident. According to the environmental manager at SDG&E, this absorbent would be removed after

the scene had been cleared and the area powerwashed to remove residue. Powerwashing would only be conducted after storm drain inlets had been sealed.

City staff contacted SDG&E, whose transformer had been damaged during the car accident and was likely a source of hydrocarbons, to advise them of the observations made at Site RCP3 and to request that they evaluate their clean-up procedures to ensure that discharges are cleaned up in a manner that prevents releases to the storm drain system. City public works staff cleaned the MS4 after the second visit to RCP3 to remove any reservoirs of contamination remaining in the system.

A map detailing the investigation area is included as Figure 8-4.

FIGURE 8-4
SITE RCP3 CHEMICAL RESIDUE INVESTIGATION MAP



In addition, the concentration of nitrate-N was relatively higher at Site RCP3, but did not exceed the action level during the routine visit. Although not considered to be an exceedance, nitrate-N was measured again during the confirmation visit and was found to exceed the action level. During the third site visit, the level of nitrate-N was measured below the action level. No sources of nitrate-N were observed during the investigation. Due to its proximity to Site RCP1, it is likely that the elevated nitrate-N level measured at Site RCP3 is also due to groundwater infiltration. The results of this supplemental investigation are presented in Table 8-5.

TABLE 8-5
SITE RCP3 NITRATE-N SUPPLEMENTAL INVESTIGATION

Site	Date	Location	Flow (gpm)	Nitrate-N (mg/L)
RCP3	5/20/10	North bank of the San Diego River, in the RCP brick factory across from the southeast corner of the antennae field.	13	9.57
RCP3 *(Confirmation 1)*	5/21/10	*Same as above*	11	**11.51**
RCP3 *(Confirmation 2)*	6/2/10	*Same as above*	8	5.15

Note: **Red** values were at or above the measured constituent's action level.

Round Two
No exceedances were observed at Site RCP3 during Round Two of the Dry Weather Monitoring Program.

Site S15h is a concrete outlet located north of Town Center Parkway between Mission Gorge Road and Cuyamaca Street.

Round One
No exceedances were observed at Site S15h during Round One of the Dry Weather Monitoring Program.

Round Two
An ammonia-N exceedance of 1.06 mg/L was measured in the trickling water during the routine visit to Site S15h. Ammonia-N was measured below the action level during the confirmation visit on the following day. The exceedance was transient and may have been the result of decomposing leaves in the water (Photo 8-8).



PHOTO 8-8: Decomposing leaves observed at Site S15h

Site V40d is located in a concrete channel east of Fanita Drive and south of Prospect Avenue.

Round One
No exceedances were observed at Site V40d during Round One of the Dry Weather Monitoring Program.

Round Two
An *Enterococcus* exceedance of 17,000 MPN/100 mL was measured during the routine visit. During the confirmation visit, *Enterococcus* was measured below the action level. An additional sample from upstream location V40d-1, in a natural creek at Farrington Drive, was collected that day. *Enterococcus* was also measured below the action level at location V40d-1. Fecal matter from wildlife was observed along the edges of both the concrete channel at

V40d and at location V40d-1, which may have contributed to the initial bacteria excedance. No other significant sources of bacteria were observed, and it was concluded that the *Enterococcus* exceedance was a result of a transient flow possibly coming from wildlife sources.

Site W30c is located in a manhole in the southbound lane of Mesa Road, at the intersection of Mesa Road and Graham Terrace. Upstream land use in the area is mainly residential.

Round One

Exceedances of ammonia-N, orthophosphate-P, turbidity, and surfactants were noted at this location when the flow rate was measured at 2 gpm. The water sample was also cloudy, gray, and had a chemical odor. An immediate upstream investigation did not identify an active source of flow or pollutants. All measured constituents were within the normal range at the confirmation visit, and the flow rate was less than 1 gpm.

It is possible that the high turbidity (147 NTU) measured during the routine visit interfered with the test kits, giving false positive results for other pollutants. Tests that are run using a photometer are sensitive to suspended particles in the water. The high turbidity measured could have caused interference with photometer reading and visual test results. It was concluded that the initial exceedances were due to a transient flow and likely test kit interferences.

City staff followed up on the issue by mailing residential storm water factsheets (Factsheet 10) to 71 addresses upgradient of Site W30c to educate residents on how to eliminate discharges from residential activities.

Round Two

No exceedances were observed at Site W30c during Round Two of the Dry Weather Monitoring Program. Based on this observation, it can be concluded that the follow-up after Round One was sufficient to prevent the discharge from reoccurring.

9 SUMMARY AND RECOMMENDATIONS

9.1 2010 Dry Weather Monitoring Program Summary

Two rounds of dry weather monitoring were conducted during the 2010 Dry Weather Monitoring Program. In each round, 20 sites were sampled for field screening analysis, five of which were also evaluated for laboratory constituents. New locations were selected to replace locations where, based on previous monitoring, exceedances were unlikely to be encountered. Most sites were rated optimal or suboptimal in the trash assessment during both rounds of sampling; only four sites between the two rounds were rated as marginal. One site in Round Two was rated submarginal. No sites were considered poor or were determined to pose a threat to human or aquatic health. Five sites in Round One and six sites in Round Two had action level exceedances. A summary of these exceedances is presented in Table 9-1.

TABLE 9-1
SUMMARY OF ACTION LEVEL EXCEEDANCES

Field Screening (20 samples)						
Analyte	**Number of Exceedances**		**Percentage of Sites with Exceedance**		**Site Exceeding Action Level**	
	R1	*R2*	*R1*	*R2*	*R1*	*R2*
Odor	1	0	5	0	RCP3	---
Sheen	1	0	5	0	RCP3	---
pH	0	0	0	0	---	---
Conductivity	0	0	0	0	---	---
Turbidity	1	0	5	0	W30c	---
Surfactants	1	1	5	5	W30c	O15f
Ammonia-N	1	2	5	10	W30c	O15f, S15h
Nitrate-N	2	2	10	10	O40b, Q20a	Q20a, RCP1
Orthophosphate-P	1	0	5	0	W30c	---
Laboratory Analyses (5 samples)						
Analyte	**Number of Exceedances**		**Percentage of Sites with Exceedance**		**Site Exceeding Action Level**	
	R1	*R2*	*R1*	*R2*	*R1*	*R2*
Oil & Grease	0	0	0	0	---	---
Cadmium	0	0	0	0	---	---
Copper	0	0	0	0	---	---
Lead	0	0	0	0	---	---
Zinc	0	0	0	0	---	---
Diazinon	0	0	0	0	---	---
Chlorpyrifos	0	0	0	0	---	---
Total Coliforms	0	1	0	20	---	J25c
Fecal Coliforms	0	1	0	20	---	J25c
Enterococci	1	1	20	20	J25c	V40d

Note: Table data is based on routine visits only. Confirmation, follow-up and dry site visits not included.

9.2 Summary of Follow-Up Investigation Data

In 2010, nine exceedances at five sites were transient. Two sites (Q20a and J25c) had exceedances during both rounds of dry weather monitoring. Table 9-2 and Table 9-3 present conclusions based on the results of confirmation visits and upstream investigations conducted during Round One and Round Two, respectively, of the 2010 Dry Weather Monitoring Program.

TABLE 9-2
ROUND ONE SUMMARY OF FOLLOW-UP INVESTIGATIONS

Site	Follow-Up Investigation Target Constituent		Results / Probable Sources
	Field	Laboratory	
J25c	---	*Enterococcus*	Exceedance not confirmed
O40b	Nitrate-N	---	Landscape fertilization and overwatering
Q20a	Nitrate-N	---	Nitrate-containing groundwater seeping into the MS4 conveyance
RCP3	Odor, Sheen, Nitrate-N	---	Odor and sheen exceedances traced to automobile accident, Nitrate-N exceedance due to nitrate-containing groundwater seeping into the MS4 conveyance
W30c	Turbidity, Surfactants, Ammonia-N, and Nitrate-N	---	Exceedances not confirmed, possible field test kit interferences

TABLE 9-3
ROUND TWO SUMMARY OF FOLLOW-UP INVESTIGATIONS

Site	Follow-Up Investigation Target Constituent		Results / Probable Sources
	Field	Laboratory	
J25c	---	Total Coliforms, Fecal Coliforms	Fecal coliform exceedance not confirmed, total coliforms likely due to algal decomposition in warm, ponded water at upstream location
O15f	Surfactants, Ammonia-N	---	Surfactants possibly due to washing activities in residential neighborhood, Ammonia-N exceedance likely due to decomposing leaves in ponded water
Q20a	Nitrate-N	---	Nitrate-containing groundwater seeping into the MS4 conveyance
RCP1	Nitrate-N	---	Nitrate-containing groundwater seeping into the MS4 conveyance
S15h	Ammonia-N	---	Exceedance not confirmed
V40d	---	*Enterococcus*	Exceedance not confirmed

9.3 Recommendations and Follow-up Actions

Based on the results of the City of Santee 2010 Dry Weather Monitoring Program, the following actions have been recommended. Follow-up actions taken by the City are also described.

9.3.1 Inspection and Maintenance

- Contacted the property management company for Maderaldo Industrial Park and provided landscaping best management practice education since improper fertilizer application and over-irrigation likely contributed to nitrate-N exceedances at Site O40b. No exceedances were observed at this location during Round 2.
- The City's Stormwater Program Manager was on-site during the clean-up of an automobile accident near Site RCP3 to ensure no discharges to the storm drain inlets. City public works cleaned the MS4 after the confirmation visit to Site RCP3 to remove any pollutants remaining in the system.
- City mailed residential storm water factsheets to 71 addresses upgradient of Site W30c where exceedances in turbidity, surfactants, ammonia-N, and orthophosphate-P were measured. The City is taking similar action to address the likely discharge observed at O15f.
- Groundwater monitoring data for well OW3, located close to areas upstream of Site Q20a, was reported in a letter report to the RWQCB dated July 14, 2008. This data shows that nitrate in groundwater is elevated and is likely the cause of high nitrate concentrations in samples collected from the nearby storm drain system.
- Upstream of Site J25c, remove decomposing algae and vegetation from the concrete channel and manhole at El Nopal and Molino Road. Remove decomposing algae, leaves and debris from sedimentation basin on Shoredale Drive. These locations had total coliform bacteria exceedances. The City is currently reviewing cleaning procedures at the Shoredale Basin to ensure that they are as effective as possible.
- Public Works removed trash from Site I10c, which received a marginal trash rating during Round One. City staff have been directed to remove trash and debris from Sites I10c, G30c, O40b, and V40d which received submarginal and marginal ratings during Round Two. In addition, the City contacted the Sheriff to advise them of the concern relating to the area around I10c, to ensure that any issues (such as dumping of shopping carts) relating to transient activity can be eliminated.

Legend

- Field Screening Site
- New Field Screening Site
- Lab Sampling Site
- New Lab Sampling Site
- Alternate Site
- Removed Sites
- Lakes
- Rivers
- MS4 Conveyances
- City Boundary
- Roads

*In 2010, eight sampling locations where replaced to better identify and eliminate illegal discharges. New sites E5g1, I10c, J30d1, O15f, P10a, Q20a, W30 c, and Z15a1 replaced former monitoring locations I30a, J30d, K15j2, P15b, Q5l, U10a, Y15e, and Z15b.

E5g1
A5c
G30c
H5e
I10c
S5c
S15h
V45k
W30c
V40d
U10a
T5e
Y15e
Z15a1
Z15b
I30a
J25c
J25c2
J30d
J30d1
K15j2
Q20a
Q5l
P15b
P10a
P20f
O40b
O15f
RCP1
RCP3
SANTEE RECREATIONAL LAKES
SAN DIEGO RIVER
FORESTER CREEK
LOS COCHES
BROADWAY CHANNEL

0 0.25 0.5 1 Miles

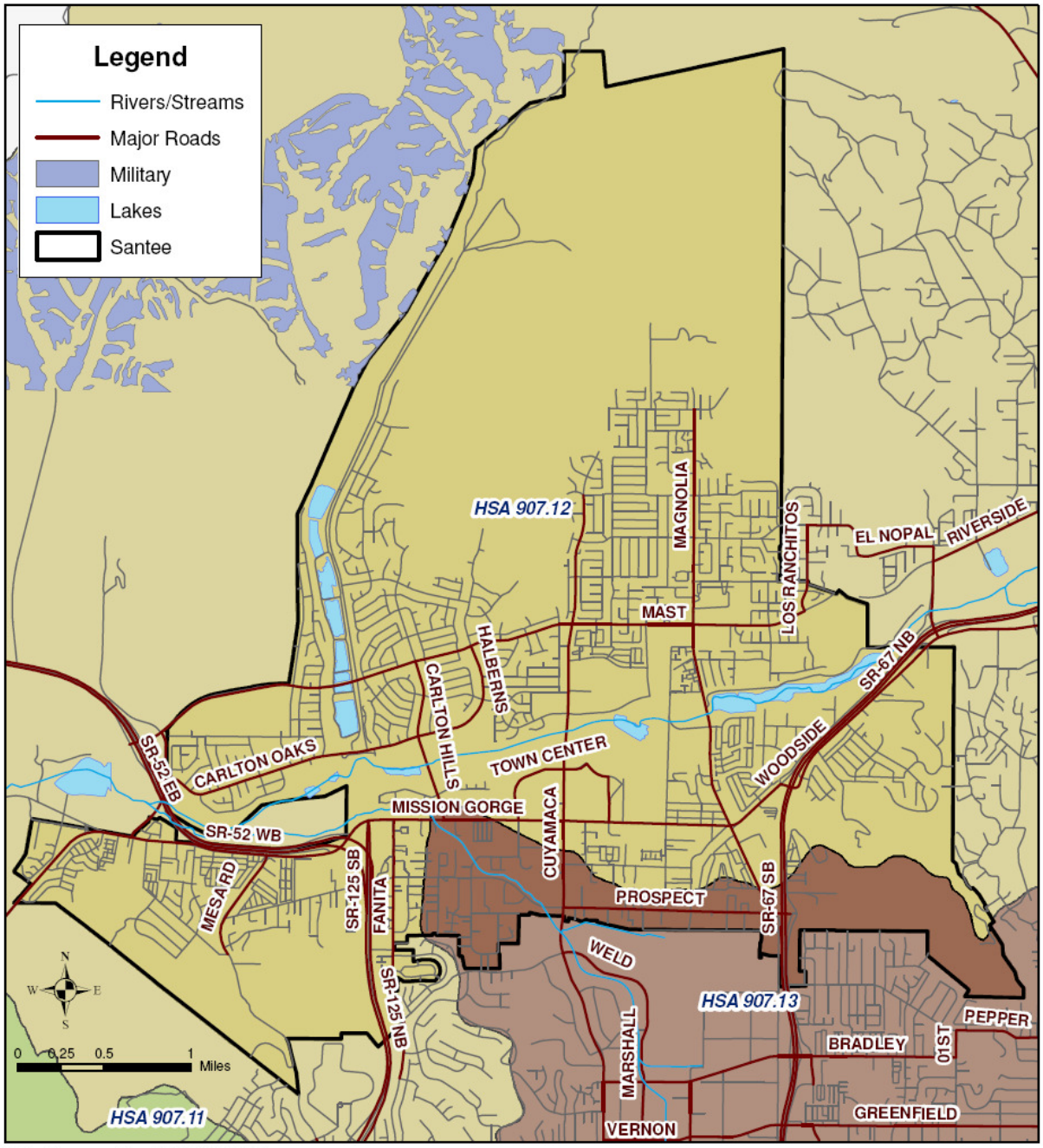
Base Data Sources: SanGIS, SANDAG, City of Santee

Figure A
City of Santee 2010 Dry Weather Sampling Location Map

Drawn By: BM	Checked By:	Date: 9/29/10

D-MAX Engineering, Inc.

FIGURE B
WATERSHED MAP OF THE SANTEE AREA SHOWING THE HYDROLOGIC SUBAREAS



Data Sources: SanGIS, SANDAG

Appendix A

Historical Dry Weather Monitoring Data

City of Santee Dry Weather Historical Data

Site ID	A5c	E5g	G30c	H5e	I10d	J25c	J25c2	J30d	K15j2	O20b	O40b	P15b	P20f	Q5l	Q25k	Q26d	RCP1	RCP2	RCP3	R10b	R20a	S5c	S15h	T5d	T5e	T30b	U10a	V40d	V45k	Y15e	Z15b
1996 First Visit																															
Phenols (mg/L)			ns	0.1	ns			nd			ns		nd		ns						ns	0.1		ns		ns					
Detergents (mg/L)			ns	0.50	ns			nd			ns		0.50		ns						ns	0.25		ns		ns					
Chlorine (mg/L)			ns	nd	ns			nd			ns		0.05		ns						ns	nd		ns		ns					
Copper (mg/L)			ns	nd	ns			nd			ns		nd		ns						ns	nd		ns		ns					
Ammonia (mg/L)			ns	nd	ns			nd			ns		nd		ns						ns	nd		ns		ns					
1996 Second Visit																															
Phenols (mg/L)				0.2				nd					nd									0.1									
Detergents (mg/L)				0.25				0.25					0.25									0.50									
Chlorine (mg/L)				0.20				nd					nd									nd									
Copper (mg/L)				nd				nd					nd									nd									
Ammonia (mg/L)				nd				nd					nd									nd									
1997 Round One First Visit																															
Phenols (mg/L)		nd	ns	ns	ns			nd		ns	0.1		nd		ns						ns	nd		ns	0.2			nd	nd		
Detergents (mg/L)		0.25	ns	ns	ns			0.50		ns	0.85		0.20		ns						ns	1.00		ns	0.60			0.30	0.25		
Chlorine (mg/L)		nd	ns	ns	ns			0.25		ns	0.50		0.25		ns						ns	0.15		ns	nd			0.20	0.30		
Copper (mg/L)		nd	ns	ns	ns			nd		ns	nd		nd		ns						ns	nd		ns	nd			nd	0.05		
Ammonia (mg/L)		0.40	ns	ns	ns			0.40		ns	3.00		0.35		ns						ns	0.30		ns	2.50			0.15	0.35		
1997 Round One Second Visit																															
Phenols (mg/L)		nd						nd			nd		nd									nd			0.2			nd	0.1		
Detergents (mg/L)		0.35						0.35			1.75		0.25									0.25			>3.0			0.35	0.25		
Chlorine (mg/L)		0.05						0.15			0.40		nd									0.20			nd			0.20	0.35		
Copper (mg/L)		nd						nd			nd		nd									nd			nd			nd	nd		
Ammonia (mg/L)		1.50						0.40			2.50		0.30									0.60			5.50			0.60	0.50		
1997 Round Two First Visit																															
Phenols (mg/L)		nd	nd	nd	ns			nd		ns	ns		nd		ns						ns	nd		ns	ns			nd	nd		
Detergents (mg/L)		0.20	0.20	0.20	ns			0.20		ns	ns		0.20		ns						ns	0.90		ns	ns			0.30	0.20		
Chlorine (mg/L)		nd	0.40	0.70	ns			0.25		ns	ns		0.25		ns						ns	0.50		ns	ns			0.25	0.80		
Copper (mg/L)		nd	nd	nd	ns			nd		ns	ns		nd		ns						ns	0.10		ns	ns			nd	nd		
Ammonia (mg/L)		0.70	0.40	0.30	ns			0.60		ns	ns		0.10		ns						ns	1.50		ns	ns			0.90	0.90		
1997 Round Two Second Visit																															
Phenols (mg/L)		nd	nd	nd				nd					nd									nd						nd	nd		
Detergents (mg/L)		0.20	0.25	0.20				0.20					0.20									0.20						0.30	0.20		
Chlorine (mg/L)		nd	0.50	0.70				0.50					0.25									0.25						0.50	0.80		
Copper (mg/L)		nd	nd	nd				nd					nd									nd						nd	nd		
Ammonia (mg/L)		0.80	0.35	0.50				0.60					0.30									0.20						0.60	0.60		
1998 Round One First Visit																															
Phenols (mg/L)		nd	nd	nd	nd			nd		0.2		nd		nd	nd						nd	nd		ns	0.2			nd	nd		
Detergents (mg/L)		0.25	0.25	0.25	0.25			0.25		0.25		0.25		0.50	0.25						0.25	0.25		ns	0.13			0.25	0.25		
Chlorine (mg/L)		0.30	0.10	0.20	0.20			0.30		nd		0.10		0.30	0.40						0.10	0.15		ns	nd			nd	0.05		
Copper (mg/L)		nd	nd	nd	nd			nd		nd		nd		nd	nd						nd	nd		ns	nd			nd	nd		
Ammonia (mg/L)		0.10	0.10	0.60	0.60			0.60		0.20		0.10		2.00	nd						0.10	nd		ns	0.60			0.20	0.20		
1998 Round One Second Visit																															
Phenols (mg/L)		nd		nd	ns			nd		0.2		nd			nd						nd	nd			nd			nd	nd		
Detergents (mg/L)		nd		0.25	ns			0.25		0.25		0.50			0.25						0.50	0.25			0.50			0.25	0.25		
Chlorine (mg/L)		0.10		nd	ns			2.50		0.30		0.20			nd						0.10	0.15			0.15			0.10	0.05		
Copper (mg/L)		nd		nd	ns			nd		nd		nd			nd						nd	nd			nd			nd	nd		
Ammonia (mg/L)		0.10		0.60	ns			nd		0.60		0.20			nd						0.80	0.60			0.40			0.10	0.20		
1998 Round Two First Visit																															
Phenols (mg/L)		nd	nd	nd	ns			nd		0.1		nd		ns	ns					nd	nd	nd	ns	nd				nd	nd		
Detergents (mg/L)		0.13	0.13	0.38	ns			0.38		1.00		0.13		ns	ns					0.13	0.25	>3.0	ns	0.25				1.00	0.25		
Chlorine (mg/L)		nd	nd	0.10	ns			nd		0.10		nd		ns	ns					0.10	0.10	nd	ns	nd				0.10	nd		
Copper (mg/L)		nd	nd	nd	ns			nd		nd		nd		ns	ns					nd	nd	nd	ns	nd				nd	nd		
Ammonia (mg/L)		0.30	0.60	0.40	ns			0.60		0.60		0.30		ns	ns					1.50	12.30	3.00	ns	0.80				0.40	0.60		
1998 Round Two Second Visit																															
Phenols (mg/L)		nd	nd	nd	ns			nd		nd		nd								nd	nd	nd		ns				nd	nd		
Detergents (mg/L)		0.38	0.13	0.13	ns			0.13		0.38		0.13								1.00	0.13	>3.0		ns				1.50	0.13		
Chlorine (mg/L)		0.10	nd	nd	ns			nd		nd		nd								0.10	nd	nd		ns				nd	nd		
Copper (mg/L)		nd	nd	nd	ns			nd		nd		nd								nd	nd	nd		ns				nd	nd		
Ammonia (mg/L)		0.60	0.60	1.00	ns			0.35		0.10		0.20								>10.00	1.50	3.00		ns				2.53	0.40		
1999 Round One First Visit																															
Phenols (mg/L)		nd	nd	nd	ns			nd		0.1		nd		ns	0.1						ns	nd		ns	1.0			nd	nd		
Detergents (mg/L)		0.25	0.25	0.25	ns			0.25		0.75		0.25		ns	0.75						ns	0.25		ns	>3.0			1.50	0.75		
Chlorine (mg/L)		<0.10	0.10	0.40	ns			0.30		0.30		0.10		ns	nd						ns	0.10		ns	0.20			0.10	0.20		
Copper (mg/L)		0.10	nd	nd	ns			nd		nd		nd		ns	0.10						ns	nd		ns	0.10			0.10	nd		
Ammonia (mg/L)		0.80	0.50	0.30	ns			5.00		0.40		0.20		ns	0.60						ns	0.20		ns	6.00			0.60	0.40		

City of Santee Dry Weather Historical Data

Site ID	A5c	E5g	G30c	H5e	I10d	J25c	J25c2	J30d	K15j2	O20b	O40b	P15b	P20f	Q5l	Q25k	Q26d	RCP1	RCP2	RCP3	R10b	R20a	S5c	S15h	T5d	T5e	T30b	U10a	V40d	V45k	Y15e	Z15b
1999 Round One Second Visit																															
Phenols (mg/L)		0.1	nd	nd				nd			ns		nd			<0.1						nd			1.0			nd	nd		
Detergents (mg/L)		0.25	3.00	0.75				1.50			ns		0.50			1.50						0.25			>3.0			1.00	0.25		
Chlorine (mg/L)		<0.10	nd	0.40				<0.10			ns		0.10			<0.10						0.10			nd			0.10	0.30		
Copper (mg/L)		nd	nd	nd				nd			ns		nd			0.10						nd			0.10			0.10	nd		
Ammonia (mg/L)		1.00	1.00	0.80				1.00			ns		3.00			1.00						0.20			1.00			1.00	0.40		
1999 Round Two First Visit																															
Phenols (mg/L)		0.1	0.1	nd	ns			0.1			ns		0.1		0.1	nd					ns	0.1		ns	ns			nd	nd		
Detergents (mg/L)		0.25	0.50	0.25	ns			0.50			ns		0.25		0.75	0.50					ns	0.50		ns	ns			0.25	0.25		
Chlorine (mg/L)		nd	0.20	nd	ns			0.20			ns		0.40		nd	nd					ns	0.10		ns	ns			nd	0.10		
Copper (mg/L)		0.10	0.20	0.10	ns			0.10			ns		nd		nd	0.10					ns	0.20		ns	ns			nd	nd		
Ammonia (mg/L)		0.60	0.60	0.40	ns			0.90			ns		0.20		1.00	0.70					ns	0.40		ns	ns			0.20	0.10		
1999 Round Two Second Visit																															
Phenols (mg/L)		nd	0.1	nd				nd					nd		ns	ns						nd						nd	nd		
Detergents (mg/L)		0.25	0.75	0.25				0.25					0.25		ns	ns						0.25						0.25	0.25		
Chlorine (mg/L)		nd	nd	0.10				nd					nd		ns	ns						0.30						nd	0.10		
Copper (mg/L)		0.10	0.20	0.10				nd					nd		ns	ns						nd						nd	0.10		
Ammonia (mg/L)		0.40	0.40	0.30				0.90					0.10		ns	ns						nd						0.10	0.20		
2000 Round One First Visit																															
Phenols (mg/L)		nd	0.1	0.1	ns			nd			ns		nd		ns	nd	nd	0.1			ns	nd			0.1			0.1	nd		
Detergents (mg/L)		0.25	0.25	0.25	ns			0.50			ns		0.25		ns	0.25	0.25	0.50			ns	0.25			3.00			0.50	0.25		
Chlorine (mg/L)		nd	0.20	0.20	ns			nd			ns		0.20		ns	0.10	nd	0.10			ns	0.10			0.20			nd	0.10		
Copper (mg/L)		nd	nd	0.10	ns			nd			ns		nd		ns	0.10	nd	0.10			ns	nd			nd			nd	nd		
Ammonia (mg/L)		0.80	0.40	0.20	ns			0.30			ns		0.10		ns	0.60	0.10	2.50			ns	0.30			1.00			0.20	0.50		
2000 Round One Second Visit																															
Phenols (mg/L)		nd	nd	nd				nd					nd			ns	nd	nd				0.1			0.1			nd	nd		
Detergents (mg/L)		0.25	0.25	0.75				1.50					0.25			ns	0.25	0.25				0.25			0.75			0.50	0.25		
Chlorine (mg/L)		nd	0.20	0.20				nd					nd			ns	0.20	nd				0.10			nd			nd	nd		
Copper (mg/L)		nd	0.10	0.10				nd					nd			ns	0.10	nd				nd			nd			nd	nd		
Ammonia (mg/L)		0.80	0.50	0.40				0.80					0.10			ns	0.10	2.50				0.60			0.20			0.20	0.30		
2000 Round Two First Visit																															
Phenols (mg/L)		0.1	nd	nd	ns			nd			nd		0.1		nd	nd	nd	nd			ns	nd			ns			nd	nd		
Detergents (mg/L)		0.50	0.25	0.25	ns			0.25			0.25		0.50		1.50	1.00	0.25	0.50			ns	0.25			ns			1.00	0.25		
Chlorine (mg/L)		nd	nd	nd	ns			nd			nd		nd		nd	nd	0.10	nd			ns	nd			ns			nd	nd		
Copper (mg/L)		nd	nd	nd	ns			nd			nd		nd		nd	nd	nd	nd			ns	nd			ns			nd	nd		
Ammonia (mg/L)		0.80	0.20	0.20	ns			0.50			0.30		0.80		1.00	0.80	0.10	2.00			ns	0.40			ns			0.80	0.30		
2000 Round Two Second Visit																															
Phenols (mg/L)		nd	nd	nd				nd			ns		nd		nd	nd	nd	nd				nd						nd	nd		
Detergents (mg/L)		0.50	0.25	0.25				0.50			ns		0.50		1.00	0.25	0.25	0.25				0.25						0.25	0.50		
Chlorine (mg/L)		nd	nd	nd				nd			ns		nd		nd	nd	0.10	nd				nd						nd	nd		
Copper (mg/L)		nd	nd	nd				nd			ns		nd		nd	nd	nd	nd				nd						nd	nd		
Ammonia (mg/L)		0.70	0.20	0.30				0.80			ns		0.80		0.70	0.30	0.10	2.00				0.20						0.30	0.70		
2001 Round One First Visit																															
Phenols (mg/L)		nd	nd	nd	ns			nd			nd		nd		ns	nd	nd	nd			nd	nd			nd			nd	nd		
Detergents (mg/L)		0.25	0.25	0.25	ns			0.25			0.25		0.25		ns	0.25	0.25	0.50			0.25	0.25			0.25			0.25	0.25		
Chlorine (mg/L)		nd	nd	nd	ns			nd			nd		nd		ns	nd	nd	nd			nd	nd			nd			nd	nd		
Copper (mg/L)		nd	nd	nd	ns			nd			nd		nd		ns	nd	nd	nd			nd	nd			nd			nd	nd		
Ammonia (mg/L)		0.10	0.50	0.50	ns			0.80			0.20		0.20		ns	0.80	0.60	0.10			0.20	0.40			0.80			0.50	0.10		
2001 Round One Second Visit																															
Phenols (mg/L)		nd	nd	nd				nd			nd		nd			ns	nd	nd			nd	nd			nd			nd	nd		
Detergents (mg/L)		0.25	0.25	0.25				0.25			0.25		0.25			ns	0.25	0.25			0.25	0.25			0.25			0.25	0.25		
Chlorine (mg/L)		nd	nd	nd				nd			nd		nd			ns	nd	nd			nd	nd			nd			nd	nd		
Copper (mg/L)		nd	nd	nd				nd			nd		nd			ns	nd	nd			nd	nd			nd			nd	nd		
Ammonia (mg/L)		0.50	0.30	0.20				0.60			0.70		0.10			ns	0.40	0.80			0.30	0.40			0.50			0.30	0.20		
2001 Round Two First Visit																															
Phenols (mg/L)		nd	nd	nd	ns			nd			ns		nd		ns	ns	nd	nd			ns	nd			ns			nd	nd		
Detergents (mg/L)		0.25	<0.25	0.25	ns			0.50			ns		<0.25		ns	ns	<0.25	0.75			ns	<0.25			ns			<0.25	<0.25		
Chlorine (mg/L)		0.10	0.50	0.50	ns			nd			ns		0.10		ns	ns	0.10	nd			ns	0.10			ns			nd	nd		
Copper (mg/L)		nd	nd	nd	ns			nd			ns		nd		ns	ns	nd	nd			ns	nd			ns			nd	nd		
Ammonia (mg/L)		0.40	0.40	0.50	ns			0.60			ns		0.20		ns	ns	0.10	2.00			ns	0.40			ns			0.10	0.20		
2001 Round Two Second Visit																															
Phenols (mg/L)		nd	nd	nd				nd					nd				nd	nd				nd						nd	nd		
Detergents (mg/L)		0.25	<0.25	<0.25				0.50					<0.25				<0.25	0.50				0.25						<0.25	<0.25		
Chlorine (mg/L)		0.10	0.10	0.80				0.10					0.10				0.10	0.10				0.10						nd	nd		
Copper (mg/L)		nd	nd	nd				nd					nd				nd	nd				nd						nd	nd		
Ammonia (mg/L)		0.40	0.20	0.20				0.60					0.20				0.10	2.00				0.50						0.20	0.30		

City of Santee Dry Weather Historical Data

Site ID	A5c	E5g	G30c	H5e	I10d	J25c	J25c2	J30d	K15j2	O20b	O40b	P15b	P20f	Q5l	Q25k	Q26d	RCP1	RCP2	RCP3	R10b	R20a	S5c	S15h	T5d	T5e	T30b	U10a	V40d	V45k	Y15e	Z15b
2002																															
Temp.℃	24.0	25.0	31.0	26.0		23.0	23.5	30.0	25.0		23.5	26.5	23.0	26.0			23.0					26.0	25.0			ns	26.0	22.0	22.0	23.5	22.0
pH	7.8	7.9	8.5	8.5		8.8	8.3	9.4	7.5		7.9	8.2	8.8	8.8			8.6					8.3	8.4			ns	8.4	9.2	8.1	7.9	8.0
Conductivity (µmhos/cm)	1,070	2,500	1,550	1,231		3,250	875	2,470	1,596		957	1,483	1,750	2,840			1,474					1,191	1,933			ns	1,174	2,270	2,590	1,142	1,426
Turbidity (NTU)	14.18	12.77	2.89	1.99		3.34	5.17	8.04	5.59		33.51	1.67	2.79	104			2.53					3.47	15.37			ns	7.42	6.68	6.94	7.76	23.55
Ammonia-N (mg/L)	2.5	2.0	0.6	0.2		0.4	0.3	0.4	0.1		1.0	0.1	0.3	2.0			0.4					0.6	1.5			ns	0.4	0.2	0.6	0.6	2.0
Nitrate-N (mg/L)	0.3	2.0	nd	1.0		4.0	2.0	0.1	8.0		1.0	24.0	1.0	1.5			20.0					nd	0.2			ns	0.3	nd	0.2	0.5	1.5
Orthophosphate (mg/L)	2.0	2.0	3.0	1.5		2.5	0.6	0.5	0.2		1.5	0.6	0.2	5.5			0.6					4.0	4.5			ns	2.5	0.6	0.3	0.8	4.5
Orthophosphate-P (mg/L)	0.65	0.65	0.98	0.49		0.82	0.20	0.03	0.05		0.49	0.20	0.07	1.79			0.20					1.30	1.47			ns	0.82	0.20	0.10	0.26	1.47
Surfactants (mg/l MBAS)Field test	0.75	0.50	0.25	0.25		0.25	< 0.25	0.50	0.25		0.50	0.50	0.25	3.00			0.25					0.50	0.25			ns	0.25	0.25	0.25	0.50	1.00
Surfactants (mg/l MBAS)Lab test			< 0.50			< 0.50		< 0.50					< 0.50				< 0.50											< 0.50			
Oil and Grease (mg/L)			1.0			2.0		8.0					2.0				3.0											12.0			
Total Hardness (mg/L)			349			579		391					429				422											495			
Cadmium-diss (mg/L)			< 0.10			< 0.10		< 0.10					< 0.10				< 0.10											< 0.10			
Copper-diss (mg/L)			< 0.10			< 0.10		< 0.10					< 0.10				< 0.10											< 0.10			
Lead-diss (mg/L)			< 0.10			< 0.10		< 0.10					< 0.10				< 0.10											< 0.10			
Zinc-diss (mg/L)			< 0.10			< 0.10		< 0.10					< 0.10				< 0.10											< 0.10			
Diazinon (µg/L)			< 1.0			< 0.50		< 0.50					< 0.50				< 0.50											< 0.50			
Chlorpyrifos (µg/L)			< 1.0			< 0.50		< 0.50					< 0.50				< 0.50											< 0.50			
Total Coliform (MPN/100mL)			17,000			3,000		13,000					1,700				50,000											5,000			
Fecal Coliform (MPN/100mL)			13,000			1,700		8,000					1,100				50,000											5,000			
Enterococcus (MPN/100mL)			2,300			17,000		2,300					3,000				230											3,000			
2003 Round One																															
Temp.℃	20.0	20.0	18.0	25.0		20.0	23.0	28.0	31.0		16.0	23.0	26.0	23.0			19.5					22.0	21.0		24.0	ns	ns	21.0	19.0	18.0	23.0
pH	9.0	7.4	8.9	9.0		8.5	8.4	9.7	8.8		8.4	7.8	9.0	8.4			8.7					8.3	8.1		7.9	ns	ns	8.9	8.5	7.7	8.2
Conductivity (µmhos/cm)	2,030	3,310	2,230	1,270		4,160	4,650	3,010	2,350		1,750	2,150	1,810	2,240			1,860					1,820	1,820		1,030	ns	ns	2,960	3,840	1,470	1,080
Turbidity (NTU)	6.11	14.94	3.6	2.91		3.05	0.04	6.46	2.27		2.03	1.33	4.69	36.48			10.81					61	2.67		0.98	ns	ns	0.96	0.98	2.89	25.2
Ammonia-N (mg/L)	0.4	0.6	1.0	0.3		0.2	0.2	0.4	0.3		2.5	0.1	0.2	0.2			0.1					1.0	0.3		0.3	ns	ns	0.2	0.4	0.8	0.8
Nitrate-N (mg/L)	0.6	0.6	1.0	3.2		5.0	8.0	0.8	1.0		4.0	8.0	3.5	24.0			8.0					nd	0.4		0.2	ns	ns	0.1	0.8	1.5	0.8
Orthophosphate (mg/L)	0.3	0.8	2.5	1.5		0.2	0.2	0.1	0.1		4.0	0.4	0.1	0.4			0.4					1.5	1.5		0.6	ns	ns	0.1	0.1	1.5	0.8
Orthophosphate-P (mg/L)	0.10	0.26	0.82	0.49		0.07	0.07	0.03	0.03		1.30	0.13	0.03	0.13			0.13					0.49	0.49		0.20	ns	ns	0.03	0.03	0.49	0.26
Surfactants (mg/l MBAS)Field test	0.25	0.25	0.25	0.50		0.25	0.25	0.25	0.25		0.25	0.25	0.25	0.25			0.75					0.75	0.25		0.25	ns	ns	0.25	0.25	0.25	0.25
Surfactants (mg/l MBAS)Lab test						nd		nd					nd				0.7											nd			
Oil and Grease (mg/L)						nd		2.00					nd				nd											18.00			
Total Hardness (mg/L)						1,030		449					450				414											609			
Cadmium-diss (mg/L)						nd		nd					nd				nd											nd			
Copper-diss (mg/L)						0.01		0.012					nd				0.008											nd			
Lead-diss (mg/L)						nd		nd					nd				nd											nd			
Zinc-diss (mg/L)						0.026		nd					nd				0.033											0.022			
Diazinon (µg/L)						nd		0.09					nd				nd											0.26			
Chlorpyrifos (µg/L)						nd		nd					nd				nd											nd			
Total Coliform (MPN/100mL)						50,000		1,700					1,400				11,000											2,300			
Fecal Coliform (MPN/100mL)						22,000		1,300					700				7,000											1,300			
Enterococcus (MPN/100mL)						8,000		500					300				1,100											80			
2003 Round Two																															
Temp.℃	28.5	22.5	20.5	24.5		21.5	24.0	25.0	24.5		25.5	26.0	27.5	27.0			24.0					25.0	22.0			ns	26.0	19.5	24.0	21.5	20.0
pH	8.8	7.4	8.3	8.3		8.3	8.8	9.0	7.4		8.1	8.2	8.8	7.8			8.5					8.1	7.5			ns	7.3	8.3	7.9	7.6	7.8
Conductivity (µmhos/cm)	1,560	3,130	1,340	1,360		3,690	6,610	3,060	2,340		970	1,830	1,390	1,110			1,840					13,650	1,490			ns	1,020	1,990	2,150	1,160	1,350
Turbidity (NTU)	502.0	20.0	8.9	16.9		2.3	0.7	4.5	3.2		20.5	4.0	3.0	262.0			1.2					17.3	5.5			ns	6.8	2.6	13.9	10.6	17.8
Ammonia-N (mg/L)	0.4	0.8	0.4	0.4		0.4	0.4	1.0	0.3		0.3	0.2	0.3	0.8			0.2					0.8	0.6			ns	1.0	0.2	0.4	0.6	3.0
Nitrate-N (mg/L)	2.0	0.4	0.6	4.0		10.0	16.0	0.6	4.0		2.4	16.0	5.0	3.2			24.0					28.0	0.8			ns	0.4	0.1	0.2	0.8	1.0
Orthophosphate (mg/L)	2.0	3.0	2.0	1.5		0.6	0.2	0.3	0.1		2.0	0.8	nd	1.0			0.2					2.0	1.5			ns	2.5	0.1	0.3	2.5	3.0
Orthophosphate-P (mg/L)	0.65	0.98	0.65	0.49		0.20	0.07	0.10	0.03		0.65	0.26	nd	0.33			0.07					0.65	0.49			ns	0.82	0.03	0.10	0.82	0.98
Surfactants (mg/l MBAS)Field test	0.13	0.25	0.25	0.13		0.25	0.25	0.25	0.13		0.13	0.25	0.13	3.00			0.25					0.50	0.25			ns	0.50	0.13	0.25	0.25	0.50
Surfactants (mg/l MBAS)Lab test			nd			nd						nd																nd			nd
Oil and Grease (mg/L)			nd			1.00						2.00																nd			2.00
Total Hardness (mg/L)			396			739						539																488			330
Cadmium-diss (mg/L)			0.006			nd						nd																nd			nd
Copper-diss (mg/L)			0.097			0.005						0.007																nd			0.012
Lead-diss (mg/L)			nd			nd						0.005																nd			nd
Zinc-diss (mg/L)			0.056			nd						nd																nd			0.077
Diazinon (µg/L)			0.10			nd						nd																nd			nd
Chlorpyrifos (µg/L)			nd			nd						nd																nd			nd
Total Coliform (MPN/100mL)			90,000			50,000						13,000																50,000			90,000
Fecal Coliform (MPN/100mL)			30,000			24,000						5,000																24,000			30,000
Enterococcus (MPN/100mL)			8,000			2,200						5,000																700			8,000

City of Santee Dry Weather Historical Data

Site ID	A5c	E5g	G30c	H5e	I10d	J25c	J25c2	J30d	K15j2	O20b	O40b	P15b	P20f	Q5l	Q25k	Q26d	RCP1	RCP2	RCP3	R10b	R20a	S5c	S15h	T5d	T5e	T30b	U10a	V40d	V45k	Y15e	Z15b
2004 Round One																															
Temp.℃	32	26	24	24		24	26	30	27		27	28	25	24			24					26	26			ns	31	32	29	26	22
pH	8.4	7.0	7.4	8.6		8.5	7.7	8.9	6.9		7.5	7.4	8.6	8.5			8.3					7.9	8.0			ns	7.5	9.2	8.6	7.8	8.2
Conductivity (µmhos/cm)	1,930	2,620	1,920	1,350		2,950	1,820	1,950	1,780		910	1,610	1,260	1,430			1,280					1,589	1,390			ns	1,320	1,480	1,450	2,560	1,280
Turbidity (NTU)	8.52	27.66	3.15	2.23		8.85	0.12	5.05	4.95		1.98	7.56	1.14	101			3.97					9.32	3.55			ns	18.48	4.14	3.43	4.82	7.82
Ammonia-N (mg/L)	1.5	0.8	0.7	0.3		0.8	0.1	0.6	0.1		0.8	0.5	0.1	0.8			0.2					0.6	0.6			ns	0.8	0.6	0.2	0.8	0.8
Nitrate-N (mg/L)	1.25	1.25	2.5	2.5		6.75	2.5	2.5	5		2.5	20	3.75	1.25			5					2.5	1.25			ns	1.25	1.25	1.25	3.75	2.5
Orthophosphate (mg/L)	0.60	2.00	4.50	1.50		0.70	0.10	0.10	0.30		1.50	0.40	0.10	0.10			0.20					2.00	0.60			ns	1.50	0.20	0.30	1.50	3.50
Orthophosphate-P (mg/L)	0.20	0.65	1.47	0.49		0.23	0.03	0.03	0.10		0.49	0.13	0.03	0.03			0.07					0.70	0.20			ns	0.49	0.07	0.10	0.49	1.14
Surfactants (mg/l MBAS)Field test	0.75	0.25	0.25	0.25		0.50	0.25	0.25	0.25		0.25	0.25	0.25	3.00			0.25					0.25	0.25			ns	0.50	0.25	0.25	0.50	0.50
Surfactants (mg/l MBAS)Lab test			nd			nd		nd					nd				nd											nd			
Oil and Grease (mg/L)			nd			1		nd					nd				nd											nd			
Total Hardness (mg/L)			461			669		346					355				397											368			
Cadmium-diss (mg/L)			nd			nd		nd					nd				nd											nd			
Copper-diss (mg/L)			nd			0.021		0.008					0.010				0.013											0.005			
Lead-diss (mg/L)			nd			nd		nd					nd				nd											nd			
Zinc-diss (mg/L)			0.024			nd		nd					nd				0.02											nd			
Diazinon (µg/L)			4.05			nd		nd					nd				nd											nd			
Chlorpyrifos (µg/L)			nd			nd		nd					nd				nd											nd			
Total Coliform (MPN/100mL)			22,000			110,000		30,000					170,000				50,000											4,000			
Fecal Coliform (MPN/100mL)			8,000			2,600		2,200					17,000				800											40			
Enterococcus (MPN/100mL)			5,000			7,000		800					200				3,000											220			
2004 Round Two																															
Temp.℃	20	22	19	23		21	25	25	25		23	27	23	25			22					22	21			ns	20	22	20	22	23
pH	8.0	7.4	7.6	7.9		8.2	7.9	8.9	7.4		7.8	7.8	8.7	8.3			8.3					7.8	8.0			ns	7.4	8.8	7.7	7.6	7.6
Conductivity (µmhos/cm)	2,150	2,860	2,570	2,130		2,940	5,680	2,490	1,990		850	1,670	1,610	2,490			1,670					970	1,860			ns	1,770	1,420	1,490	1,270	1,180
Turbidity (NTU)	2.35	28.87	3.86	18.87		2.35	1.48	11.59	1.22		4.55	11.34	2.26	143			0.67					5.55	33.76			ns	3.36	4.08	8.32	10.15	12.73
Ammonia-N (mg/L)	3.0	0.6	0.1	6.0		0.3	0.1	0.4	0.2		0.1	0.1	0.1	0.8			0.2					0.1	0.7			ns	0.6	0.2	0.2	0.3	1.0
Nitrate-N (mg/L)	7.50	2.50	2.50	15.00		5.00	8.75	2.50	5.00		1.25	15.00	3.75	1.25			8.75					1.25	3.75			ns	3.75	1.25	1.25	3.75	3.75
Orthophosphate (mg/L)	3.0	3.0	1.0	5.0		0.4	0.2	0.2	0.8		1.0	0.6	0.1	4.0			0.4					1.0	3.0			ns	1.0	0.3	0.3	0.6	5.0
Orthophosphate-P (mg/L)	0.98	0.98	0.33	1.63		0.13	0.07	0.07	0.26		0.33	0.20	0.03	1.30			0.13					0.33	0.98			ns	0.33	0.10	0.10	0.20	1.63
Surfactants (mg/l MBAS)Field test	0.38	0.75	0.25	0.25		0.50	0.25	0.38	0.25		0.38	0.38	0.38	3.00			0.25					0.50	0.50			ns	0.25	0.13	0.13	0.50	0.75
Surfactants (mg/l MBAS)Lab test						nd		nd					nd				nd											nd			
Oil and Grease (mg/L)						nd		nd					nd				1											nd			
Total Hardness (mg/L)						572		473					421				508											356			
Cadmium-diss (mg/L)						nd		nd					nd				nd											nd			
Copper-diss (mg/L)						0.008		0.005					nd				nd											nd			
Lead-diss (mg/L)						nd		nd					nd				nd											nd			
Zinc-diss (mg/L)						0.023		nd					nd				nd											nd			
Diazinon (µg/L)						nd		nd					nd				0.33											0.12			
Chlorpyrifos (µg/L)						nd		nd					nd				nd											nd			
Total Coliform (MPN/100mL)						300,000		300,000					240,000				160,000											17,000			
Fecal Coliform (MPN/100mL)						1,300		800					500				30,000											1,400			
Enterococcus (MPN/100mL)						7,000		7,000					80				24,000											13,000			
2005 Round One																															
Temp.℃	21.1	21.3	24.2	19.4		20.5	23.6	27.4	22.7		19.4	24.2	20.4	24.5			20.3					20.0	19.7			ns	21.5	22.9	24.7	20.5	17.0
pH	8.4	7.3	8.9	8.5		8.4	8.0	9.1	7.7		7.9	7.8	8.8	7.9			8.4					7.4	7.7			ns	8.3	8.8	8.4	7.7	8.1
Conductivity (µmhos/cm)	2,020	2,290	2,070	2,240		4,500	5,320	2,540	2,030		930	1,740	1,630	1,990			1,900					1,190	1,550			ns	2,240	2,530	2,270	1,460	1,260
Turbidity (NTU)	3.11	8.15	2.15	1.23		4.62	0.33	4.24	2.02		6.88	1.11	0.70	2.67			0.46					6.05	5.73			ns	18.34	2.50	2.06	3.92	37.4
Ammonia-N (mg/L)	0.2	0.8	0.2	0.2		0.1	0.2	0.4	0.3		2.0	nd	0.2	0.1			0.1					1.0	0.8			ns	0.2	0.1	0.2	0.4	1.5
Nitrate-N (mg/L)	5.00	1.25	2.50	2.50		8.75	6.25	5.00	3.75		6.25	20.00	10.00	25.00			15.00					2.50	5.00			ns	20.00	1.25	2.50	2.50	5.00
Orthophosphate (mg/L)	1.0	2.0	0.4	1.5		0.3	0.2	0.1	0.1		7.0	0.6	nd	0.6			0.3					0.2	0.8			ns	0.8	0.1	0.2	0.2	3.5
Orthophosphate-P (mg/L)	0.33	0.65	0.13	0.50		0.98	0.07	0.03	0.03		2.28	0.20	nd	0.20			0.98					0.07	0.26			ns	0.26	0.03	0.07	0.06	1.14
Surfactants (mg/l MBAS)Field test	0.13	0.38	0.25	0.25		0.50	0.50	0.38	0.25		0.13	0.25	0.38	0.63			0.38					0.75	0.75			ns	0.50	0.25	0.25	0.25	0.50
Surfactants (mg/l MBAS)Lab test						nd		nd					nd				nd											nd			
Oil and Grease (mg/L)						nd		nd					nd				nd											nd			
Total Hardness (mg/L)						907		545					486				584											566			
Cadmium-diss (mg/L)						nd		nd					nd				nd											nd			
Copper-diss (mg/L)						nd		0.014					nd				nd											nd			
Lead-diss (mg/L)						nd		nd					nd				nd											nd			
Zinc-diss (mg/L)						nd		nd					nd				nd											nd			
Diazinon (µg/L)						nd		nd					nd				nd											nd			
Chlorpyrifos (µg/L)						nd		nd					nd				nd											nd			
Total Coliform (MPN/100mL)						24,000		30,000					23,000				13,000											23,000			
Fecal Coliform (MPN/100mL)						70		270					2,300				170											1,700			
Enterococcus (MPN/100mL)						1,300		2,300					1,700				2,300											2,200			

City of Santee Dry Weather Historical Data

Site ID	A5c	E5g	G30c	H5e	I10d	J25c	J25c2	J30d	K15j2	O20b	O40b	P15b	P20f	Q5l	Q25k	Q26d	RCP1	RCP2	RCP3	R10b	R20a	S5c	S15h	T5d	T5e	T30b	U10a	V40d	V45k	Y15e	Z15b
2005 Round Two																															
Temp.℃	22.9	23.0	24.5	23.6		23.1	25.3	25.4	23.7		23.0	26.9	24.1	30.1			21.8					24.0	22.6			ns	23.0	19.1	24.8	21.7	18.7
pH	8.5	7.3	8.4	8.7		8.4	8.1	8.9	8.3		8.0	7.6	8.9	8.2			8.5					8.3	8.2			ns	7.6	8.8	8.2	7.9	8.4
Conductivity (µmhos/cm)	1,840	2,040	2,490	1,550		3,450	5,380	2,150	1,800		1,090	1,680	1,530	1,000			1,760					1,310	1,400			ns	1,330	1,740	1,970	1,250	1,010
Turbidity (NTU)	14.94	28.68	1.47	3.31		4.96	0.65	3.14	4.71		4.77	3.79	1.45	444.00			0.44					2.89	5.30			ns	3.04	7.03	1.78	4.55	3.20
Ammonia-N (mg/L)	0.8	2.5	0.3	0.6		0.3	0.2	0.4	0.6		0.4	0.1	0.2	0.3			0.1					0.1	0.3			ns	0.3	0.1	0.2	0.8	0.4
Nitrate-N (mg/L)	2.50	1.25	2.50	1.25		7.50	8.75	3.75	1.25		2.50	25.00	10.00	2.50			20.00					2.50	1.25			ns	1.25	1.25	2.50	2.50	2.50
Orthophosphate (mg/L)	3.0	0.8	1.0	2.0		0.6	0.2	0.1	0.3		1.0	0.6	nd	0.3			0.1					0.8	1.0			ns	1.0	0.1	nd	1.0	2.0
Orthophosphate-P (mg/L)	0.98	0.26	0.33	0.65		0.20	0.07	0.03	0.01		0.33	0.20	nd	0.10			0.03					0.26	0.33			ns	0.33	0.03	nd	0.33	0.63
Surfactants (mg/l MBAS)Field test	0.50	2.00	0.25	0.25		0.50	0.75	0.25	0.63		0.75	0.25	0.38	0.13			0.25					0.25	0.50			ns	0.25	0.13	0.13	0.38	0.75
Surfactants (mg/l MBAS)Lab test						nd		nd					nd				nd											nd			
Oil and Grease (mg/L)						nd		nd					nd				nd											nd			
Total Hardness (mg/L)						585		510					401				702											494			
Cadmium-diss (mg/L)						nd		nd					nd				nd											nd			
Copper-diss (mg/L)						nd		nd					nd				nd											nd			
Lead-diss (mg/L)						nd		nd					nd				nd											nd			
Zinc-diss (mg/L)						nd		nd					nd				nd											nd			
Diazinon (µg/L)						nd		nd					nd				nd											nd			
Chlorpyrifos (µg/L)						nd		nd					nd				nd											nd			
Total Coliform (MPN/100mL)						300,000		900,000					130,000				110,000											1,600,000			
Fecal Coliform (MPN/100mL)						22,000		7,000					8,000				11,000											5,000			
Enterococcus (MPN/100mL)						2,300		30,000					500				2,300											2,300			
2006 Round One																															
Temp.℃	18.8	21.1	23.1	21.7		20.4	23.2	28.2	23.0		21.5	24.9	24.1	23.8			20.0					22.1	23.6			ns	23.0	26.6	22.3	19.3	17.7
pH	8.2	7.2	8.1	8.3		8.3	8.0	9.2	7.1		7.5	7.6	8.8	8.1			8.4					7.8	7.8			ns	7.4	8.9	7.6	7.5	8.2
Conductivity (µmhos/cm)	1,950	2,080	3,350	1,590		3,990	5,440	2,270	1,860		1,020	1,620	1,300	1,960			1,660					1,070	1,160			ns	1,320	2,760	2,970	1,240	940
Turbidity (NTU)	2.50	19.29	2.55	1.81		3.89	1.86	1.34	0.91		2.14	2.33	2.05	53.00			1.94					0.79	6.44			ns	57.00	4.27	2.00	20.12	4.26
Ammonia-N (mg/L)	0.8	0.8	0.2	0.3		0.3	0.2	0.4	0.1		0.8	0.1	0.2	0.2			0.1					0.1	0.6			ns	0.7	0.2	0.1	0.2	0.1
Nitrate-N (mg/L)	3.75	1.25	1.25	1.25		5.00	7.50	3.75	5.00		1.25	15.00	2.50	5.00			15.00					1.25	2.50			ns	1.25	1.25	2.50	7.50	3.75
Orthophosphate (mg/L)	3.5	2.0	0.4	0.6		0.3	0.3	0.1	0.2		0.6	0.7	0.1	2.5			0.2					0.4	1.5			ns	2.0	0.3	0.3	0.7	0.6
Orthophosphate-P (mg/L)	1.14	0.65	0.13	0.20		0.10	0.10	0.03	0.07		0.20	0.23	0.03	0.82			0.07					0.13	0.49			ns	0.65	0.10	0.10	0.23	0.20
Surfactants (mg/l MBAS)Field test	0.75	0.50	0.50	0.75		0.50	0.50	0.25	0.25		0.25	0.50	0.25	>3.0			0.25					0.25	0.50			ns	0.25	0.50	0.50	0.50	0.25
Surfactants (mg/l MBAS)Lab test						nd		nd					nd				nd											nd			
Oil and Grease (mg/L)						nd		nd					nd				nd											nd			
Total Hardness (mg/L)						826		563					366				574											709			
Cadmium-diss (mg/L)						nd		nd					nd				nd											nd			
Copper-diss (mg/L)						0.012		0.008					0.009				nd											0.010			
Lead-diss (mg/L)						nd		nd					nd				nd											nd			
Zinc-diss (mg/L)						nd		nd					0.024				0.021											nd			
Diazinon (µg/L)						nd		nd					nd				nd											nd			
Chlorpyrifos (µg/L)						nd		nd					nd				nd											nd			
Total Coliform (MPN/100mL)						1,600,000		900,000					220,000				5,000											240,000			
Fecal Coliform (MPN/100mL)						14,000		1,400					3,000				230											800			
Enterococcus (MPN/100mL)						130,000		500					5,000				130											800			
2006 Round Two																															
Temp.℃	24.3	23.2	22.3	22.3		21.6	24.0	26.5	23.9		20.6	26.2	20.2	27.1			21.6					24.7	22.8			ns	19.9	19.0	20.8	21.5	19.0
pH	8.8	7.9	7.7	8.8		8.4	8.1	9.4	7.7		8.7	8.0	9.2	8.2			8.6					7.9	7.9			ns	8.4	8.5	8.0	8.2	8.5
Conductivity (µmhos/cm)	1,840	1,150	1,690	1,550		2,660	5,370	2,140	1,860		1,440	1,570	1,280	2,100			1,610					1,000	1,530			ns	900	2,610	2,650	1,400	930
Turbidity (NTU)	12.20	4.58	15.54	2.08		2.42	1.20	5.98	3.90		6.38	2.15	3.89	29.59			2.91					6.38	6.96			ns	8.27	4.15	1.77	26.66	4.11
Ammonia-N (mg/L)	0.4	0.4	0.1	0.2		0.3	0.2	0.2	0.1		0.2	0.1	0.1	1.3			0.1					0.1	0.6			ns	0.6	0.2	0.2	0.3	0.2
Nitrate-N (mg/L)	3.75	1.25	3.75	1.25		3.75	6.25	2.50	2.50		6.25	10.00	3.75	3.75			10.00					3.75	1.25			ns	2.50	1.25	2.50	5.00	2.50
Orthophosphate (mg/L)	3.0	0.2	0.6	2.0		0.6	0.4	nd	0.1		1.5	0.4	0.2	3.5			0.2					0.4	2.0			ns	1.5	0.4	0.3	0.6	1.5
Orthophosphate-P (mg/L)	0.98	0.07	0.20	0.65		0.20	0.13	nd	0.03		0.49	0.13	0.07	1.14			0.07					0.13	0.65			ns	0.49	0.13	0.10	0.20	0.49
Surfactants (mg/l MBAS)Field test	0.25	0.25	0.75	0.25		0.25	0.25	0.25	0.13		0.25	0.13	0.50	3.00			0.25					0.25	0.50			ns	0.25	0.75	0.25	0.67	0.25
Surfactants (mg/l MBAS)Lab test						nd		nd					nd				nd											nd			
Oil and Grease (mg/L)						nd		nd					nd				nd											nd			
Total Hardness (mg/L)						580		475					385				531											707			
Cadmium-diss (mg/L)						nd		nd					nd				nd											nd			
Copper-diss (mg/L)						0.011		0.006					0.008				nd											nd			
Lead-diss (mg/L)						nd		nd					nd				nd											nd			
Zinc-diss (mg/L)						0.022		nd					0.027				nd											0.024			
Diazinon (µg/L)						3.91		0.28					nd				nd											nd			
Chlorpyrifos (µg/L)						nd		nd					nd				nd											nd			
Total Coliform (MPN/100mL)						170,000		80,000					130,000				30,000											22,000			
Fecal Coliform (MPN/100mL)						24,000		13,000					5,000				8,000											5,000			
Enterococcus (MPN/100mL)						30,000		24,000					500				300											2,300			

City of Santee Dry Weather Historical Data

Site ID	A5c	E5g	G30c	H5e	I10d	J25c	J25c2	J30d	K15j2	O20b	O40b	P15b	P20f	Q5l	Q25k	Q26d	RCP1	RCP2	RCP3	R10b	R20a	S5c	S15h	T5d	T5e	T30b	U10a	V40d	V45k	Y15e	Z15b
2007 Round One																															
Temp.℃	18.0	18.9	18.3	17.6		20.0	19.3	24.4	18.8		21.3	22.0	21.8	21.0			19.3					22.2	22.1				28.7	18.1	22.0	19.4	16.8
pH	8.2	7.5	9.2	8.3		8.3	8.2	8.9	8.5		8.1	7.9	9.2	8.2			8.5					7.8	8.2				8.8	8.7	7.8	7.5	8.2
Conductivity (mS/cm)	1.57	2.52	1.60	1.92		3.81	5.37	2.27	1.95		1.33	1.57	1.11	2.17			1.57					1.04	1.44				1.26	2.27	2.46	1.29	1.02
Turbidity (NTU)	4.78	5.22	4.93	4.15		3.31	1.26	3.32	1.77		5.56	11.79	3.45	48.79			0.25					2.01	9.08				10.86	3.32	2.53	7.32	3.04
Ammonia-N (mg/L)	nd	0.4	nd	0.1		0.2	0.1	0.4	0.1		0.8	nd	0.1	0.3			0.1					nd	0.3				0.4	0.1	0.2	0.1	nd
Nitrate-N (mg/L)	6.90	0.95	0.97	2.37		4.75	9.65	3.00	3.53		4.00	11.50	1.29	26.20			8.10					1.08	9.40				0.70	0.50	0.23	2.78	2.03
Orthophosphate (mg/L)	1.4	0.9	1.2	1.8		0.4	0.2	1.0	0.1		1.6	0.6	0.1	2.3			0.5					1.0	3.8				1.9	0.1	0.3	0.7	0.7
Orthophosphate-P (mg/L)	0.46	0.29	0.39	0.59		0.13	0.07	0.03	0.03		0.52	0.20	0.03	0.75			0.16					0.33	1.24				0.62	0.03	0.10	0.23	0.23
Surfactants (mg/l MBAS)Field test	0.50	0.50	0.75	0.50		1.00	0.75	0.38	0.25		0.50	0.25	0.38	3.00			0.25					0.50	0.75				0.50	0.38	0.25	0.50	0.38
Surfactants (mg/l MBAS)Lab test						nd		nd					nd				nd											nd			
Oil and Grease (mg/L)						nd		nd					nd				nd											nd			
Total Hardness (mg/L)						808		573					358				577											662			
Cadmium-diss (mg/L)						nd		nd					nd				nd											nd			
Copper-diss (mg/L)						0.009		0.007					nd				0.010											nd			
Lead-diss (mg/L)						nd		nd					nd				nd											nd			
Zinc-diss (mg/L)						nd		nd					nd				nd											nd			
Diazinon (µg/L)						nd		nd					nd				nd											nd			
Chlorpyrifos (µg/L)						nd		nd					nd				nd											nd			
Total Coliform (MPN/100mL)						13,000		23,000					23,000				13,000											50,000			
Fecal Coliform (MPN/100mL)						5,000		800					330				1,700											1,100			
Enterococcus (MPN/100mL)						1,300		800					800				2,800											1,300			
2007 Round Two																															
Temp.℃	23.5	20.2	21.5	20.1		23.4	24.9	24.5	21.0		20.9	27.4	17.7	24.5			22.0					24.8	19.8				26.8	20.8	22.7	18.3	17.5
pH	8.3	7.4	8.1	8.5		8.2	7.9	8.4	7.5		7.8	7.8	8.1	8.2			8.1					7.6	7.5				8.9	8.7	7.8	7.4	8.0
Conductivity (mS/cm)	1.81	2.20	1.49	1.27		3.33	4.60	2.17	1.75		1.26	1.48	1.34	1.73			1.44					1.13	1.51				1.55	2.04	2.09	1.44	0.87
Turbidity (NTU)	3.73	2.03	0.10	4.38		0.10	0.10	0.10	0.12		0.90	0.82	0.82	16.09			0.10					2.46	2.14				1.85	0.10	0.10	4.71	0.10
Ammonia-N (mg/L)	0.2	0.2	nd	0.1		0.2	0.2	0.4	0.2		nd	0.1	nd	0.6			nd					nd	0.1				0.1	0.1	0.1	0.3	nd
Nitrate-N (mg/L)	3.19	0.97	0.88	0.66		5.31	7.46	3.28	4.54		2.71	15.37	3.71	4.29			13.10					0.41	5.88				0.90	0.63	0.66	1.08	1.06
Orthophosphate (mg/L)	3.0	2.2	0.7	2.6		0.6	0.5	0.2	0.2		2.3	0.6	0.6	4.2			0.6					6.7	2.8				1.5	0.2	0.4	2.9	0.9
Orthophosphate-P (mg/L)	0.98	0.72	0.23	0.85		0.20	0.16	0.07	0.07		0.75	0.20	0.20	1.37			0.20					2.18	0.91				0.49	0.07	0.13	0.95	0.29
Surfactants (mg/l MBAS)Field test	0.50	0.63	0.13	0.50		0.50	0.50	0.25	0.38		0.75	0.13	0.50	0.50			0.25					0.75	0.75				0.38	0.50	0.25	0.75	0.13
Surfactants (mg/l MBAS)Lab test						nd		nd					nd				nd											nd			
Oil and Grease (mg/L)						nd		nd					nd				nd											nd			
Total Hardness (mg/L)						765		629					479				436											606			
Cadmium-diss (mg/L)						nd		nd					nd				nd											nd			
Copper-diss (mg/L)						0.012		0.005					nd				nd											nd			
Lead-diss (mg/L)						nd		nd					nd				nd											nd			
Zinc-diss (mg/L)						nd		nd					nd				nd											nd			
Diazinon (µg/L)						nd		nd					nd				nd											nd			
Chlorpyrifos (µg/L)						nd		nd					nd				nd											nd			
Total Coliform (MPN/100mL)						50,000		13,000					50,000				23,000											30,000			
Fecal Coliform (MPN/100mL)						24,000		13,000					5,000				23,000											500			
Enterococcus (MPN/100mL)						8,000		5,000					2,300				24,000											230			
2008 Round One																															
Temp.℃	24.8	21.8	19.9	20.4		19.5	21.3	26.2	21.4		18.9	23.7	22.7	23.3			18.6					21.2	21.2				19.2	21.5	23.4	20.5	15.8
pH	8.3	7.4	8.2	8.1		8.2	7.8	9.1	7.0		8.2	7.5	7.8	8.0			8.2					7.6	8.2				7.8	8.4	7.8	7.5	7.7
Conductivity (mS/cm)	1.94	2.66	1.38	2.36		4.29	5.20	2.38	2.21		1.95	1.67	1.26	1.89			1.63					1.37	1.65				1.45	2.89	3.03	1.57	1.20
Turbidity (NTU)	1.14	0.01	0.01	0.27		0.01	0.01	0.52	0.01		0.01	1.41	0.74	0.87			0.01					1.04	1.35				0.01	0.20	0.01	0.01	0.04
Ammonia-N (mg/L)	0.1	1.4	nd	0.3		0.2	0.1	0.4	0.1		0.2	0.1	0.1	0.2			nd					0.1	0.1				nd	0.2	0.2	0.1	nd
Surfactants (mg/l MBAS)	0.38	0.50	0.13	0.75		0.50	0.50	0.38	0.25		0.63	0.38	0.13	0.50			0.25					0.38	0.50				0.75	0.50	0.50	0.50	0.38
Nitrate-N (mg/L)	1.0	3.5	1.4	1.8		9.1	8.7	2.2	8.0		17.9	14.7	0.8	22.6			15.4					2.0	9.0				0.6	0.7	0.7	3.5	3.1
Orthophosphate-P (mg/L)	0.30	0.16	0.07	0.40		0.13	0.20	0.07	0.50		0.20	0.20	0.20	0.30			0.10					0.13	0.50				0.30	nd	0.07	0.13	0.20
Oil and Grease (mg/L)						nd		nd					nd				nd											nd			
Total Hardness (mg/L)						822		617					408				557											748			
Cadmium-diss (mg/L)						nd		nd					nd				nd											nd			
Copper-diss (mg/L)						0.008		0.005					nd				nd											nd			
Lead-diss (mg/L)						nd		nd					nd				nd											nd			
Zinc-diss (mg/L)						nd		nd					nd				nd											nd			
Diazinon (µg/L)						nd		nd					nd				nd											nd			
Chlorpyrifos (µg/L)						nd		nd					nd				nd											nd			
Total Coliform (MPN/100mL)						600		11,000					13,000				7,000											1,300			
Fecal Coliform (MPN/100mL)						400		3,000					300				500											130			
Enterococcus (MPN/100mL)						800		8,000					500				480											3,000			

City of Santee Dry Weather Historical Data

Site ID	A5c	E5g	G30c	H5e	I10d	J25c	J25c2	J30d	K15j2	O20b	O40b	P15b	P20f	Q5l	Q25k	Q26d	RCP1	RCP2	RCP3	R10b	R20a	S5c	S15h	T5d	T5e	T30b	U10a	V40d	V45k	Y15e	Z15b
2008 Round Two																															
Temp.℃	23.4	24.8	33.3	26.4		27.8	27.3	27.4	25.5		27.1	27.8	29.0	29.5			25.3					23.8	27.4				27.2	33.2	27.0	25.3	28.1
pH	8.3	7.6	9.4	8.4		8.4	7.9	8.3	7.8		7.8	7.8	8.9	7.7			8.5					8.3	8.0				9.3	9.2	7.8	7.6	7.5
Conductivity (mS/cm)	1.76	2.88	2.11	2.15		2.79	4.84	2.16	2.09		1.23	1.58	1.23	2.09			1.73					1.26	1.44				1.56	3.05	3.38	1.42	1.37
Turbidity (NTU)	190.00	10.63	11.58	0.01		0.82	0.01	1.69	0.01		3.24	0.01	0.90	239.00			0.01					1.29	6.80				11.74	0.50	3.34	1.24	3.85
Ammonia-N (mg/L)	0.179	0.424	0.446	0.244		0.222	0.303	0.311	0.245		0.554	0.191	0.236	1.760			0.212					0.026	0.216				0.523	0.279	0.278	0.116	0.348
Surfactants (mg/l MBAS)	0.13	0.25	0.25	0.13		0.25	0.38	0.25	0.13		0.13	0.13	0.25	0.75			0.25					0.13	0.38				0.25	0.25	0.25	0.25	0.25
Nitrate-N (mg/L)	2.32	1.40	1.13	3.02		4.00	7.18	2.46	4.08		0.74	12.06	0.64	0.95			9.50					1.89	1.06				1.20	0.72	0.73	1.55	1.61
Orthophosphate-P (mg/L)	1.172	0.315	0.329	0.510		0.384	0.295	0.056	nd		0.005	0.165	0.053	2.925			0.080					0.562	0.401				0.474	0.011	0.177	0.180	0.377
Oil and Grease (mg/L)						nd		nd					nd				nd											nd			
Total Hardness (mg/L)						614		590					372				587											749			
Cadmium-diss (mg/L)						nd		nd					nd				nd											nd			
Copper-diss (mg/L)						0.01600		0.00673					0.00319				0.00413											0.00737			
Lead-diss (mg/L)						nd		nd					nd				nd											nd			
Zinc-diss (mg/L)						0.0188		0.0172					0.0173				0.0226											0.0135			
Diazinon (µg/L)						nd		nd					nd				nd											nd			
Chlorpyrifos (µg/L)						nd		nd					nd				nd											nd			
Total Coliform (MPN/100mL)						140,000		240,000					5,000				14,000											800			
Fecal Coliform (MPN/100mL)						5,000		28,000					800				9,000											300			
Enterococcus (MPN/100mL)						13,000		160,000					20				14,000											500			
2009 Round One																															
Temp.℃	21.4	22.1	29.0	25.3		20.8	25.2	20.9	28.6	19.1		24.6	23.8	19.8			21.5		21.8			24.7	24.6		24.4	ns	27.9	21.6	ns	19.8
pH	8.2	7.0	8.9	8.3		8.2	8.0	8.2	8.1	8.1		7.7	8.8	8.2			8.3		8.2			8.1	8.7		8.2	ns	8.6	7.9	ns	8.1
Conductivity (mS/cm)	2.14	5.12	3.02	1.52		4.39	4.47	2.68	2.44	1.51		1.62	1.36	1.84			1.60		1.84			1.02	1.64		1.05	ns	4.19	4.55	ns	1.13
Turbidity (NTU)	5.83	7.72	3.49	0.92		0.78	2.26	0.01	1.80	9.17		0.79	10.30	49.91			0.64		0.42			2.59	15.00		5.89	ns	1.68	0.01	ns	5.14
Ammonia-N (mg/L)	0.2	1.6	0.2	0.0		0.2	0.3	0.2	0.3	0.1		0.1	0.2	0.6			0.1		0.2			0.0	0.2		0.1	ns	0.1	0.2	ns	0.0
Surfactants (mg/l MBAS)	0.50	0.50	0.25	0.25		0.75	0.50	0.25	0.38	0.25		0.13	0.13	0.50			0.25		0.25			0.13	0.38		0.25	ns	0.50	0.50	ns	0.13
Nitrate-N (mg/L)	4.8	8.4	3.4	1.1		7.0	5.9	4.9	5.2	2.3		7.0	2.6	6.4			9.3		0.9			0.3	1.3		0.4	ns	0.1	0.1	ns	1.0
Orthophosphate-P (mg/L)	0.47	0.99	0.08	0.09		0.04	0.10	0.01	0.02	0.49		0.13	0.05	0.72			0.09		0.10			0.04	0.44		0.39	ns	0.00	0.02	ns	0.30
Oil and Grease (mg/L)						ND		ND					ND				ND											ND			
Total Hardness (mg/L)						780		685					356				520											1020			
Cadmium-diss (mg/L)						ND		ND					ND				ND											ND			
Copper-diss (mg/L)						0.006		ND					ND				ND											ND			
Lead-diss (mg/L)						ND		ND					ND				ND											ND			
Zinc-diss (mg/L)						ND		ND					ND				ND											ND			
Diazinon (µg/L)						ND		ND					ND				ND											ND			
Chlorpyrifos (µg/L)						ND		ND					ND				ND											ND			
Total Coliform (MPN/100mL)						8,000		11,000					11,000				8,000											1,700			
Fecal Coliform (MPN/100mL)						170		3,000					400				70											500			
Enterococcus (MPN/100mL)						1,300		3,000					500				2,300											300			
2009 Round Two																															
Temp.℃	25.1	24.8	33.0	27.9		26.4	30.1	30.8	29.9	26.2		30.5	28.0	25.2			28.0		23.6			28.8	27.1		23.0	ns	34.4	26.1	ns	25.9
pH	8.0	7.4	8.8	7.9		8.3	7.9	8.0	7.7	8.0		7.7	8.2	8.0			8.2		8.0			7.8	7.9		7.5	ns	9.1	7.7	ns	7.6
Conductivity (mS/cm)	2.16	3.26	2.58	2.70		4.36	5.42	3.11	2.02	1.36		1.60	1.53	1.86			1.50		1.73			2.48	1.46		1.59	ns	3.00	2.60	ns	2.35
Turbidity (NTU)	18.10	12.68	3.46	1.14		0.18	0.41	8.66	0.80	1.21		0.82	3.50	112.00			0.50		0.49			1.60	16.76		7.68	ns	1.95	3.70	ns	7.79
Ammonia-N (mg/L)	0.432	0.693	0.214	0.285		0.221	0.240	0.643	0.210	0.430		0.202	0.268	0.595			0.170		0.177			0.273	0.750		0.110	ns	0.177	0.271	ns	0.256
Surfactants (mg/l MBAS)	0.75	0.50	0.25	0.25		0.38	0.38	0.25	0.13	0.25		0.13	0.25	0.75			0.13		0.25			0.25	0.75		0.25	ns	0.25	0.25	ns	0.50
Nitrate-N (mg/L)	1.33	0.55	2.86	0.81		7.94	6.01	2.43	5.36	0.71		13.42	5.66	2.88			9.96		9.93			1.30	1.27		0.18	ns	0.09	0.12	ns	0.60
Orthophosphate-P (mg/L)	0.712	0.465	0.186	0.414		0.196	0.054	0.044	0.037	0.228		0.156	0.016	9.343			0.103		0.152			0.267	0.839		0.057	ns	0.015	0.064	ns	0.163
Oil and Grease (mg/L)						nd		nd					nd				nd											nd			
Total Hardness (mg/L)						931		834					534				553											773			
Cadmium-diss (mg/L)						nd		nd					nd				nd											nd			
Copper-diss (mg/L)						0.02100		0.004					0.003				0.002											0.005			
Lead-diss (mg/L)						nd		nd					nd				nd											nd			
Zinc-diss (mg/L)						nd		nd					nd				nd											nd			
Diazinon (µg/L)						nd		nd					nd				nd											nd			
Chlorpyrifos (µg/L)						nd		nd					nd				nd											nd			
Total Coliform (MPN/100mL)						13,000		300,000					22,000				13,000											2,300			
Fecal Coliform (MPN/100mL)						13,000		90,000					17,000				8,000											300			
Enterococcus (MPN/100mL)						5,000		30,000					110				800											130			

Appendix B

Photographs of Sampling Locations

Site A5c	
Site E5g1	
Site G30c	

Site H5e	
Site I10c	
Site J25c	

Site J25c2	
Site J30d1	
Site O15f	

Site O40b	
Site P10a	
Site P20f	

Site Q20a	
Site RCP1	
Site RCP3	

Site S5c	
Site S15h	
Site T5e	

Site V40d	
Site V45k	
Site W30C	

Site Z15a1		

Appendix C

Laboratory Analytical Reports

Round One

01 June 2010

D-Max Engineering
Attn: Arsalan Dadkhah
7220 Trade Street, Suite 119
San Diego, California 92121

EMA Log #: 10E0523

Project Name: Santee Dry Weather
Project Desc./#: 201022W-2

Enclosed are the results of analyses for samples received by the laboratory on 05/19/10 15:18. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that this data is in compliance both technically and for completeness.

Dan Verdon
Laboratory Director

CA ELAP Certification #: 2564

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 10E0523

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
RCP1	10E0523-01	Stormwater	05/19/10 11:15	05/19/10 15:18
J25c	10E0523-02	Stormwater	05/19/10 12:10	05/19/10 15:18
J30d1	10E0523-03	Stormwater	05/19/10 14:10	05/19/10 15:18

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 10E0523

Metals (Dissolved) by EPA 200 Series Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
RCP1 (10E0523-01) Stormwater	**Sampled: 05/19/10 11:15**		**Received: 05/19/10 15:18**							
Cadmium	**0.0003**	0.0002	0.001	mg/l	1	0052434	05/24/10	05/25/10	EPA 200.8	J
Copper	**0.017**	0.001	0.010	"	"	"	"	"	"	
Lead	ND	0.001	0.005	"	"	"	"	"	"	
Zinc	**0.020**	0.0003	0.020	"	"	"	"	"	"	
J25c (10E0523-02) Stormwater	**Sampled: 05/19/10 12:10**		**Received: 05/19/10 15:18**							
Copper	**0.009**	0.001	0.010	mg/l	1	0052434	05/24/10	05/25/10	EPA 200.8	J
Cadmium	**0.0004**	0.0002	0.001	"	"	"	"	"	"	J
Lead	ND	0.001	0.005	"	"	"	"	"	"	
Zinc	ND	0.0003	0.020	"	"	"	"	"	"	
J30d1 (10E0523-03) Stormwater	**Sampled: 05/19/10 14:10**		**Received: 05/19/10 15:18**							
Zinc	ND	0.0003	0.020	mg/l	1	0052434	05/24/10	05/25/10	EPA 200.8	
Lead	ND	0.001	0.005	"	"	"	"	"	"	
Copper	**0.002**	0.001	0.010	"	"	"	"	"	"	J
Cadmium	**0.0002**	0.0002	0.001	"	"	"	"	"	"	J

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 10E0523

Organophosphorus Pesticides by EPA Method 8141A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
RCP1 (10E0523-01) Stormwater	**Sampled: 05/19/10 11:15**		**Received: 05/19/10 15:18**							**GC-05**
Chlorpyrifos	ND	0.04	0.05	ug/l	1	0052501	05/25/10	05/26/10	EPA 8141A	
Diazinon	ND	0.04	0.05	"	"	"	"	"	"	
Malathion	ND	0.05	0.05	"	"	"	"	"	"	
Surrogate: Triphenyl phosphate		*120 %*	*60-130*			"	"	"	"	
Surrogate: Tribuytlphosphate		*112 %*	*60-130*			"	"	"	"	
J25c (10E0523-02) Stormwater	**Sampled: 05/19/10 12:10**		**Received: 05/19/10 15:18**							**GC-05**
Chlorpyrifos	ND	0.04	0.05	ug/l	1	0052501	05/25/10	05/30/10	EPA 8141A	
Diazinon	ND	0.04	0.05	"	"	"	"	"	"	
Malathion	ND	0.05	0.05	"	"	"	"	"	"	
Surrogate: Triphenyl phosphate		*132 %*	*60-130*			"	"	"	"	*S-02, S-04*
Surrogate: Tribuytlphosphate		*128 %*	*60-130*			"	"	"	"	
J30d1 (10E0523-03) Stormwater	**Sampled: 05/19/10 14:10**		**Received: 05/19/10 15:18**							**GC-05**
Chlorpyrifos	ND	0.04	0.05	ug/l	1	0052501	05/25/10	05/30/10	EPA 8141A	
Diazinon	ND	0.04	0.05	"	"	"	"	"	"	
Malathion	ND	0.05	0.05	"	"	"	"	"	"	
Surrogate: Triphenyl phosphate		*124 %*	*60-130*			"	"	"	"	
Surrogate: Tribuytlphosphate		*120 %*	*60-130*			"	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 10E0523

Conventional Chemistry Parameters by Standard/EPA Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
RCP1 (10E0523-01) Stormwater	**Sampled: 05/19/10 11:15**		**Received: 05/19/10 15:18**							
Hardness (Total)	**496**	100	100	mg CaCO3/L	10	0052621	05/25/10	05/27/10	EPA 200.7	
Oil & Grease	ND	5	5	mg/l	1	0052543	05/25/10	05/25/10	EPA 1664A	
J25c (10E0523-02) Stormwater	**Sampled: 05/19/10 12:10**		**Received: 05/19/10 15:18**							
Hardness (Total)	**757**	100	100	mg CaCO3/L	10	0052621	05/25/10	05/27/10	EPA 200.7	
Oil & Grease	ND	5	5	mg/l	1	0052543	05/25/10	05/25/10	EPA 1664A	
J30d1 (10E0523-03) Stormwater	**Sampled: 05/19/10 14:10**		**Received: 05/19/10 15:18**							
Hardness (Total)	**785**	100	100	mg CaCO3/L	10	0052621	05/25/10	05/27/10	EPA 200.7	
Oil & Grease	ND	5	5	mg/l	1	0052543	05/25/10	05/25/10	EPA 1664A	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 10E0523

Microbiological Parameters by Standard Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
RCP1 (10E0523-01) Stormwater	**Sampled: 05/19/10 11:15**		**Received: 05/19/10 15:18**							
Total Coliforms	**3000**	200	200	MPN/100 ml	100	0052024	05/19/10	05/23/10	SM 9221 B, E	
Fecal Coliforms	**20**	20	20	"	10	"	"	05/22/10	"	
Enterococcus	**2300**	200	200	"	100	0052025	"	05/23/10	SM 9230 A, B	
J25c (10E0523-02) Stormwater	**Sampled: 05/19/10 12:10**		**Received: 05/19/10 15:18**							
Total Coliforms	**23000**	2000	2000	MPN/100 ml	1000	0052024	05/19/10	05/23/10	SM 9221 B, E	
Fecal Coliforms	**1700**	20	20	"	10	"	"	05/22/10	"	
Enterococcus	**50000**	200	200	"	100	0052025	"	05/23/10	SM 9230 A, B	
J30d1 (10E0523-03) Stormwater	**Sampled: 05/19/10 14:10**		**Received: 05/19/10 15:18**							
Total Coliforms	**5000**	200	200	MPN/100 ml	100	0052024	05/19/10	05/23/10	SM 9221 B, E	
Fecal Coliforms	ND	20	20	"	10	"	"	05/22/10	"	
Enterococcus	**500**	20	20	"	"	0052025	"	05/23/10	SM 9230 A, B	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 10E0523

Metals (Dissolved) by EPA 200 Series Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0052434											
Blank (0052434-BLK1)					Prepared & Analyzed: 05/24/10						
Copper	ND	0.001	0.010	mg/l							
Lead	ND	0.001	0.005	"							
Zinc	ND	0.0003	0.020	"							
Cadmium	ND	0.0002	0.001	"							
LCS (0052434-BS1)					Prepared & Analyzed: 05/24/10						
Cadmium	0.047	0.0002	0.001	mg/l	0.0500		94	75-125			
Copper	0.046	0.001	0.010	"	0.0500		93	75-125			
Lead	0.050	0.001	0.005	"	0.0500		99	75-125			
Zinc	0.047	0.0003	0.020	"	0.0500		95	75-125			
LCS Dup (0052434-BSD1)					Prepared & Analyzed: 05/24/10						
Cadmium	0.048	0.0002	0.001	mg/l	0.0500		95	75-125	2	20	
Copper	0.047	0.001	0.010	"	0.0500		94	75-125	2	20	
Lead	0.049	0.001	0.005	"	0.0500		98	75-125	1	20	
Zinc	0.048	0.0003	0.020	"	0.0500		96	75-125	1	20	
Duplicate (0052434-DUP1)			**Source: 10E0547-01**		Prepared: 05/24/10 Analyzed: 05/25/10						
Cadmium	ND	0.0002	0.001	mg/l		ND				20	
Zinc	ND	0.0003	0.020	"		ND				20	
Copper	ND	0.001	0.010	"		ND				20	
Lead	ND	0.001	0.005	"		ND				20	
Matrix Spike (0052434-MS1)			**Source: 10E0547-01**		Prepared: 05/24/10 Analyzed: 05/25/10						
Cadmium	0.048	0.0002	0.001	mg/l	0.0500	ND	97	75-125			
Copper	0.048	0.001	0.010	"	0.0500	ND	96	75-125			
Lead	0.046	0.001	0.005	"	0.0500	ND	92	75-125			
Zinc	0.044	0.0003	0.020	"	0.0500	ND	87	75-125			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 10E0523

Metals (Dissolved) by EPA 200 Series Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0052434											
Matrix Spike Dup (0052434-MSD1)			**Source: 10E0547-01**		Prepared: 05/24/10		Analyzed: 05/25/10				
Cadmium	0.050	0.0002	0.001	mg/l	0.0500	ND	100	75-125	3	20	
Copper	0.049	0.001	0.010	"	0.0500	ND	97	75-125	1	20	
Lead	0.045	0.001	0.005	"	0.0500	ND	91	75-125	1	20	
Zinc	0.044	0.0003	0.020	"	0.0500	ND	88	75-125	1	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 10E0523

Organophosphorus Pesticides by EPA Method 8141A - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0052501											
Blank (0052501-BLK1)					Prepared: 05/25/10 Analyzed: 05/30/10						
Chlorpyrifos	ND	0.04	0.05	ug/l							
Diazinon	ND	0.04	0.05	"							
Malathion	ND	0.05	0.05	"							
Surrogate: Triphenyl phosphate	*0.290*			*"*	*0.250*		*116*	*60-130*			
Surrogate: Tribuytlphosphate	*0.290*			*"*	*0.250*		*116*	*60-130*			
LCS (0052501-BS1)					Prepared: 05/25/10 Analyzed: 05/30/10						
Bolstar	0.45	0.09	0.10	ug/l	0.500		90	60-130			
Diazinon	0.53	0.04	0.05	"	0.500		106	60-130			
Ethoprop	0.58	0.05	0.05	"	0.500		116	60-130			
Mevinphos	0.55	0.21	0.25	"	0.500		110	60-130			
Methyl parathion	0.55	0.07	0.10	"	0.500		110	60-130			
Phorate	0.48	0.03	0.05	"	0.500		96	60-130			
Ronnel	0.55	0.16	0.25	"	0.500		110	60-130			
Trichlorinate	0.56	0.05	0.05	"	0.500		112	60-130			
Surrogate: Triphenyl phosphate	*0.300*			*"*	*0.250*		*120*	*60-130*			
Surrogate: Tribuytlphosphate	*0.310*			*"*	*0.250*		*124*	*60-130*			
LCS Dup (0052501-BSD1)					Prepared: 05/25/10 Analyzed: 05/30/10						
Bolstar	0.46	0.09	0.10	ug/l	0.500		92	60-130	2	30	
Diazinon	0.55	0.04	0.05	"	0.500		110	60-130	4	30	
Ethoprop	0.57	0.05	0.05	"	0.500		114	60-130	2	30	
Mevinphos	0.56	0.21	0.25	"	0.500		112	60-130	2	30	
Methyl parathion	0.56	0.07	0.10	"	0.500		112	60-130	2	30	
Phorate	0.48	0.03	0.05	"	0.500		96	60-130	0	30	
Ronnel	0.55	0.16	0.25	"	0.500		110	60-130	0	30	
Trichlorinate	0.56	0.05	0.05	"	0.500		112	60-130	0	30	
Surrogate: Triphenyl phosphate	*0.310*			*"*	*0.250*		*124*	*60-130*			
Surrogate: Tribuytlphosphate	*0.320*			*"*	*0.250*		*128*	*60-130*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 10E0523

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0052543											
Blank (0052543-BLK1)					Prepared & Analyzed: 05/25/10						
Oil & Grease	ND	5	5	mg/l							
LCS (0052543-BS1)					Prepared & Analyzed: 05/25/10						
Oil & Grease	35	5	5	mg/l	40.0		88	78-114			
LCS Dup (0052543-BSD1)					Prepared & Analyzed: 05/25/10						
Oil & Grease	33	5	5	mg/l	40.0		84	78-114	5	20	
Batch 0052621											
Blank (0052621-BLK1)					Prepared: 05/25/10 Analyzed: 05/27/10						
Hardness (Total)	ND	10	10	mg CaCO3/L							
Duplicate (0052621-DUP1)			**Source: 10E0520-03**		Prepared: 05/25/10 Analyzed: 05/27/10						
Hardness (Total)	1160	100	100	mg CaCO3/L		1150			1	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Notes and Definitions

S-04	The surrogate recovery for this sample is outside of established control limits due to a sample matrix effect.
S-02	The surrogate recovery for this sample cannot be accurately quantified due to interference from coeluting organic compounds present in the sample extract.
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
GC-05	Results confirmed by GCMS.
ND	Analyte NOT DETECTED at or above the reporting limit (or method detection limit when specified)
NR	Not Reported
dry	Sample results reported on a dry weight basis (if indicated in units column)
RPD	Relative Percent Difference
MDL	Method detection limit (indicated per client's request)

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CHAIN-OF-CUSTODY RECORD

– EnviroMatrix Analytical, Inc. —
4340 Viewridge Ave., Ste. A - San Diego, CA 92123 - Phone (858) 560-7717 - Fax (858) 560-7763

EMA LOG #: 10E0523

Client: D-Max Engineering, INC
Attn: Arsalan Dadkhah
Samplers(s): Manouchehr Dadkhah / Annika Kubischta
Address: 7220 Trade St Ste 119
San Diego, CA 92121
Phone: (858) 586-6600 Fax: (858) 586-6644
Email:
Billing Address: Same

Project ID: Santee Dry Weather Monitoring
Project #: 20102ZW-2 PO #:

Requested Analysis

ID #	Client Sample ID	Sample Date	Sample Time	Sample Matrix	Container # / Type	Oil & Grease ☐ 413.1 ☐ 413.2 X 1664	8015B (TPH) ☐ Gas ☐ Diesel ☐ Ext	624/8260 (VOC) Full BTXE MTBE Oxy Nap	625 / 8270 (SVOC) ☐ PAH only	608 / 8081 (Organochlorine Pesticides)	608 / 8082 (Polychlorinated Biphenyls)	8141 (Organophosphorus Pesticides)	TBT (Organotin Compounds)	☐ pH ☐ EC ☐ TSS ☐ TDS	☐ Nitrate ☐ Nitrite ☐ TKN ☐ NH3	CAC Title 22/CAM17 Metals ☐ TTLC ☐ STLC	TCLP (RCRA) ☐ Metals ☐ Organics	Cd Cr (Cu) (Pb) Ni Ag (Zn) X Dissolved	Coliform, X Total (MTF) X Fecal (MTF)	Colilert, T+E.Coli ☐ P/A ☐ Enumeration	Enterococcus, X MTF ☐ Enterolert	Heterotrophic Plate Count (HPC)	Total Hardness	MAY 19'10 15:39
1	RCP1	5/19/10	11:15	SW	2/g 4/p	X						X						X	X		X		X	
2	J25c	"	12:10	"	"	X						X						X	X		X		X	
3	J30d1	"	14:10	"	"	X						X						X	X		X		X	
4																								
5																								
6																								
7																								
8																								
9																								
10																								

Matrix Codes: A = Air, DW = Drinking Water, GW = Groundwater, SW = Storm Water
WW = Wastewater, S = Soil, SED = Sediment, SD = Solid, T = Tissue, O = Oil, L = Liquid

Shipped By: X Courier ☐ UPS ☐ FedEx ☐ USPS ☐ Client Drop Off ☐ Other

[1]**Turn-Around-Time:** ☐ Same Day ☐ 24 hr ☐ 48 hr ☐ 3 day ☐ 4 day X 5 day ☐ STD (7 day)

[1]**Reporting Requirements:** ☐ Fax ☐ PDF ☐ Excel ☐ Geotracker/EDF ☐ Hard Copy ☐ EDT

[1]**Sample Disposal:** ☐ By Laboratory ☐ [2]Return to Client: P/U or Delivery ☐ Archive

Sample Integrity

Correct Containers: Yes No N/A	Containers Properly Preseved: Yes No N/A
Custody Seals Intact: Yes No N/A	Temp @ Receipt:
COC/Labels Agree: Yes No N/A	Sampled By: Client EMA Autosampler

RELINQUISHED BY	DATE/TIME	RECEIVED BY
Signature	5/19/10 3:02	Signature
Print: Annika Kubischta		Print: Louis Luna
Company: D-Max Engineering		Company: EMA
Signature	5-19-10 3:18	Signature
Print: Louis Luna		Print: Matt Clydell
Company: EMA		Company: EMA
Signature		Signature
Print		Print
Company:		Company:

Project/Sample Comments: 3'c or Ice

[1]Additional costs may apply, consult a project manager for details.
White- EMA Canary - Accounting Pink - Client (w/report) Gold - Client (Relinquish)

[2]EMA reserves the right to return any samples that do not match our waste profile.

NOTE: By relinquishing samples to EMA, Inc., client agrees to pay for the services requested on this COC form and any additional analyses performed on this project. Payment for services is due within 30 days from date of invoice. Samples will be disposed of after 30 days unless otherwise noted. All work is subject to EMA's terms and conditions.

01 June 2010

D-Max Engineering
Attn: Arsalan Dadkhah
7220 Trade Street, Suite 119
San Diego, California 92121

EMA Log #: 10E0530

Project Name: Santee Dry Weather
Project Desc./#: 201022W-2

Enclosed are the results of analyses for samples received by the laboratory on 05/20/10 11:08. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that this data is in compliance both technically and for completeness.

Dan Verdon
Laboratory Director

CA ELAP Certification #: 2564

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 10E0530

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
V40d	10E0530-01	Stormwater	05/20/10 09:15	05/20/10 11:08
P20f	10E0530-02	Stormwater	05/20/10 10:10	05/20/10 11:08

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 10E0530

Metals (Dissolved) by EPA 200 Series Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
V40d (10E0530-01) Stormwater Sampled: 05/20/10 09:15 Received: 05/20/10 11:08										
Zinc	ND	0.0003	0.020	mg/l	1	0052434	05/24/10	05/25/10	EPA 200.8	
Cadmium	**0.0003**	0.0002	0.001	"	"	"	"	"	"	J
Copper	**0.002**	0.001	0.010	"	"	"	"	"	"	J
Lead	ND	0.001	0.005	"	"	"	"	"	"	
P20f (10E0530-02) Stormwater Sampled: 05/20/10 10:10 Received: 05/20/10 11:08										
Zinc	**0.001**	0.0003	0.020	mg/l	1	0052434	05/24/10	05/25/10	EPA 200.8	J
Lead	ND	0.001	0.005	"	"	"	"	"	"	
Copper	**0.002**	0.001	0.010	"	"	"	"	"	"	J
Cadmium	**0.0003**	0.0002	0.001	"	"	"	"	"	"	J

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 10E0530

Organophosphorus Pesticides by EPA Method 8141A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
V40d (10E0530-01) Stormwater	**Sampled: 05/20/10 09:15**		**Received: 05/20/10 11:08**							**GC-05**
Chlorpyrifos	ND	0.04	0.05	ug/l	1	0052501	05/25/10	05/30/10	EPA 8141A	
Diazinon	ND	0.04	0.05	"	"	"	"	"	"	
Malathion	ND	0.05	0.05	"	"	"	"	"	"	
Surrogate: Triphenyl phosphate		*108 %*	*60-130*			"	"	"	"	
Surrogate: Tribuytlphosphate		*124 %*	*60-130*			"	"	"	"	
P20f (10E0530-02) Stormwater	**Sampled: 05/20/10 10:10**		**Received: 05/20/10 11:08**							**GC-05**
Chlorpyrifos	ND	0.04	0.05	ug/l	1	0052501	05/25/10	05/30/10	EPA 8141A	
Diazinon	ND	0.04	0.05	"	"	"	"	"	"	
Malathion	ND	0.05	0.05	"	"	"	"	"	"	
Surrogate: Triphenyl phosphate		*88 %*	*60-130*			"	"	"	"	
Surrogate: Tribuytlphosphate		*120 %*	*60-130*			"	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 10E0530

Conventional Chemistry Parameters by Standard/EPA Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
V40d (10E0530-01) Stormwater	**Sampled: 05/20/10 09:15**		**Received: 05/20/10 11:08**							
Hardness (Total)	**1130**	100	100	mg CaCO3/L	10	0052534	05/24/10	05/25/10	EPA 200.7	
Oil & Grease	ND	5	5	mg/l	1	0060107	05/28/10	05/28/10	EPA 1664A	
P20f (10E0530-02) Stormwater	**Sampled: 05/20/10 10:10**		**Received: 05/20/10 11:08**							
Hardness (Total)	**467**	100	100	mg CaCO3/L	10	0052534	05/24/10	05/25/10	EPA 200.7	
Oil & Grease	ND	5	5	mg/l	1	0060107	05/28/10	05/28/10	EPA 1664A	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 10E0530

Microbiological Parameters by Standard Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
V40d (10E0530-01) Stormwater	**Sampled: 05/20/10 09:15**		**Received: 05/20/10 11:08**							
Total Coliforms	**1700**	20	20	MPN/100 ml	10	0052102	05/20/10	05/24/10	SM 9221 B, E	
Fecal Coliforms	**1300**	20	20	"	"	"	"	05/23/10	"	
Enterococcus	**170**	20	20	"	"	0052103	"	05/24/10	SM 9230 A, B	
P20f (10E0530-02) Stormwater	**Sampled: 05/20/10 10:10**		**Received: 05/20/10 11:08**							
Total Coliforms	**30000**	2000	2000	MPN/100 ml	1000	0052102	05/20/10	05/24/10	SM 9221 B, E	
Fecal Coliforms	**500**	20	20	"	10	"	"	05/23/10	"	
Enterococcus	**500**	20	20	"	"	0052103	"	05/24/10	SM 9230 A, B	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 10E0530

Metals (Dissolved) by EPA 200 Series Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0052434											
Blank (0052434-BLK1)					Prepared & Analyzed: 05/24/10						
Copper	ND	0.001	0.010	mg/l							
Lead	ND	0.001	0.005	"							
Zinc	ND	0.0003	0.020	"							
Cadmium	ND	0.0002	0.001	"							
LCS (0052434-BS1)					Prepared & Analyzed: 05/24/10						
Cadmium	0.047	0.0002	0.001	mg/l	0.0500		94	75-125			
Copper	0.046	0.001	0.010	"	0.0500		93	75-125			
Lead	0.050	0.001	0.005	"	0.0500		99	75-125			
Zinc	0.047	0.0003	0.020	"	0.0500		95	75-125			
LCS Dup (0052434-BSD1)					Prepared & Analyzed: 05/24/10						
Cadmium	0.048	0.0002	0.001	mg/l	0.0500		95	75-125	2	20	
Copper	0.047	0.001	0.010	"	0.0500		94	75-125	2	20	
Lead	0.049	0.001	0.005	"	0.0500		98	75-125	1	20	
Zinc	0.048	0.0003	0.020	"	0.0500		96	75-125	1	20	
Duplicate (0052434-DUP1)			**Source: 10E0547-01**		Prepared: 05/24/10 Analyzed: 05/25/10						
Cadmium	ND	0.0002	0.001	mg/l		ND				20	
Zinc	ND	0.0003	0.020	"		ND				20	
Copper	ND	0.001	0.010	"		ND				20	
Lead	ND	0.001	0.005	"		ND				20	
Matrix Spike (0052434-MS1)			**Source: 10E0547-01**		Prepared: 05/24/10 Analyzed: 05/25/10						
Cadmium	0.048	0.0002	0.001	mg/l	0.0500	ND	97	75-125			
Copper	0.048	0.001	0.010	"	0.0500	ND	96	75-125			
Lead	0.046	0.001	0.005	"	0.0500	ND	92	75-125			
Zinc	0.044	0.0003	0.020	"	0.0500	ND	87	75-125			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 10E0530

Metals (Dissolved) by EPA 200 Series Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0052434											
Matrix Spike Dup (0052434-MSD1)			**Source: 10E0547-01**		Prepared: 05/24/10		Analyzed: 05/25/10				
Cadmium	0.050	0.0002	0.001	mg/l	0.0500	ND	100	75-125	3	20	
Copper	0.049	0.001	0.010	"	0.0500	ND	97	75-125	1	20	
Lead	0.045	0.001	0.005	"	0.0500	ND	91	75-125	1	20	
Zinc	0.044	0.0003	0.020	"	0.0500	ND	88	75-125	1	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 10E0530

Organophosphorus Pesticides by EPA Method 8141A - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0052501											
Blank (0052501-BLK1)					Prepared: 05/25/10 Analyzed: 05/30/10						
Chlorpyrifos	ND	0.04	0.05	ug/l							
Diazinon	ND	0.04	0.05	"							
Malathion	ND	0.05	0.05	"							
Surrogate: Triphenyl phosphate	*0.290*			*"*	*0.250*		*116*	*60-130*			
Surrogate: Tribuytlphosphate	*0.290*			*"*	*0.250*		*116*	*60-130*			
LCS (0052501-BS1)					Prepared: 05/25/10 Analyzed: 05/30/10						
Bolstar	0.45	0.09	0.10	ug/l	0.500		90	60-130			
Diazinon	0.53	0.04	0.05	"	0.500		106	60-130			
Ethoprop	0.58	0.05	0.05	"	0.500		116	60-130			
Mevinphos	0.55	0.21	0.25	"	0.500		110	60-130			
Methyl parathion	0.55	0.07	0.10	"	0.500		110	60-130			
Phorate	0.48	0.03	0.05	"	0.500		96	60-130			
Ronnel	0.55	0.16	0.25	"	0.500		110	60-130			
Trichlorinate	0.56	0.05	0.05	"	0.500		112	60-130			
Surrogate: Triphenyl phosphate	*0.300*			*"*	*0.250*		*120*	*60-130*			
Surrogate: Tribuytlphosphate	*0.310*			*"*	*0.250*		*124*	*60-130*			
LCS Dup (0052501-BSD1)					Prepared: 05/25/10 Analyzed: 05/30/10						
Bolstar	0.46	0.09	0.10	ug/l	0.500		92	60-130	2	30	
Diazinon	0.55	0.04	0.05	"	0.500		110	60-130	4	30	
Ethoprop	0.57	0.05	0.05	"	0.500		114	60-130	2	30	
Mevinphos	0.56	0.21	0.25	"	0.500		112	60-130	2	30	
Methyl parathion	0.56	0.07	0.10	"	0.500		112	60-130	2	30	
Phorate	0.48	0.03	0.05	"	0.500		96	60-130	0	30	
Ronnel	0.55	0.16	0.25	"	0.500		110	60-130	0	30	
Trichlorinate	0.56	0.05	0.05	"	0.500		112	60-130	0	30	
Surrogate: Triphenyl phosphate	*0.310*			*"*	*0.250*		*124*	*60-130*			
Surrogate: Tribuytlphosphate	*0.320*			*"*	*0.250*		*128*	*60-130*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 10E0530

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0052534											
Blank (0052534-BLK1)					Prepared: 05/24/10 Analyzed: 05/25/10						
Hardness (Total)	ND	10	10	mg CaCO3/L							
Duplicate (0052534-DUP1)			**Source: 10E0469-01**		Prepared: 05/24/10 Analyzed: 05/25/10						
Hardness (Total)	857	100	100	mg CaCO3/L		803			7	20	
Batch 0060107											
Blank (0060107-BLK1)					Prepared & Analyzed: 05/28/10						
Oil & Grease	ND	5	5	mg/l							
LCS (0060107-BS1)					Prepared & Analyzed: 05/28/10						
Oil & Grease	37	5	5	mg/l	40.0		92	78-114			
LCS Dup (0060107-BSD1)					Prepared & Analyzed: 05/28/10						
Oil & Grease	38	5	5	mg/l	40.0		95	78-114	3	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Notes and Definitions

J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
GC-05	Results confirmed by GCMS.
ND	Analyte NOT DETECTED at or above the reporting limit (or method detection limit when specified)
NR	Not Reported
dry	Sample results reported on a dry weight basis (if indicated in units column)
RPD	Relative Percent Difference
MDL	Method detection limit (indicated per client's request)

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CHAIN-OF-CUSTODY RECORD

– EnviroMatrix Analytical, Inc. —
4340 Viewridge Ave., Ste. A - San Diego, CA 92123 - Phone (858) 560-7717 - Fax (858) 560-7763

EMA LOG #: 1005130

Client: D-Max Engineering, INC
Attn: Arsalan Dadkhah
Samplers(s): Manouchehr Dadkhah / Annika Kubischta
Address: 7220 Trade St Ste 119
San Diego, CA 92121
Phone: (858) 586-6600 Fax: (858) 586-6644
Email:
Billing Address: Same

Project ID: Santee Dry Weather Monitoring
Project #: 20102201-2 PO #:

Requested Analysis

ID #	Client Sample ID	Sample Date	Sample Time	Sample Matrix	Container # / Type	Oil & Grease □ 413.1 □ 413.2 X 1664	8015B (TPH) □ Gas □ Diesel □ Ext	624/8260 (VOC) Full BTXE MTBE Oxy Nap	625 / 8270 (SVOC) □ PAH only	608 / 8081 (Organochlorine Pesticides)	608 / 8082 (Polychlorinated Biphenyls)	8141 (Organophosphorus Pesticides)	TBT (Organotin Compounds)	□ pH □ EC □ TSS □TDS	□ Nitrate □ Nitrite □ TKN □NH3	CAC Title 22/CAM17 Metals □ TTLC □ STLC	TCLP (RCRA) □ Metals □ Organics	Cd Cr (Pb) Cu Ni Ag (Zn) X Dissolved	Coliform, X Total (MTF) X Fecal (MTF)	Colilert, T+E.Coli □ P/A □ Enumeration	Enterococcus, X MTF □ Enterolert	Heterotrophic Plate Count (HPC)	Total Hardness					
1	V40d	5/20/10	9:15	SW	3/g 4/p	X						X						X	X		X		X					
2	P20f	"	10:10	SW	"	X						X						X	X		X		X					
3																													
4																													
5																													
6																													
7																													
8																													
9																													
10																													

Matrix Codes: A = Air, DW = Drinking Water, GW = Groundwater, SW = Storm Water
WW = Wastewater, S = Soil, SED = Sediment, SD = Solid, T = Tissue, O = Oil, L = Liquid

Shipped By: □ Courier □ UPS □ FedEx □ USPS □ Client Drop Off □ Other

[1]**Turn-Around-Time:** □ Same Day □ 24 hr □ 48 hr □ 3 day □ 4 day X 5 day □ STD (7 day)

[1]**Reporting Requirements:** □ Fax □ PDF □ Excel □ Geotracker/EDF □ Hard Copy □ EDT

[1]**Sample Disposal:** □ By Laboratory □ [2]Return to Client: P/U or Delivery □ Archive

Sample Integrity

Correct Containers: Yes No N/A	Containers Properly Preseved: Yes No N/A
Custody Seals Intact: Yes No N/A	Temp @ Receipt:
COC/Labels Agree: Yes No N/A	Sampled By: Client EMA Autosampler

RELINQUISHED BY	DATE/TIME	RECEIVED BY
Signature	5/20/10 1050	Signature
Print Annika Kubischta		Print Louis Lynch
Company: D-Max Engineering		Company: EMA
Signature	5-20-10 11:08	Signature
Print Louis Luna		Print
Company: EMA		Company:
Signature		Signature
Print		Print
Company:		Company:

Project/Sample Comments: 5°C On Ice

[1]Additional costs may apply, consult a project manager for details.

White- EMA Canary - Accounting Pink - Client (w/report) Gold - Client (Relinquish)

[2]EMA reserves the right to return any samples that do not match our waste profile.

NOTE: By relinquishing samples to EMA, Inc., client agrees to pay for the services requested on this COC form and any additional analyses performed on this project. Payment for services is due within 30 days from date of invoice. Samples will be disposed of after 30 days unless otherwise noted. All work is subject to EMA's terms and conditions.

EnviroMatrix Analytical, Inc.

09 June 2010

D-Max Engineering
Attn: Arsalan Dadkhah
7220 Trade Street, Suite 119
San Diego, California 92121

EMA Log #: 10F0093

Project Name: Santee Dry Weather
Project Desc./#: 201022W-3

Enclosed are the results of analyses for samples received by the laboratory on 06/02/10 12:57. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that this data is in compliance both technically and for completeness.

Dan Verdon
Laboratory Director

CA ELAP Certification #: 2564

4340 Viewridge Avenue, Suite A - San Diego, California 92123 - (858) 560-7717 - Fax (858) 560-7763
Analytical Chemistry Laboratory

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 10F0093

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
J25c	10F0093-01	Stormwater	06/02/10 09:40	06/02/10 12:57
J25c-1	10F0093-02	Stormwater	06/02/10 10:30	06/02/10 12:57
J25c-2	10F0093-03	Stormwater	06/02/10 10:35	06/02/10 12:57
J25c-3	10F0093-04	Stormwater	06/02/10 10:55	06/02/10 12:57
J25c-4	10F0093-05	Stormwater	06/02/10 11:00	06/02/10 12:57

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 10F0093

Microbiological Parameters by Standard Methods

Analyte	Result	Reporting Limit	Units	Dilution	Batch	Date Prepared / Date Analyzed	Method	Notes
J25c (10F0093-01) Stormwater	**Sampled: 06/02/10 09:40**		**Received: 06/02/10 12:57**					
Enterococcus	**3448**	10	MPN/100 ml	10	0060320	06/02/10 14:15 06/03/10 14:21	Idexx	
J25c-1 (10F0093-02) Stormwater	**Sampled: 06/02/10 10:30**		**Received: 06/02/10 12:57**					
Enterococcus	**109**	10	MPN/100 ml	10	0060320	06/02/10 14:15 06/03/10 14:21	Idexx	
J25c-2 (10F0093-03) Stormwater	**Sampled: 06/02/10 10:35**		**Received: 06/02/10 12:57**					
Enterococcus	**19863**	10	MPN/100 ml	10	0060320	06/02/10 14:15 06/03/10 14:21	Idexx	
J25c-3 (10F0093-04) Stormwater	**Sampled: 06/02/10 10:55**		**Received: 06/02/10 12:57**					
Enterococcus	**262**	10	MPN/100 ml	10	0060320	06/02/10 14:15 06/03/10 14:21	Idexx	
J25c-4 (10F0093-05) Stormwater	**Sampled: 06/02/10 11:00**		**Received: 06/02/10 12:57**					
Enterococcus	**1616**	10	MPN/100 ml	10	0060320	06/02/10 14:15 06/03/10 14:21	Idexx	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 10F0093

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
RPD	Relative Percent Difference

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CHAIN-OF-CUSTODY RECORD

– EnviroMatrix EMA Analytical, Inc. —
4340 Viewridge Ave., Ste. A - San Diego, CA 92123 - Phone (858) 560-7717 - Fax (858) 560-7763

EMA LOG #: 10E0093

Client: D-Max Engineering, Inc.
Attn: Arsalan Dadkhah
Samplers(s): Manoucheher Dadkhah / Annika Kubischta
Address: 7220 Trade St Ste 119
San Diego, CA 92121
Phone: (858) 586-6600 Fax: (858) 586-6644
Email:
Billing Address: Same

Project ID: Santee Dry Weather Follow-up
Project #: 20022W-3 PO #:

Requested Analysis

ID #	Client Sample ID	Sample Date	Sample Time	Sample Matrix	Container # / Type	Oil & Grease □ 413.1 □ 413.2 □ 1664	8015B (TPH) □ Gas □ Diesel □ Ext	624/8260 (VOC) Full BTXE MTBE Oxy Nap	625 / 8270 (SVOC) □ PAH only	608 / 8081 (Organochlorine Pesticides)	608 / 8082 (Polychlorinated Biphenyls)	8141 (Organophosphorus Pesticides)	TBT (Organotin Compounds)	□ pH □ EC □ TSS □ TDS	□ Nitrate □ Nitrite □ TKN □ NH3	CAC Title 22/CAM17 Metals □ TTLC □ STLC	TCLP (RCRA) □ Metals □ Organics	Cd Cr Cu Pb Ni Ag Zn □ Dissolved	Coliform. □ Total (MTF) □ Fecal (MTF)	Colilert, T+E.Coli □ P/A □ Enumeration	Enterococcus, □ MTF X Enterolert	Heterotrophic Plate Count (HPC)	□ BOD □ COD □ Cyanide
1	J25c	6/2/10	9:40	SW	1/p																X		
2	J25c-1	"	10:30	"	4																X		
3	J25c-2	"	10:35	"	"																X		
4	J25c-3	"	10:55	"	"																X		
5	J25c-4	"	11:00	"	"																X		
6																							
7																							
8																							
9																							
10																							

Matrix Codes: A = Air, DW = Drinking Water, GW = Groundwater, SW = Storm Water
WW = Wastewater, S = Soil, SED = Sediment, SD = Solid, T = Tissue, O = Oil, L = Liquid

Shipped By: X Courier □ UPS □ FedEx □ USPS □ Client Drop Off □ Other

[1]**Turn-Around-Time:** □ Same Day □ 24 hr □ 48 hr □ 3 day □ 4 day X 5 day □ STD (7 day)

[1]**Reporting Requirements:** □ Fax □ PDF □ Excel □ Geotracker/EDF □ Hard Copy □ EDT

[1]**Sample Disposal:** □ By Laboratory □ [2]Return to Client: P/U or Delivery □ Archive

Sample Integrity

Correct Containers: Yes No N/A	Containers Properly Preseved: Yes No N/A
Custody Seals Intact: Yes No N/A	Temp @ Receipt:
COC/Labels Agree: Yes No N/A	Sampled By: Client EMA Autosampler

RELINQUISHED BY	DATE/TIME	RECEIVED BY
Signature [signature]	6/2/10 1257	Signature [signature]
Print Annika Kubischta		Print [illegible]
Company: DMax Engineering		Company: EMA
Signature		Signature
Print		Print
Company:		Company:
Signature		Signature
Print		Print
Company:		Company:

Project/Sample Comments: 3°C on ice

[1]Additional costs may apply, consult a project manager for details.

[2]EMA reserves the right to return any samples that do not match our waste profile.

NOTE: By relinquishing samples to EMA, Inc., client agrees to pay for the services requested on this COC form and any additional analyses performed on this project. Payment for services is due within 30 days from date of invoice. Samples will be disposed of 7 days after report has been finalized unless otherwise noted. All work is subject to EMA's terms and conditions.

Round Two

23 September 2010

D-Max Engineering
Attn: Arsalan Dadkhah
7220 Trade Street, Suite 119
San Diego, California 92121

EMA Log #: 10I0395

Project Name: Santee Dry Weather
Project Desc./#: 201022W-2

Enclosed are the results of analyses for samples received by the laboratory on 09/16/10 13:13. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that this data is in compliance both technically and for completeness.

Dan Verdon
Laboratory Director

CA ELAP Certification #: 2564

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 10I0395

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
RCP1	10I0395-01	Stormwater	09/16/10 10:50	09/16/10 13:13
J30d1	10I0395-02	Stormwater	09/16/10 12:10	09/16/10 13:13

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 10I0395

Metals (Dissolved) by EPA 200 Series Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
RCP1 (10I0395-01) Stormwater	**Sampled: 09/16/10 10:50**		**Received: 09/16/10 13:13**							
Zinc	**0.003**	0.0003	0.020	mg/l	1	0092119	09/21/10	09/21/10	EPA 200.8	J
Cadmium	ND	0.0002	0.001	"	"	"	"	"	"	
Copper	ND	0.001	0.010	"	"	"	"	"	"	
Lead	ND	0.001	0.005	"	"	"	"	"	"	
J30d1 (10I0395-02) Stormwater	**Sampled: 09/16/10 12:10**		**Received: 09/16/10 13:13**							
Zinc	**0.005**	0.0003	0.020	mg/l	1	0092119	09/21/10	09/21/10	EPA 200.8	J
Lead	ND	0.001	0.005	"	"	"	"	"	"	
Copper	**0.001**	0.001	0.010	"	"	"	"	"	"	J
Cadmium	**0.0002**	0.0002	0.001	"	"	"	"	"	"	J

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 10I0395

Organophosphorus Pesticides by EPA Method 8141A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
RCP1 (10I0395-01) Stormwater	**Sampled: 09/16/10 10:50**		**Received: 09/16/10 13:13**							**GC-05**
Chlorpyrifos	ND	0.04	0.05	ug/l	1	0092001	09/19/10	09/20/10	EPA 8141A	
Diazinon	ND	0.04	0.05	"	"	"	"	"	"	
Malathion	ND	0.05	0.05	"	"	"	"	"	"	
Surrogate: Triphenyl phosphate		*120 %*	*60-130*			"	"	"	"	
Surrogate: Tribuytlphosphate		*104 %*	*60-130*			"	"	"	"	
J30d1 (10I0395-02) Stormwater	**Sampled: 09/16/10 12:10**		**Received: 09/16/10 13:13**							**GC-05**
Chlorpyrifos	ND	0.04	0.05	ug/l	1	0092001	09/19/10	09/20/10	EPA 8141A	
Diazinon	ND	0.04	0.05	"	"	"	"	"	"	
Malathion	ND	0.05	0.05	"	"	"	"	"	"	
Surrogate: Triphenyl phosphate		*116 %*	*60-130*			"	"	"	"	
Surrogate: Tribuytlphosphate		*116 %*	*60-130*			"	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 10I0395

Conventional Chemistry Parameters by Standard/EPA Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
RCP1 (10I0395-01) Stormwater	**Sampled: 09/16/10 10:50**		**Received: 09/16/10 13:13**							
Hardness (Total)	**572**	100	100	mg CaCO3/L	10	0092104	09/20/10	09/21/10	EPA 200.7	
Oil & Grease	ND	5	5	mg/l	1	0092225	09/22/10	09/22/10	EPA 1664A	
J30d1 (10I0395-02) Stormwater	**Sampled: 09/16/10 12:10**		**Received: 09/16/10 13:13**							
Hardness (Total)	**777**	100	100	mg CaCO3/L	10	0092104	09/20/10	09/21/10	EPA 200.7	
Oil & Grease	ND	5	5	mg/l	1	0092225	09/22/10	09/22/10	EPA 1664A	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 10I0395

Microbiological Parameters by Standard Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
RCP1 (10I0395-01) Stormwater	**Sampled: 09/16/10 10:50**		**Received: 09/16/10 13:13**							
Total Coliforms	**8000**	200	200	MPN/100 ml	100	0091716	09/16/10	09/20/10	SM 9221 B, E	
Fecal Coliforms	**1700**	20	20	"	10	"	"	09/19/10	"	
Enterococcus	**170**	20	20	"	"	0091717	"	09/20/10	SM 9230 A, B	
J30d1 (10I0395-02) Stormwater	**Sampled: 09/16/10 12:10**		**Received: 09/16/10 13:13**							
Total Coliforms	**1400**	20	20	MPN/100 ml	10	0091716	09/16/10	09/20/10	SM 9221 B, E	
Fecal Coliforms	**210**	20	20	"	"	"	"	09/19/10	"	
Enterococcus	**40**	20	20	"	"	0091717	"	09/20/10	SM 9230 A, B	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 10I0395

Metals (Dissolved) by EPA 200 Series Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0092119											
Blank (0092119-BLK1)					Prepared & Analyzed: 09/21/10						
Cadmium	ND	0.0002	0.001	mg/l							
Copper	ND	0.001	0.010	"							
Lead	ND	0.001	0.005	"							
Zinc	ND	0.0003	0.020	"							
LCS (0092119-BS1)					Prepared & Analyzed: 09/21/10						
Zinc	0.050	0.0003	0.020	mg/l	0.0500		101	75-125			
Lead	0.050	0.001	0.005	"	0.0500		101	75-125			
Cadmium	0.051	0.0002	0.001	"	0.0500		101	75-125			
Copper	0.050	0.001	0.010	"	0.0500		101	75-125			
LCS Dup (0092119-BSD1)					Prepared & Analyzed: 09/21/10						
Lead	0.051	0.001	0.005	mg/l	0.0500		102	75-125	1	20	
Copper	0.051	0.001	0.010	"	0.0500		101	75-125	0.4	20	
Cadmium	0.051	0.0002	0.001	"	0.0500		103	75-125	1	20	
Zinc	0.051	0.0003	0.020	"	0.0500		102	75-125	1	20	
Duplicate (0092119-DUP1)		**Source: 10I0326-01**			Prepared & Analyzed: 09/21/10						
Cadmium	0.0008	0.0002	0.001	mg/l		0.0008			5	20	J
Copper	0.023	0.001	0.010	"		0.023			2	20	
Zinc	0.144	0.0003	0.020	"		0.146			2	20	
Lead	0.003	0.001	0.005	"		0.003			1	20	J
Matrix Spike (0092119-MS1)		**Source: 10I0326-01**			Prepared & Analyzed: 09/21/10						
Cadmium	0.049	0.0002	0.001	mg/l	0.0500	0.0008	96	75-125			
Copper	0.067	0.001	0.010	"	0.0500	0.023	87	75-125			
Lead	0.057	0.001	0.005	"	0.0500	0.003	107	75-125			
Zinc	0.186	0.0003	0.020	"	0.0500	0.146	81	75-125			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 10I0395

Metals (Dissolved) by EPA 200 Series Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0092119											
Matrix Spike Dup (0092119-MSD1)		**Source: 10I0326-01**			Prepared & Analyzed: 09/21/10						
Zinc	0.185	0.0003	0.020	mg/l	0.0500	0.146	77	75-125	1	20	
Cadmium	0.047	0.0002	0.001	"	0.0500	0.0008	93	75-125	3	20	
Lead	0.053	0.001	0.005	"	0.0500	0.003	100	75-125	7	20	
Copper	0.066	0.001	0.010	"	0.0500	0.023	85	75-125	1	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 10I0395

Organophosphorus Pesticides by EPA Method 8141A - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0092001											
Blank (0092001-BLK1)					Prepared: 09/19/10 Analyzed: 09/20/10						
Chlorpyrifos	ND	0.04	0.05	ug/l							
Diazinon	ND	0.04	0.05	"							
Malathion	ND	0.05	0.05	"							
Surrogate: Triphenyl phosphate	*0.270*			*"*	*0.250*		*108*	*60-130*			
Surrogate: Tribuytlphosphate	*0.250*			*"*	*0.250*		*100*	*60-130*			
LCS (0092001-BS1)					Prepared: 09/19/10 Analyzed: 09/20/10						
Bolstar	0.44	0.09	0.10	ug/l	0.500		88	60-130			
Diazinon	0.43	0.04	0.05	"	0.500		86	60-130			
Ethoprop	0.42	0.05	0.05	"	0.500		84	60-130			
Mevinphos	0.42	0.21	0.25	"	0.500		84	60-130			
Methyl parathion	0.41	0.07	0.10	"	0.500		82	60-130			
Phorate	0.44	0.03	0.05	"	0.500		88	60-130			
Ronnel	0.44	0.16	0.25	"	0.500		88	60-130			
Trichlorinate	0.42	0.05	0.05	"	0.500		84	60-130			
Surrogate: Triphenyl phosphate	*0.270*			*"*	*0.250*		*108*	*60-130*			
Surrogate: Tribuytlphosphate	*0.250*			*"*	*0.250*		*100*	*60-130*			
LCS Dup (0092001-BSD1)					Prepared: 09/19/10 Analyzed: 09/20/10						
Bolstar	0.43	0.09	0.10	ug/l	0.500		86	60-130	2	30	
Diazinon	0.45	0.04	0.05	"	0.500		90	60-130	5	30	
Ethoprop	0.43	0.05	0.05	"	0.500		86	60-130	2	30	
Mevinphos	0.46	0.21	0.25	"	0.500		92	60-130	9	30	
Methyl parathion	0.43	0.07	0.10	"	0.500		86	60-130	5	30	
Phorate	0.42	0.03	0.05	"	0.500		84	60-130	5	30	
Ronnel	0.45	0.16	0.25	"	0.500		90	60-130	2	30	
Trichlorinate	0.44	0.05	0.05	"	0.500		88	60-130	5	30	
Surrogate: Triphenyl phosphate	*0.270*			*"*	*0.250*		*108*	*60-130*			
Surrogate: Tribuytlphosphate	*0.250*			*"*	*0.250*		*100*	*60-130*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 10I0395

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0092104											
Blank (0092104-BLK1)					Prepared: 09/20/10 Analyzed: 09/21/10						
Hardness (Total)	ND	10	10	mg CaCO3/L							
Duplicate (0092104-DUP1)			**Source: 10I0471-01**		Prepared: 09/20/10 Analyzed: 09/21/10						
Hardness (Total)	280	10	10	mg CaCO3/L		274			2	20	
Batch 0092225											
Blank (0092225-BLK1)					Prepared & Analyzed: 09/22/10						
Oil & Grease	ND	5	5	mg/l							
LCS (0092225-BS1)					Prepared & Analyzed: 09/22/10						
Oil & Grease	40	5	5	mg/l	40.0		100	78-114			
LCS Dup (0092225-BSD1)					Prepared & Analyzed: 09/22/10						
Oil & Grease	34	5	5	mg/l	40.0		86	78-114	15	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Notes and Definitions

J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
GC-05	Results confirmed by GCMS.
ND	Analyte NOT DETECTED at or above the reporting limit (or method detection limit when specified)
NR	Not Reported
dry	Sample results reported on a dry weight basis (if indicated in units column)
RPD	Relative Percent Difference
MDL	Method detection limit (indicated per client's request)

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CHAIN-OF-CUSTODY RECORD

– EnviroMatrix EMA Analytical, Inc. ——
4340 Viewridge Ave., Ste. A - San Diego, CA 92123 - Phone (858) 560-7717 - Fax (858) 560-7763

EMA LOG #: 1070395

Client: D-Max Engineering Inc.
Attn: Arsalan Dadkhah
Samplers(s): MD / JR
Address: 7220 Trade Street, Suite 119
San Diego, CA 92121
Phone: 858 – 586 – 6600 Fax: ~~858-586-6604~~
Email:
Billing Address: Same

Project ID: Santee Dry Weather R2
Project #: 20100922W-2 PO #:

Requested Analysis

ID #	Client Sample ID	Sample Date	Sample Time	Sample Matrix	Container # / Type	Oil & Grease □ 413.1 □ 413.2 □ 1664	8015B (TPH) □ Gas □ Diesel □ Ext	624/8260 (VOC) Full BTXE MTBE Oxy Nap	625 / 8270 (SVOC) □ PAH only	608 / 8081 (Organochlorine Pesticides)	608 / 8082 (Polychlorinated Biphenyls)	(8141) (Organophosphorus Pesticides)	TBT (Organotin Compounds)	□ pH □ EC □ TSS □TDS	□ Nitrate □ Nitrite □ TKN □NH3	CAC Title 22/CAM17 Metals □ TTLC □ STLC	TCLP (RCRA) □ Metals □ Organics	Cd Cr (Cu) (Pb) Ni Ag (Zn) Dissolved	Coliform. X Total (MTF) Fecal (MTF)	Coliert, T+E.Coli □ P/A □ Enumeration	Enterococcus, MTF □ Enterolert	Heterotrophic Plate Count (HPC)	□ BOD □ COD □ Cyanide	Total Hardness				
1	RCP1	9/16/10	10:50	SW	2/G/P	X						X						X	X		X			X				
2	JSOD1	"	12:10	"	4/P	X						X						X	X		X			X				
3																												
4																												
5																												
6																												
7																												
8																												
9																												
10																												

9EH 16 '10 13:26

Matrix Codes: A = Air, DW = Drinking Water, GW = Groundwater, SW = Storm Water
WW = Wastewater, S = Soil, SED = Sediment, SD = Solid, T = Tissue, O = Oil, L = Liquid

Shipped By: □ Courier □ UPS □ FedEx □ USPS □ Client Drop Off □ Other

[1]**Turn-Around-Time:** □ Same Day □ 24 hr □ 48 hr □ 3 day □ 4 day □ 5 day □ STD (7 day)

[1]**Reporting Requirements:** □ Fax □ PDF □ Excel □ Geotracker/EDF □ Hard Copy □ EDT

[1]**Sample Disposal:** □ By Laboratory □ [2]Return to Client: P/U or Delivery □ Archive

Sample Integrity

Correct Containers: Yes No N/A	Containers Properly Preseved: Yes No N/A
Custody Seals Intact: Yes No N/A	Temp @ Receipt:
COC Labels Agree: Yes No N/A	Sampled By: Client EMA Autosampler

RELINQUISHED BY		DATE/TIME	RECEIVED BY	
Signature	Manonchehr Dadkhah	9/16/10 13:00	Signature	Kelly Leyden
Print	Manonchehr Dadkhah		Print	Kelly Leyden
Company:	D-Max Engr.		Company:	EMA
Signature	Kelly Leyden	9/16/10 13:13	Signature	
Print	Kelly Leyden		Print	
Company:	EMA		Company:	EMA
Signature			Signature	
Print			Print	
Company:			Company:	

Project/Sample Comments:

T=5 °C on ice

[1]Additional costs may apply, consult a project manager for details.

[2]EMA reserves the right to return any samples that do not match our waste profile.

NOTE: By relinquishing samples to EMA, Inc., client agrees to pay for the services requested on this COC form and any additional analyses performed on this project. Payment for services is due within 30 days from date of invoice. Samples will be disposed of 7 days after report has been finalized unless otherwise noted. All work is subject to EMA's terms and conditions.

23 September 2010

D-Max Engineering
Attn: Arsalan Dadkhah
7220 Trade Street, Suite 119
San Diego, California 92121

EMA Log #: 10I0423

Project Name: Santee Dry Weather
Project Desc./#: 201022W-2

Enclosed are the results of analyses for samples received by the laboratory on 09/17/10 14:02. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that this data is in compliance both technically and for completeness.

Dan Verdon
Laboratory Director

CA ELAP Certification #: 2564

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 10I0423

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
V40d	10I0423-01	Stormwater	09/17/10 10:10	09/17/10 14:02
P20f	10I0423-02	Stormwater	09/17/10 12:15	09/17/10 14:02
J25c	10I0423-03	Stormwater	09/17/10 12:50	09/17/10 14:02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 10I0423

Metals (Dissolved) by EPA 200 Series Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
V40d (10I0423-01) Stormwater	**Sampled: 09/17/10 10:10**		**Received: 09/17/10 14:02**							
Cadmium	ND	0.0002	0.001	mg/l	1	0092119	09/21/10	09/21/10	EPA 200.8	
Copper	**0.003**	0.001	0.010	"	"	"	"	"	"	J
Lead	ND	0.001	0.005	"	"	"	"	"	"	
Zinc	**0.002**	0.0003	0.020	"	"	"	"	"	"	J
P20f (10I0423-02) Stormwater	**Sampled: 09/17/10 12:15**		**Received: 09/17/10 14:02**							
Copper	**0.004**	0.001	0.010	mg/l	1	0092119	09/21/10	09/21/10	EPA 200.8	J
Cadmium	ND	0.0002	0.001	"	"	"	"	"	"	
Lead	ND	0.001	0.005	"	"	"	"	"	"	
Zinc	**0.003**	0.0003	0.020	"	"	"	"	"	"	J
J25c (10I0423-03) Stormwater	**Sampled: 09/17/10 12:50**		**Received: 09/17/10 14:02**							
Zinc	**0.003**	0.0003	0.020	mg/l	1	0092119	09/21/10	09/21/10	EPA 200.8	J
Lead	ND	0.001	0.005	"	"	"	"	"	"	
Copper	**0.010**	0.001	0.010	"	"	"	"	"	"	
Cadmium	ND	0.0002	0.001	"	"	"	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 10I0423

Organophosphorus Pesticides by EPA Method 8141A

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
V40d (10I0423-01) Stormwater	**Sampled: 09/17/10 10:10**		**Received: 09/17/10 14:02**							**GC-05**
Chlorpyrifos	ND	0.04	0.05	ug/l	1	0092001	09/19/10	09/20/10	EPA 8141A	
Diazinon	ND	0.04	0.05	"	"	"	"	"	"	
Malathion	ND	0.05	0.05	"	"	"	"	"	"	
Surrogate: Triphenyl phosphate		*124 %*	*60-130*			"	"	"	"	
Surrogate: Tribuytlphosphate		*124 %*	*60-130*			"	"	"	"	
P20f (10I0423-02) Stormwater	**Sampled: 09/17/10 12:15**		**Received: 09/17/10 14:02**							**GC-05**
Chlorpyrifos	ND	0.04	0.05	ug/l	1	0092001	09/19/10	09/20/10	EPA 8141A	
Diazinon	ND	0.04	0.05	"	"	"	"	"	"	
Malathion	ND	0.05	0.05	"	"	"	"	"	"	
Surrogate: Triphenyl phosphate		*120 %*	*60-130*			"	"	"	"	
Surrogate: Tribuytlphosphate		*116 %*	*60-130*			"	"	"	"	
J25c (10I0423-03) Stormwater	**Sampled: 09/17/10 12:50**		**Received: 09/17/10 14:02**							**GC-05**
Chlorpyrifos	ND	0.04	0.05	ug/l	1	0092001	09/19/10	09/20/10	EPA 8141A	
Diazinon	ND	0.04	0.05	"	"	"	"	"	"	
Malathion	ND	0.05	0.05	"	"	"	"	"	"	
Surrogate: Triphenyl phosphate		*112 %*	*60-130*			"	"	"	"	
Surrogate: Tribuytlphosphate		*112 %*	*60-130*			"	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 10I0423

Conventional Chemistry Parameters by Standard/EPA Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
V40d (10I0423-01) Stormwater	**Sampled: 09/17/10 10:10**		**Received: 09/17/10 14:02**							
Hardness (Total)	**749**	100	100	mg CaCO3/L	10	0092104	09/20/10	09/21/10	EPA 200.7	
Oil & Grease	ND	5	5	mg/l	1	0092225	09/23/10	09/23/10	EPA 1664A	
P20f (10I0423-02) Stormwater	**Sampled: 09/17/10 12:15**		**Received: 09/17/10 14:02**							
Hardness (Total)	**893**	100	100	mg CaCO3/L	10	0092104	09/20/10	09/21/10	EPA 200.7	
Oil & Grease	ND	5	5	mg/l	1	0092225	09/23/10	09/23/10	EPA 1664A	
J25c (10I0423-03) Stormwater	**Sampled: 09/17/10 12:50**		**Received: 09/17/10 14:02**							
Hardness (Total)	**339**	100	100	mg CaCO3/L	10	0092104	09/20/10	09/21/10	EPA 200.7	
Oil & Grease	ND	5	5	mg/l	1	0092225	09/23/10	09/23/10	EPA 1664A	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 10I0423

Microbiological Parameters by Standard Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
V40d (10I0423-01) Stormwater	**Sampled: 09/17/10 10:10**		**Received: 09/17/10 14:02**							
Total Coliforms	**17000**	200	200	MPN/100 ml	100	0091807	09/17/10	09/21/10	SM 9221 B, E	
Fecal Coliforms	**3000**	200	200	"	"	"	"	09/20/10	"	
Enterococcus	**17000**	200	200	"	"	0091808	"	09/21/10	SM 9230 A, B	
P20f (10I0423-02) Stormwater	**Sampled: 09/17/10 12:15**		**Received: 09/17/10 14:02**							
Total Coliforms	**3000**	200	200	MPN/100 ml	100	0091807	09/17/10	09/21/10	SM 9221 B, E	
Fecal Coliforms	**800**	20	20	"	10	"	"	09/20/10	"	
Enterococcus	**60**	2	2	"	1	0091808	"	09/21/10	SM 9230 A, B	
J25c (10I0423-03) Stormwater	**Sampled: 09/17/10 12:50**		**Received: 09/17/10 14:02**							
Total Coliforms	**130000**	2000	2000	MPN/100 ml	1000	0091807	09/17/10	09/21/10	SM 9221 B, E	
Fecal Coliforms	**50000**	200	200	"	100	"	"	09/20/10	"	
Enterococcus	**3000**	200	200	"	"	0091808	"	09/21/10	SM 9230 A, B	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 10I0423

Metals (Dissolved) by EPA 200 Series Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0092119											
Blank (0092119-BLK1)					Prepared & Analyzed: 09/21/10						
Cadmium	ND	0.0002	0.001	mg/l							
Copper	ND	0.001	0.010	"							
Lead	ND	0.001	0.005	"							
Zinc	ND	0.0003	0.020	"							
LCS (0092119-BS1)					Prepared & Analyzed: 09/21/10						
Zinc	0.050	0.0003	0.020	mg/l	0.0500		101	75-125			
Lead	0.050	0.001	0.005	"	0.0500		101	75-125			
Cadmium	0.051	0.0002	0.001	"	0.0500		101	75-125			
Copper	0.050	0.001	0.010	"	0.0500		101	75-125			
LCS Dup (0092119-BSD1)					Prepared & Analyzed: 09/21/10						
Lead	0.051	0.001	0.005	mg/l	0.0500		102	75-125	1	20	
Copper	0.051	0.001	0.010	"	0.0500		101	75-125	0.4	20	
Cadmium	0.051	0.0002	0.001	"	0.0500		103	75-125	1	20	
Zinc	0.051	0.0003	0.020	"	0.0500		102	75-125	1	20	
Duplicate (0092119-DUP1)		**Source: 10I0326-01**			Prepared & Analyzed: 09/21/10						
Cadmium	0.0008	0.0002	0.001	mg/l		0.0008			5	20	J
Copper	0.023	0.001	0.010	"		0.023			2	20	
Zinc	0.144	0.0003	0.020	"		0.146			2	20	
Lead	0.003	0.001	0.005	"		0.003			1	20	J
Matrix Spike (0092119-MS1)		**Source: 10I0326-01**			Prepared & Analyzed: 09/21/10						
Cadmium	0.049	0.0002	0.001	mg/l	0.0500	0.0008	96	75-125			
Copper	0.067	0.001	0.010	"	0.0500	0.023	87	75-125			
Lead	0.057	0.001	0.005	"	0.0500	0.003	107	75-125			
Zinc	0.186	0.0003	0.020	"	0.0500	0.146	81	75-125			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 10I0423

Metals (Dissolved) by EPA 200 Series Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0092119											
Matrix Spike Dup (0092119-MSD1)		**Source: 10I0326-01**			Prepared & Analyzed: 09/21/10						
Zinc	0.185	0.0003	0.020	mg/l	0.0500	0.146	77	75-125	1	20	
Cadmium	0.047	0.0002	0.001	"	0.0500	0.0008	93	75-125	3	20	
Lead	0.053	0.001	0.005	"	0.0500	0.003	100	75-125	7	20	
Copper	0.066	0.001	0.010	"	0.0500	0.023	85	75-125	1	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 10I0423

Organophosphorus Pesticides by EPA Method 8141A - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0092001											
Blank (0092001-BLK1)					Prepared: 09/19/10 Analyzed: 09/20/10						
Chlorpyrifos	ND	0.04	0.05	ug/l							
Diazinon	ND	0.04	0.05	"							
Malathion	ND	0.05	0.05	"							
Surrogate: Triphenyl phosphate	*0.270*			*"*	*0.250*		*108*	*60-130*			
Surrogate: Tribuytlphosphate	*0.250*			*"*	*0.250*		*100*	*60-130*			
LCS (0092001-BS1)					Prepared: 09/19/10 Analyzed: 09/20/10						
Bolstar	0.44	0.09	0.10	ug/l	0.500		88	60-130			
Diazinon	0.43	0.04	0.05	"	0.500		86	60-130			
Ethoprop	0.42	0.05	0.05	"	0.500		84	60-130			
Mevinphos	0.42	0.21	0.25	"	0.500		84	60-130			
Methyl parathion	0.41	0.07	0.10	"	0.500		82	60-130			
Phorate	0.44	0.03	0.05	"	0.500		88	60-130			
Ronnel	0.44	0.16	0.25	"	0.500		88	60-130			
Trichlorinate	0.42	0.05	0.05	"	0.500		84	60-130			
Surrogate: Triphenyl phosphate	*0.270*			*"*	*0.250*		*108*	*60-130*			
Surrogate: Tribuytlphosphate	*0.250*			*"*	*0.250*		*100*	*60-130*			
LCS Dup (0092001-BSD1)					Prepared: 09/19/10 Analyzed: 09/20/10						
Bolstar	0.43	0.09	0.10	ug/l	0.500		86	60-130	2	30	
Diazinon	0.45	0.04	0.05	"	0.500		90	60-130	5	30	
Ethoprop	0.43	0.05	0.05	"	0.500		86	60-130	2	30	
Mevinphos	0.46	0.21	0.25	"	0.500		92	60-130	9	30	
Methyl parathion	0.43	0.07	0.10	"	0.500		86	60-130	5	30	
Phorate	0.42	0.03	0.05	"	0.500		84	60-130	5	30	
Ronnel	0.45	0.16	0.25	"	0.500		90	60-130	2	30	
Trichlorinate	0.44	0.05	0.05	"	0.500		88	60-130	5	30	
Surrogate: Triphenyl phosphate	*0.270*			*"*	*0.250*		*108*	*60-130*			
Surrogate: Tribuytlphosphate	*0.250*			*"*	*0.250*		*100*	*60-130*			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 10I0423

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0092104											
Blank (0092104-BLK1)					Prepared: 09/20/10 Analyzed: 09/21/10						
Hardness (Total)	ND	10	10	mg CaCO3/L							
Duplicate (0092104-DUP1)			**Source: 10I0471-01**		Prepared: 09/20/10 Analyzed: 09/21/10						
Hardness (Total)	280	10	10	mg CaCO3/L		274			2	20	
Batch 0092225											
Blank (0092225-BLK1)					Prepared & Analyzed: 09/22/10						
Oil & Grease	ND	5	5	mg/l							
LCS (0092225-BS1)					Prepared & Analyzed: 09/22/10						
Oil & Grease	40	5	5	mg/l	40.0		100	78-114			
LCS Dup (0092225-BSD1)					Prepared & Analyzed: 09/22/10						
Oil & Grease	34	5	5	mg/l	40.0		86	78-114	15	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Notes and Definitions

J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
GC-05	Results confirmed by GCMS.
ND	Analyte NOT DETECTED at or above the reporting limit (or method detection limit when specified)
NR	Not Reported
dry	Sample results reported on a dry weight basis (if indicated in units column)
RPD	Relative Percent Difference
MDL	Method detection limit (indicated per client's request)

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CHAIN-OF-CUSTODY RECORD

EnviroMatrix Analytical, Inc.
4340 Viewridge Ave., Ste. A - San Diego, CA 92123 - Phone (858) 560-7717 - Fax (858) 560-7763

EMA LOG #: 10F0423

Client: D-Max Engineering
Attn: Arsalan Dadkhah
Samplers(s): MD/JR
Address: 7220 Trade street, Suite 119
San Diego, CA 92121
Phone: 858-586-6600 Fax: 858-586-6644
Email:
Billing Address: Same

Project ID: Santee Dry Weather R2
Project #: 201022W-2 PO #:

Requested Analysis

ID #	Client Sample ID	Sample Date	Sample Time	Sample Matrix	Container # / Type	Oil & Grease □ 413.1 □ 413.2 X 1664	8015B (TPH) □ Gas □ Diesel □ Ext	624/8260 (VOC) Full BTXE MTBE Oxy Nap	625 / 8270 (SVOC) □ PAH only	608 / 8081 (Organochlorine Pesticides)	608 / 8082 (Polychlorinated Biphenyls)	8141 (Organophosphorus Pesticides)	TBT (Organotin Compounds)	□ pH □ EC □ TSS □TDS	□ Nitrate □ Nitrite □ TKN □NH3	CAC Title 22/CAM17 Metals □ TTLC □ STLC	TCLP (RCRA) □ Metals □ Organics	(Cd) Cr (Cu) (Pb) Ni Ag (Zn) X Dissolved	Coliform. X Total (MTF) X Fecal (MTF)	Colilert, T+E.Coli □ P/A □ Enumeration	Enterococcus, X MTF □ Enterolert	Heterotrophic Plate Count (HPC)	□ BOD □ COD □ Cyanide	Total Hardness
1	V40d	9/17/10	10:10	SW	2/4 G/P	X						X						X	X/X		X			X
2	P20f	"	12:15	"	"	X						X						X	X/X		X			X
3	J25C	"	12:50	"	"	X						X						X	X		X			X
4																								
5																								
6																								
7																								
8																								
9																								
10																								

Matrix Codes: A = Air, DW = Drinking Water, GW = Groundwater, SW = Storm Water
WW = Wastewater, S = Soil, SED = Sediment, SD = Solid, T = Tissue, O = Oil, L = Liquid

Shipped By: □ Courier □ UPS □ FedEx □ USPS □ Client Drop Off □ Other

[1]**Turn-Around-Time:** □ Same Day □ 24 hr □ 48 hr □ 3 day □ 4 day X 5 day □ STD (7 day)

[1]**Reporting Requirements:** □ Fax □ PDF □ Excel □ Geotracker/EDF □ Hard Copy □ EDT

[1]**Sample Disposal:** □ By Laboratory □ [2]Return to Client: P/U or Delivery □ Archive

Sample Integrity

Correct Containers: Yes No N/A	Containers Properly Preseved: Yes No N/A
Custody Seals Intact: Yes No N/A	Temp @ Receipt:
COC Labels Agree: Yes No N/A	Sampled By: Client EMA Autosampler

RELINQUISHED BY		DATE/TIME	RECEIVED BY	
Signature	Manouchehr Dadkhah	13:45 9/17/10	Signature	Kelly Leyden
Print	Manouchehr Dadkhah		Print	Kelly Leyden
Company:	D-Max Eng.		Company:	EMA
Signature	Kelly Leyden	9/17/10 14:02	Signature	
Print	Kelly Leyden		Print	
Company:	EMA		Company:	
Signature			Signature	
Print			Print	
Company:			Company:	

Project/Sample Comments:

T= 4 °C on ice

[1]Additional costs may apply, consult a project manager for details.

[2]EMA reserves the right to return any samples that do not match our waste profile.

NOTE: By relinquishing samples to EMA, Inc., client agrees to pay for the services requested on this COC form and any additional analyses performed on this project. Payment for services is due within 30 days from date of invoice. Samples will be disposed of 7 days after report has been finalized unless otherwise noted. All work is subject to EMA's terms and conditions.

30 September 2010

D-Max Engineering
Attn: Arsalan Dadkhah
7220 Trade Street, Suite 119
San Diego, California 92121

EMA Log #: 10I0629

Project Name: Santee Dry Weather
Project Desc./#: 201022W-3

Enclosed are the results of analyses for samples received by the laboratory on 09/27/10 12:20. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that this data is in compliance both technically and for completeness.

Dan Verdon
Laboratory Director

CA ELAP Certification #: 2564

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 10I0629

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
V 40d	10I0629-01	Stormwater	09/27/10 09:45	09/27/10 12:20
V 40d-1	10I0629-02	Stormwater	09/27/10 10:50	09/27/10 12:20

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 10I0629

Microbiological Parameters by Standard Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
V 40d (10I0629-01) Stormwater	**Sampled: 09/27/10 09:45**		**Received: 09/27/10 12:20**							
Enterococcus	**1396**	10	10	MPN/100 ml	10	0092818	09/27/10	09/28/10	Idexx	
V 40d-1 (10I0629-02) Stormwater	**Sampled: 09/27/10 10:50**		**Received: 09/27/10 12:20**							
Enterococcus	**5794**	10	10	MPN/100 ml	10	0092818	09/27/10	09/28/10	Idexx	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 10I0629

Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit (or method detection limit when specified)
NR	Not Reported
dry	Sample results reported on a dry weight basis (if indicated in units column)
RPD	Relative Percent Difference
MDL	Method detection limit (indicated per client's request)

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CHAIN-OF-CUSTODY RECORD

EnviroMatrix Analytical, Inc.
4340 Viewridge Ave., Ste. A - San Diego, CA 92123 - Phone (858) 560-7717 - Fax (858) 560-7763

EMA LOG #: 10F0629

Client: D.Max Engineering Inc.
Attn: Arsalan Dadkhah
Samplers(s): MD/JR
Address: 7220 Trade Street, suite 119
San Diego, CA 92121
Phone: 858-586-6600 Fax: 858-586-6644
Email:
Billing Address: Same

Project ID: Santee Dry Weather R-2 F-up
Project #: 201022W-3 PO #:

Requested Analysis

ID #	Client Sample ID	Sample Date	Sample Time	Sample Matrix	Container # / Type	Oil & Grease □ 413.1 □ 413.2 □ 1664	8015B (TPH) □ Gas □ Diesel □ Ext	624/8260 (VOC) Full BTXE MTBE Oxy Nap	625 / 8270 (SVOC) □ PAH only	608 / 8081 (Organochlorine Pesticides)	608 / 8082 (Polychlorinated Biphenyls)	8141 (Organophosphorus Pesticides)	TBT (Organotin Compounds)	□ pH □ EC □ TSS □TDS	□ Nitrate □ Nitrite □ TKN □NH3	CAC Title 22/CAM17 Metals □ TTLC □ STLC	TCLP (RCRA) □ Metals □ Organics	Cd Cr Cu Pb Ni Ag Zn □ Dissolved	Coliform. □ Total (MTF) □ Fecal (MTF)	Colilert, T+E.Coli □ P/A □ Enumeration	Enterococcus, □ MTF □ Enterolert	Heterotrophic Plate Count (HPC)	□ BOD □ COD □ Cyanide					
1	V40d	9/27/10	9:45	SW	1P																X							
2	V40d-1	"	10:50	"	"																X							
3																												
4																												
5																												
6																												
7																												
8																												
9																												
10																												

SEP 27 '10 12:32

Matrix Codes: A = Air, DW = Drinking Water, GW = Groundwater, SW = Storm Water
WW = Wastewater, S = Soil, SED = Sediment, SD = Solid, T = Tissue, O = Oil, L = Liquid
Shipped By: □ Courier □ UPS □ FedEx □ USPS □ Client Drop Off □ Other
[1]**Turn-Around-Time:** □ Same Day □ 24 hr □ 48 hr □ 3 day □ 4 day □ 5 day □ STD (7 day)
[1]**Reporting Requirements:** □ Fax □ PDF □ Excel □ Geotracker/EDF □ Hard Copy □ EDT
[1]**Sample Disposal:** □ By Laboratory □ [2]Return to Client: P/U or Delivery □ Archive

Sample Integrity

Correct Containers: Yes No N/A	Containers Properly Preseved: Yes No N/A
Custody Seals Intact: Yes No N/A	Temp @ Receipt:
COC Labels Agree: Yes No N/A	Sampled By: Client EMA Autosampler

	RELINQUISHED BY	DATE/TIME	RECEIVED BY
Signature	Manuchehr Dadkhah	9-27-10 12:00	
Print	Manuchehr Dadkhah		
Company:	D-Max Eng		EMA
Signature		9-27-10 12:20	
Print	Javier Luna		Matt Snyder
Company:	EMA		EMA
Signature			
Print			
Company:			

Project/Sample Comments: 8°C on Ice

[1]Additional costs may apply, consult a project manager for details.
[2]EMA reserves the right to return any samples that do not match our waste profile.
NOTE: By relinquishing samples to EMA, Inc., client agrees to pay for the services requested on this COC form and any additional analyses performed on this project. Payment for services is due within 30 days from date of invoice. Samples will be disposed of 7 days after report has been finalized unless otherwise noted. All work is subject to EMA's terms and conditions.

30 September 2010

D-Max Engineering
Attn: Arsalan Dadkhah
7220 Trade Street, Suite 119
San Diego, California 92121

EMA Log #: 10I0646

Project Name: Santee Dry Weather
Project Desc./#: 201022W-3

Enclosed are the results of analyses for samples received by the laboratory on 09/27/10 16:07. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that this data is in compliance both technically and for completeness.

Dan Verdon
Laboratory Director

CA ELAP Certification #: 2564

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 10I0646

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
J25C	10I0646-01	Stormwater	09/27/10 12:20	09/27/10 16:07
J25C-1	10I0646-02	Stormwater	09/27/10 14:10	09/27/10 16:07
J25C-3	10I0646-03	Stormwater	09/27/10 14:40	09/27/10 16:07
J25C-4	10I0646-04	Stormwater	09/27/10 14:50	09/27/10 16:07
J25C-2	10I0646-05	Stormwater	09/27/10 15:30	09/27/10 16:07

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 10I0646

Microbiological Parameters by Standard Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
J25C (10I0646-01) Stormwater	**Sampled: 09/27/10 12:20**		**Received: 09/27/10 16:07**							
Total Coliforms	**130000**	100	100	MPN/100 ml	100	0092824	09/27/10	09/28/10	SM9223	
E. Coli	**4350**	10	10	"	10	"	"	"	"	
J25C-1 (10I0646-02) Stormwater	**Sampled: 09/27/10 14:10**		**Received: 09/27/10 16:07**							
Total Coliforms	**72700**	100	100	MPN/100 ml	100	0092824	09/27/10	09/28/10	SM9223	
E. Coli	**29900**	100	100	"	"	"	"	"	"	
J25C-3 (10I0646-03) Stormwater	**Sampled: 09/27/10 14:40**		**Received: 09/27/10 16:07**							
Total Coliforms	**173000**	100	100	MPN/100 ml	100	0092824	09/27/10	09/28/10	SM9223	
E. Coli	**1310**	10	10	"	10	"	"	"	"	
J25C-4 (10I0646-04) Stormwater	**Sampled: 09/27/10 14:50**		**Received: 09/27/10 16:07**							
Total Coliforms	**1990000**	1000	1000	MPN/100 ml	1000	0092824	09/27/10	09/28/10	SM9223	
E. Coli	**1180**	10	10	"	10	"	"	"	"	
J25C-2 (10I0646-05) Stormwater	**Sampled: 09/27/10 15:30**		**Received: 09/27/10 16:07**							
Total Coliforms	**2420000**	1000	1000	MPN/100 ml	1000	0092824	09/27/10	09/28/10	SM9223	A-01
E. Coli	ND	100	100	"	10	"	"	"	"	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering
Project Name: Santee Dry Weather

EMA Log #: 10I0646

Notes and Definitions

A-01	MPN > 2,419,600
ND	Analyte NOT DETECTED at or above the reporting limit (or method detection limit when specified)
NR	Not Reported
dry	Sample results reported on a dry weight basis (if indicated in units column)
RPD	Relative Percent Difference
MDL	Method detection limit (indicated per client's request)

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CHAIN-OF-CUSTODY RECORD

– EnviroMatrix EMA Analytical, Inc. —
4340 Viewridge Ave., Ste. A - San Diego, CA 92123 - Phone (858) 560-7717 - Fax (858) 560-7763

EMA LOG #: 10T0646

Client: D-Max Engineering, Inc.
Attn: Arsalan Dadkhah
Samplers(s): MD/JR
Address: 7220 Trade street, suite 119
San Diego, CA 92121
Phone: 858-586-6600 Fax: 858-586-6644
Email:
Billing Address: Same

Project ID: Santee Dry Weather R-2 F-up
Project #: 2010 22W-3 PO #:

Requested Analysis

ID #	Client Sample ID	Sample Date	Sample Time	Sample Matrix	Container # / Type	Oil & Grease □ 413.1 □ 413.2 □ 1664	8015B (TPH) □ Gas □ Diesel □ Ext	624/8260 (VOC) Full BTXE MTBE Oxy Nap	625 / 8270 (SVOC) □ PAH only	608 / 8081 (Organochlorine Pesticides)	608 / 8082 (Polychlorinated Biphenyls)	8141 (Organophosphorus Pesticides)	TBT (Organotin Compounds)	□ pH □ EC □ TSS □ TDS	□ Nitrate □ Nitrite □ TKN □ NH3	CAC Title 22/CAM17 Metals □ TTLC □ STLC	TCLP (RCRA) □ Metals □ Organics	Cd Cr Cu Pb Ni Ag Zn □ Dissolved	Coliform. □ Total (MTF) □ Fecal (MTF)	Colilert, T+E.Coli □ P/A X Enumeration	Enterococcus, □ MTF □ Enterolert	Heterotrophic Plate Count (HPC)	□ BOD □ COD □ Cyanide
1	J25C	9/27/10	12:20	SW	1 P															X			
2	J25C-1	"	14:10	"	"															X			
3	J25C-2 ~~3~~	"	14:40	"	"															X			
4	J25C-3 ~~4~~	"	14:50	"	"															X			
5	J25C-4 ~~2~~		15:30	"	"															X			
6	DW																						
7	RE Send Next Day 9/30/10																						
8																							
9																							
10																							

Matrix Codes: A = Air, DW = Drinking Water, GW = Groundwater, SW = Storm Water
WW = Wastewater, S = Soil, SED = Sediment, SD = Solid, T = Tissue, O = Oil, L = Liquid

Shipped By: □ Courier □ UPS □ FedEx □ USPS X Client Drop Off □ Other

[1]**Turn-Around-Time:** □ Same Day □ 24 hr □ 48 hr □ 3 day □ 4 day X 5 day □ STD (7 day)

[1]**Reporting Requirements:** □ Fax □ PDF □ Excel □ Geotracker/EDF □ Hard Copy □ EDT

[1]**Sample Disposal:** □ By Laboratory □ [2]Return to Client: P/U or Delivery □ Archive

Sample Integrity

Correct Containers: Yes No N/A	Containers Properly Preseved: Yes No N/A
Custody Seals Intact: Yes No N/A	Temp @ Receipt:
COC Labels Agree: Yes No N/A	Sampled By: Client EMA Autosampler

RELINQUISHED BY	DATE/TIME	RECEIVED BY
Signature: Manouchehr Dadkhah	9/27/10 1607	Signature
Print: Manouchehr Dadkhah		Print: Matt Leyden
Company: D-Max Eng.		Company: EMA
Signature		Signature
Print		Print
Company:		Company:
Signature		Signature
Print		Print
Company:		Company:

Project/Sample Comments:

YE

[1]Additional costs may apply, consult a project manager for details.

[2]EMA reserves the right to return any samples that do not match our waste profile.

NOTE: By relinquishing samples to EMA, Inc., client agrees to pay for the services requested on this COC form and any additional analyses performed on this project. Payment for services is due within 30 days from date of invoice. Samples will be disposed of 7 days after report has been finalized unless otherwise noted. All work is subject to EMA's terms and conditions.

Appendix D

Field Data and Trash Assessment Sheets

Round One

LC

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

Field Screening Confirmation For _____ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) (MS4) Receiving Water

Site ID	A5e	**Latitude**	32.84081	Watershed	**Hydrologic Unit**	907
Location	Next to 8335 Carlton Oaks Drive, between Cadorette Avenue and Pratul Street	**Longitude**	-117.02160		**Hydrologic Area**	907.1
		TB Page	1230 H6		**Hydrologic Subarea** (Optional)	907.12
Date	5/18/10 **Time** 1540	**Observer**	MD/AK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only): (Residential) Commercial Industrial Agricultural Parks Open

Land Use (Secondary) (Optional, greater than 10%): Residential Commercial Industrial Agricultural Parks Open (None)

Conveyance (Check one only): Manhole Catch Basin (Outlet) Concrete Channel Natural Creek Earthen Channel Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather	(Sunny)	Partly Cloudy	Overcast	Fog		
Tide	(N/A)	Low	Incoming	High	Outgoing	**Tide Height:** ____ ft.
Last Rain	(> 72 hours)	< 72 hours				
Rainfall	(None)	< 0.1"	> 0.1"			

RUNOFF CHARACTERISTICS

Odor	(None)	Musty	Rotten Eggs	Chemical	Sewage	Other
Color	(None)	Yellow	Brown	White	Gray	Other
Clarity	(Clear)		Slightly Cloudy	Opaque		Other
Floatables	(None)	Trash	Bubbles/Foam	Sheen	Fecal Matter	Other
Deposits	None	Sediment/Gravel	(Fine Particulates)	Stains	Oily Deposits	Other
Vegetation	None	(Limited)	Normal	Excessive		Other

Biology	None	Insects	(Algae)	Fish	Snails	Mussels/ Barnacles	Insect/ Algae	Insect/ Snail	Other

Water Flow: (Flowing) Ponded Dry Tidal

Does the storm drain flow reach the Receiving Water? Yes No (N/A)

Evidence of Overland Flow? Yes (No) Irrigation Runoff Other: _____

Photo Taken (Yes) No **Photo #** 2 27-28

Field Screening Samples Collected? (Yes) No

Water Temp (°C)	20.2	NH_3-N (mg/L)	0.101	NO_3 (mg/L)	13.27	Ortho-PO_4 (mg/L)	0.972
pH (pH units)	8.5	TURB (NTU)	0.79	NO_3-N (mg/L)	3.009	Ortho-PO_4 -P (mg/L)	0.320
COND (mS/cm)	2.09	MBAS (mg/L)	0.25	DO (mg/L)	N/A		

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	<1	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2010 Trash Assessment Form

SITE ID: A5a DATE: 5/18/10

OBSERVER: MD/AK TIME: 1540

LOCATION: Next to 8535 Carlton Oaks Drive, between Cadorette Avenue and Pratt Street

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): ~~Suboptimal~~ Optimal

ESTIMATED AREA OF ASSESSMENT L x W (FT): 15 x 20

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ Optimal	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ Suboptimal	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ Marginal	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ Submarginal	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ Poor	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ Potential Threat to Human Health	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ Potential Threat to Aquatic Health	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

LC

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

Field Screening Confirmation For _____ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) MS4 Receiving Water

Site ID	ESg	Latitude	32.84885	Watershed	Hydrologic Unit	907
Location	Santee Recreational Lakes, west side of entrance road, approximately 100 feet south of entrance toll booth in grassy area	Longitude	-117.00471		Hydrologic Area	907.1
		TB Page	1231-A5		Hydrologic Subarea (Optional)	907.12
Date	5/18/10	Time	1440	Observer	MD/AK	Discharge Area (Optional)

Land Use (Primary) (Check one only): Residential Commercial Industrial Agricultural Parks Open

Land Use (Secondary) (Optional, greater than 10%): Residential Commercial Industrial Agricultural Parks Open None

Conveyance (Check one only): Manhole Catch Basin Outlet Concrete Channel Natural Creek Earthen Channel Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather	Sunny	Partly Cloudy	Overcast	Fog		
Tide	N/A	Low	Incoming	High	Outgoing	Tide Height: ____ ft.
Last Rain	> 72 hours	< 72 hours				
Rainfall	None	< 0.1"	> 0.1"			

RUNOFF CHARACTERISTICS

Odor	None	Musty	Rotten Eggs	Chemical	Sewage	Other
Color	None	Yellow	Brown	White	Gray	Other
Clarity	Clear		Slightly Cloudy	Opaque		Other
Floatables	None	Trash	Bubbles/Foam	Sheen	Fecal Matter	Other
Deposits	None	Sediment/Gravel	Fine Particulates	Stains	Oily Deposits	Other
Vegetation	None	Limited	Normal	Excessive		Other
Biology	None	Insects Algae	Fish Snails	Mussels/ Barnacles	Insect/ Algae Insect/ Snail	Other

Water Flow: Flowing Ponded Dry Tidal

Does the storm drain flow reach the Receiving Water? Yes No N/A

Evidence of Overland Flow? Yes No Irrigation Runoff Other: _____

Photo Taken Yes No **Photo #** 25-26

Field Screening Samples Collected? Yes No

Water Temp (°C)	20.7	NH_3-N (mg/L)	0.226	NO_3 (mg/L)	9.369	Ortho-PO_4 (mg/L)	0.894
pH (pH units)	8.1	TURB (NTU)	2.62	NO_3-N (mg/L)	2.120	Ortho-PO_4-P (mg/L)	0.290
COND (mS/cm)	2.62	MBAS (mg/L)	0.38	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	1	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

2010 Trash Assessment Form

SITE ID: E5g-1 DATE: 5/18/10

OBSERVER: MD/AK TIME: 1440

LOCATION: Santee Recreational Lakes, west side of entrance road, approximately 100 feet South of entrance toll booth in grassy area

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): ~~Marginal~~ Optimal

ESTIMATED AREA OF ASSESSMENT L x W (FT): 5 x 5

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ Optimal	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ Suboptimal	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ Marginal	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ Submarginal	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ Poor	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ Potential Threat to Human Health	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ Potential Threat to Aquatic Health	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

LC

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

(Field Screening) Confirmation For _____ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) (MS4) Receiving Water

Site ID	G30c	**Latitude**	32.84501	**Watershed**	**Hydrologic Unit**	907
Location	South end of River Trail Place, north of San Diego River, down trail to the west	**Longitude**	-116.99122		**Hydrologic Area**	907.1
		TB Page	1231 C5		**Hydrologic Subarea** (Optional)	907.12
Date	5/18/10 **Time** 11:20	**Observer**	MD/AK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only): (Residential) Commercial Industrial Agricultural Parks Open

Land Use (Secondary) (Optional, greater than 10%): Residential Commercial Industrial Agricultural Parks (Open) None

Conveyance (Check one only): Manhole Catch Basin (Outlet) Concrete Channel Natural Creek Earthen Channel Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather	Sunny	(Partly Cloudy)	Overcast	Fog		
Tide	(N/A)	Low	Incoming	High	Outgoing	**Tide Height:** ____ ft.
Last Rain	(≥ 72 hours)	< 72 hours				
Rainfall	(None)	< 0.1"	> 0.1"			

RUNOFF CHARACTERISTICS

Odor	(None)	Musty	Rotten Eggs	Chemical	Sewage	Other
Color	(None)	Yellow	Brown	White	Gray	Other
Clarity	(Clear)		Slightly Cloudy	Opaque		Other
Floatables	(None)	Trash	Bubbles/Foam	Sheen	Fecal Matter	Other
Deposits	None	(Sediment/Gravel)	Fine Particulates	Stains	Oily Deposits	Other
Vegetation	None	Limited	(Normal)	Excessive		Other
Biology	None	(Insects) (Algae)	(Fish) (Snails)	Mussels/ Barnacles	(Insect/ Algae)	(Insect/ Snail) Other

Water Flow: (Flowing) Ponded Dry Tidal

Does the storm drain flow reach the Receiving Water? (Yes) No N/A

Evidence of Overland Flow? Yes (No) Irrigation Runoff Other: _____

Photo Taken (Yes) No **Photo #** 18-19

Field Screening Samples Collected? (Yes) No

Water Temp (°C)	20.8	NH_3-N (mg/L)	0.138	NO_3 (mg/L)	25.20	Ortho-PO_4 (mg/L)	0.062
pH (pH units)	8.3	TURB (NTU)	2.54	NO_3-N (mg/L)	5.695	Ortho-PO_4 -P (mg/L)	0.020
COND (mS/cm)	3.64	MBAS (mg/L)	0.25	DO (mg/L)	10.10		

Analytical Lab Samples Collected? ☑ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	1	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2010 Trash Assessment Form

SITE ID: C130c DATE: 5/18/10

OBSERVER: MD/AK TIME: 11:20

LOCATION: South end of River Trail Place, north of San Diego River, down trail to the west

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): Optimal

ESTIMATED AREA OF ASSESSMENT L x W (FT): 20 x 15

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ Optimal	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ Suboptimal	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ Marginal	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ Submarginal	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ Poor	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ Potential Threat to Human Health	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ Potential Threat to Aquatic Health	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

(Field Screening) Confirmation For _____ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) (MS4) Receiving Water

Site ID	H5e		**Latitude**	32.845861	**Watershed**	**Hydrologic Unit**	907
Location	South of River Park Drive, at the end of walkway between Brookview Court and River Rock Court, north of San Diego River		**Longitude**	-116.98769		**Hydrologic Area**	907.1
			TB Page	1231 - C5		**Hydrologic Subarea** (Optional)	907.12
Date	8/20/10	**Time**	11:40	**Observer**	MD / AK	**Discharge Area** (Optional)	

Land Use (Primary) (Check one only): (Residential) Commercial Industrial Agricultural Parks Open

Land Use (Secondary) (Optional, greater than 10%): Residential Commercial Industrial Agricultural Parks Open (None)

Conveyance (Check one only): Manhole Catch Basin (Outlet) Concrete Channel Natural Creek Earthen Channel Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather: (Sunny) Partly Cloudy Overcast Fog

Tide: (N/A) Low Incoming High Outgoing **Tide Height:** _____ ft.

Last Rain: (> 72 hours) < 72 hours

Rainfall: (None) < 0.1" > 0.1"

RUNOFF CHARACTERISTICS

Odor	(None)	Musty	Rotten Eggs	Chemical	Sewage	Other
Color	(None)	Yellow	Brown	White	Gray	Other
Clarity	(Clear)		Slightly Cloudy	Opaque		Other
Floatables	None	Trash	Bubbles/Foam	(Sheen) ~~Dust~~	Fecal Matter	Other
Deposits	None	Sediment/Gravel	(Fine Particulates)	Stains	Oily Deposits	Other
Vegetation	None	Limited	(Normal)	Excessive		Other
Biology	None	(Insects)	(Algae) Fish Snails	Mussels/ Barnacles	(Insect/ Algae)	Insect/ Snail Other

Water Flow: (Flowing) Ponded Dry Tidal

Does the storm drain flow reach the Receiving Water? (Yes) No (N/A)

Evidence of Overland Flow? Yes (No) Irrigation Runoff Other: _____

Photo Taken (Yes) No **Photo #** 2 5b-57

Field Screening Samples Collected? (Yes) No

Water Temp (°C)	20.8	NH_3-N (mg/L)	0.195	NO_3 (mg/L)	4.400	Ortho-PO_4 (mg/L)	1.082
pH (pH units)	8.2	TURB (NTU)	10.07	NO_3-N (mg/L)	0.994	Ortho-PO_4 -P (mg/L)	0.353
COND (mS/cm)	2.78	MBAS (mg/L)	0.25	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	< 1	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2010 Trash Assessment Form

SITE ID: H5e DATE: 5/20/10

OBSERVER: MD/AK TIME: 11:40

LOCATION: South of River Park Drive, at the end of walkway between Brookview Court and River Rock Court, north of San Diego River

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): Sub Optimal

ESTIMATED AREA OF ASSESSMENT L x W (FT): 25 x 5

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ Optimal	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ Suboptimal	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ Marginal	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ Submarginal	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ Poor	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ Potential Threat to Human Health	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ Potential Threat to Aquatic Health	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

LC

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	I 10c		**Latitude**	32.845161	**Watershed**	**Hydrologic Unit**	907
Location	South bank of the San Diego River, East of Cuyamaca Street, under bridge. Westernmost outfalls		**Longitude**	-116.983340		**Hydrologic Area**	907.1
			TB Page	1231 - C5		**Hydrologic Subarea** (Optional)	907.12
Date	5/21/10	**Time** 1500	**Observer**	MD/AK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☒ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☒ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☐ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☒ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☒ Normal	☐ Excessive		☐ Other
Biology	☐ None	☒ Insects ☐ Algae ☐ Fish ☐ Snails		☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☒ Other Frog

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☒ Yes ☐ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 87-90

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	22.6	NH_3-N (mg/L)	0.181	NO_3 (mg/L)	41.60	Ortho-PO_4 (mg/L)	0.115
pH (pH units)	7.9	TURB (NTU)	1.15	NO_3-N (mg/L)	9.401	Ortho-PO_4-P (mg/L)	0.037
COND (mS/cm)	1.616	MBAS (mg/L)	0.25	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width	6	in
Depth	0.25	in
Velocity	10/10	ft/sec
Flow	5	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: Shopping cart, household & food packaging trash

2010 Trash Assessment Form

SITE ID: I 10c DATE: 5/21/10

OBSERVER: MD/AK TIME: 1500

LOCATION: South bank of the San Diego River, east of Cuyamaca Street under bridge - westernmost outfalls

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L X W (FT): 20x20

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☐ Optimal	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ Suboptimal	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☒ Marginal	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ Submarginal	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ Poor	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ Potential Threat to Human Health	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ Potential Threat to Aquatic Health	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

MPM

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

(Field Screening) Confirmation For _____ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) (MS4) Receiving Water

Site ID	J25c	**Latitude**	32.85813	Watershed	**Hydrologic Unit**	907
Location	West end of Carefree Drive, on the west side of channel	**Longitude**	-116.97601		**Hydrologic Area**	907.1
		TB Page	1231-D4		**Hydrologic Subarea** (Optional)	907.12
Date	5/19/10 **Time** 12:10	**Observer**	MD/AK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only): (Residential) Commercial Industrial Agricultural Parks Open

Land Use (Secondary) (Optional, greater than 10%): Residential Commercial Industrial Agricultural Parks Open (None)

Conveyance (Check one only): Manhole Catch Basin (Outlet) Concrete Channel Natural Creek Earthen Channel Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather: (Sunny) Partly Cloudy Overcast Fog

Tide: (N/A) Low Incoming High Outgoing **Tide Height:** _____ ft.

Last Rain: (> 72 hours) < 72 hours

Rainfall: (None) < 0.1" > 0.1"

RUNOFF CHARACTERISTICS

Odor	(None)	Musty	Rotten Eggs	Chemical	Sewage	Other
Color	(None)	Yellow	Brown	White	Gray	Other
Clarity	(Clear)		Slightly Cloudy	Opaque		Other
Floatables	(None)	Trash	Bubbles/Foam	Sheen	Fecal Matter	Other
Deposits	None	Sediment/Gravel	(Fine Particulates)	Stains	Oily Deposits	Other
Vegetation	(None)	Limited	Normal	Excessive		Other
Biology	None	(Insects)	(Algae) Fish	Snails	Mussels/ Barnacles	(Insect/ Algae) Insect/ Snail Other

Water Flow: (Flowing) Ponded Dry Tidal

Does the storm drain flow reach the Receiving Water? Yes No (N/A)

Evidence of Overland Flow? Yes (No) Irrigation Runoff Other: _____

Photo Taken (Yes) No **Photo #** 41-43

Field Screening Samples Collected? (Yes) No

Water Temp (°C)	20.4	NH_3-N (mg/L)	0.275	NO_3 (mg/L)	24.80	Ortho-PO_4 (mg/L)	0.354
pH (pH units)	8.2	TURB (NTU)	4.79	NO_3-N (mg/L)	5.60	Ortho-PO_4-P (mg/L)	0.125
COND (mS/cm)	4.32	MBAS (mg/L)	0.50	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width	~~6~~ 4	in
Depth	0.25	in
Velocity	10/9	ft/sec
Flow	3	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2010 Trash Assessment Form

SITE ID: T25c DATE: 5/19/10

OBSERVER: MD/AK TIME: 12:10

LOCATION: West end of Carefree Drive, on the west side of channel

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L x W (FT): 5 x 3

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ Optimal	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ Suboptimal	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ Marginal	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ Submarginal	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ Poor	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ Potential Threat to Human Health	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ Potential Threat to Aquatic Health	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☒ Confirmation For Enterococcus ☒ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 **Receiving Water**

Site ID	J25c		**Latitude**	32.85813	**Watershed**	**Hydrologic Unit**	907
Location	West end of Carefree Drive, on the west side of channel		**Longitude**	-116.97601		**Hydrologic Area**	907.1
			TB Page	1231 - D4		**Hydrologic Subarea** (Optional)	907.12
Date	6/2/10	**Time** 9:40	**Observer**	MD/AK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only): ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%): ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only): ☐ Manhole ☐ Catch Basin ☒ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather	☒ Sunny	☐ Partly Cloudy	☐ Overcast	☐ Fog		
Tide	☒ N/A	☐ Low	☐ Incoming	☐ High	☐ Outgoing	**Tide Height:** _____ ft.
Last Rain	☒ > 72 hours	☐ < 72 hours				
Rainfall	☒ None	☐ < 0.1"	☐ > 0.1"			

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☐ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other

Biology	☐ None	☒ Insects	☒ Algae	☐ Fish	☐ Snails	☐ Mussels/ Barnacles	☒ Insect/ Algae	☐ Insect/ Snail	☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff Other: _____

Photo Taken ☐ Yes ☒ No **Photo #** 89

Field Screening Samples Collected? (Yes) No

Water Temp (°C)	18.6	NH_3-N (mg/L)	NA	NO_3 (mg/L)	NA	Ortho-PO_4 (mg/L)	NA
pH (pH units)	8.3	TURB (NTU)	NA	NO_3-N (mg/L)	NA	Ortho-PO_4-P (mg/L)	NA
COND (mS/cm)	4.64	MBAS (mg/L)	NA	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width	6	in
Depth	0.25	in
Velocity	5/7	ft/sec
Flow	3	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

MRL

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

Field Screening Confirmation For _____ IC/ID Follow-Up For Enterococcus

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) X MS4 Receiving Water

Site ID	J25c-1	**Latitude**	32.86227	Watershed	**Hydrologic Unit**	907
Location	East of Molino Road on El Nopal,	**Longitude**	-117.07945		**Hydrologic Area**	907.1
		TB Page	1231-D3		**Hydrologic Subarea** (Optional)	907.12
Date	6/2/10 **Time** 10:30	**Observer**	MD/AK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only): X Residential Commercial Industrial Agricultural Parks Open

Land Use (Secondary) (Optional, greater than 10%): Residential Commercial Industrial Agricultural Parks Open X None

Conveyance (Check one only): X Manhole Catch Basin Outlet Concrete Channel Natural Creek Earthen Channel Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather	X Sunny	Partly Cloudy	Overcast	Fog		
Tide	X N/A	Low	Incoming	High	Outgoing	**Tide Height:** ____ ft.
Last Rain	X > 72 hours	< 72 hours				
Rainfall	X None	< 0.1"	> 0.1"			

RUNOFF CHARACTERISTICS

Odor	None	Musty	Rotten Eggs	Chemical	Sewage	Other
Color	X None	Yellow	Brown	White	Gray	Other
Clarity	X Clear		Slightly Cloudy	Opaque		Other
Floatables	X None	Trash	Bubbles/Foam	Sheen	Fecal Matter	Other
Deposits	None	Sediment/Gravel	X Fine Particulates	Stains	Oily Deposits	Other
Vegetation	X None	Limited	Normal	Excessive		Other

Biology	X None	Insects	Algae	Fish	Snails	Mussels/ Barnacles	Insect/ Algae	Insect/ Snail	Other

Water Flow: X Flowing Ponded Dry Tidal

Does the storm drain flow reach the Receiving Water? Yes No X N/A

Evidence of Overland Flow? Yes X No Irrigation Runoff Other: _____

Photo Taken X Yes No **Photo #** 91-92

Field Screening Samples Collected? Yes X No

Water Temp (°C)	NM	NH_3-N (mg/L)	NA	NO_3 (mg/L)	NA	Ortho-PO_4 (mg/L)	NA
pH (pH units)	NA	TURB (NTU)	NA	NO_3-N (mg/L)	NA	Ortho-PO_4 -P (mg/L)	NA
COND (mS/cm)	NA	MBAS (mg/L)	NA	DO (mg/L)	NA		

Analytical Lab Samples Collected? X **Yes** ☐ **No**

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	<1	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

MRM

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City of Santee
Dry Weather Monitoring Field Datasheet

Field Screening Confirmation For _____ X IC/ID Follow-Up For Enterococcus

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) X MS4 Receiving Water

Site ID	J25c-2		**Latitude**	32.86230	**Watershed**	**Hydrologic Unit**	907
Location	In the channel just west of Molino Road on El Nopal		**Longitude**	-116.97185		**Hydrologic Area**	907.1
			TB Page	1231-D3		**Hydrologic Subarea** (Optional)	907.12
Date	6/2/10	**Time** 10:35	**Observer**	MD/AK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only): X Residential Commercial Industrial Agricultural Parks Open

Land Use (Secondary) (Optional, greater than 10%): Residential Commercial Industrial Agricultural Parks Open X None

Conveyance (Check one only): Manhole Catch Basin Outlet X Concrete Channel Natural Creek Earthen Channel Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather	X Sunny	Partly Cloudy	Overcast	Fog	
Tide	X N/A	Low	Incoming	High	Outgoing **Tide Height:** ____ ft.
Last Rain	X > 72 hours	< 72 hours			
Rainfall	X None	< 0.1"	> 0.1"		

RUNOFF CHARACTERISTICS

Odor	None	X Musty	Rotten Eggs	Chemical	Sewage	Other
Color	X None	Yellow	Brown	White	Gray	Other
Clarity	X Clear		Slightly Cloudy	Opaque		Other
Floatables	X None	Trash	Bubbles/Foam	Sheen	Fecal Matter	Other
Deposits	None	X Sediment/Gravel	X Fine Particulates	Stains	Oily Deposits	Other
Vegetation	X None	Limited	Normal	Excessive		Other
Biology	None	X Insects	X Algae	Fish	Snails	Mussels/ Barnacles	X Insect/ Algae	Insect/ Snail	Other

Water Flow: X Flowing Ponded Dry Tidal

Does the storm drain flow reach the Receiving Water? Yes No X N/A

Evidence of Overland Flow? Yes X No Irrigation Runoff Other: _____

Photo Taken X Yes No **Photo #** 90

Field Screening Samples Collected? Yes X No

Water Temp (°C)	NA	NH_3-N (mg/L)	NA	NO_3 (mg/L)	NA	Ortho-PO_4 (mg/L)	NA
pH (pH units)	NA	TURB (NTU)	NA	NO_3-N (mg/L)	NA	Ortho-PO_4 -P (mg/L)	NA
COND (mS/cm)	NA	MBAS (mg/L)	NA	DO (mg/L)	NA		

Analytical Lab Samples Collected? X Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	41	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: Minor trash, major algae, pockets of Sediment

MRM

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

Field Screening Confirmation For _____ X IC/ID Follow-Up For Enterococcus

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) X MS4 Receiving Water

Site ID	J25e-3		**Latitude**	32.86222	Watershed	**Hydrologic Unit**	907
Location	~~Sedimentation basin~~ Outlet to sedimentation basin at the west end of Shoreline Drive		**Longitude**	-116.98205		**Hydrologic Area**	907.1
			TB Page	1231 - D3		**Hydrologic Subarea** (Optional)	907.12
Date	6/2/10	**Time** 10:55	**Observer**	MD/AK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only): X Residential | Commercial | Industrial | Agricultural | Parks | Open

Land Use (Secondary) (Optional, greater than 10%): Residential | Commercial | Industrial | Agricultural | Parks | Open | X None

Conveyance (Check one only): Manhole | Catch Basin | X Outlet | Concrete Channel | Natural Creek | Earthen Channel | Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather	X Sunny	Partly Cloudy	Overcast	Fog	
Tide	X N/A	Low	Incoming	High	Outgoing **Tide Height:** ____ ft.
Last Rain	X > 72 hours	< 72 hours			
Rainfall	X None	< 0.1"	> 0.1"		

RUNOFF CHARACTERISTICS

Odor	X None	Musty	Rotten Eggs	Chemical	Sewage	Other
Color	X None	Yellow	Brown	White	Gray	Other
Clarity	X Clear		Slightly Cloudy	Opaque		Other
Floatables	X None	Trash	Bubbles/Foam	Sheen	Fecal Matter	Other
Deposits	None	Sediment/Gravel	X Fine Particulates	Stains	Oily Deposits	Other
Vegetation	X None	Limited	Normal	Excessive		Other

Biology	None	X Insects	X Algae	Fish	Snails	Mussels/ Barnacles	X Insect/ Algae	Insect/ Snail	Other

Water Flow: X Flowing | Ponded | Dry | Tidal

Does the storm drain flow reach the Receiving Water? Yes | No | X N/A

Evidence of Overland Flow? Yes | X No | Irrigation Runoff | Other: _____

Photo Taken X Yes | No **Photo #** 93

Field Screening Samples Collected? Yes | X No

Water Temp (°C)	NA	NH_3-N (mg/L)	NA	NO_3 (mg/L)	NA	Ortho-PO_4 (mg/L)	NA
pH (pH units)	NA	TURB (NTU)	NA	NO_3-N (mg/L)	NA	Ortho-PO_4-P (mg/L)	NA
COND (mS/cm)	NA	MBAS (mg/L)	NA	DO (mg/L)	NA		

Analytical Lab Samples Collected? X Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	21	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: Leaves

MRM

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City of Santee
Dry Weather Monitoring Field Datasheet

Field Screening Confirmation For _____ X IC/ID Follow-Up For Enterococcus

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) XMS4 Receiving Water

Site ID	J25c-4		**Latitude**	32.86238	**Watershed**	**Hydrologic Unit**	907
Location	~~Sedimentation basin~~ Downstream of sedimentation basin at the west end of Shoredale Dr.		**Longitude**	-116.98190		**Hydrologic Area**	907.1
			TB Page	1231-D3		**Hydrologic Subarea** (Optional)	907.12
Date	6/2/10	**Time** 11:00	**Observer**	MD/AK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only): X Residential | Commercial | Industrial | Agricultural | Parks | Open

Land Use (Secondary) (Optional, greater than 10%): Residential | Commercial | Industrial | Agricultural | Parks | Open | X None

Conveyance (Check one only): Manhole | Catch Basin | Outlet | X Concrete Channel | Natural Creek | Earthen Channel | Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather: X Sunny | Partly Cloudy | Overcast | Fog

Tide: X N/A | Low | Incoming | High | Outgoing **Tide Height:** _____ ft.

Last Rain: X > 72 hours | < 72 hours

Rainfall: X None | < 0.1" | > 0.1"

RUNOFF CHARACTERISTICS

Odor	X None	Musty	Rotten Eggs	Chemical	Sewage	Other
Color	X None	Yellow	Brown	White	Gray	Other
Clarity	X Clear		Slightly Cloudy	Opaque		Other
Floatables	X None	Trash	Bubbles/Foam	Sheen	Fecal Matter	Other
Deposits	None	X Sediment/Gravel	X Fine Particulates	Stains	Oily Deposits	Other
Vegetation	None	X Limited	Normal	Excessive		Other
Biology	None	X Insects	X Algae	Fish	X Snails	Mussels/ Barnacles	X Insect/ Algae	Insect/ Snail	Other

Water Flow: X Flowing | Ponded | Dry | Tidal

Does the storm drain flow reach the Receiving Water? Yes | No | X N/A

Evidence of Overland Flow? Yes | X No Irrigation Runoff Other: _____

Photo Taken: X Yes | No **Photo #** 94-96

Field Screening Samples Collected? Yes | X No

Water Temp (°C)	NA	NH_3-N (mg/L)	NA	NO_3 (mg/L)	NA	Ortho-PO_4 (mg/L)	NA
pH (pH units)	NA	TURB (NTU)	NA	NO_3-N (mg/L)	NA	Ortho-PO_4-P (mg/L)	NA
COND (mS/cm)	NA	MBAS (mg/L)	NA	DO (mg/L)	NA		

Analytical Lab Samples Collected? X Yes | ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	4	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: Trash, sediment, leaves, animal feces on driveway (not in contact w/ water)

1C

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City of Santee
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☑ MS4 ☐ Receiving Water

Site ID	J25C2	**Latitude**	32.856~~40~~ 39	**Watershed**	**Hydrologic Unit**	907
Location	At the east end of Country Scenes, east of Conejo Road	**Longitude**	-116.97~~600~~ 598		**Hydrologic Area**	907.1
		TB Page	1231 - D4		**Hydrologic Subarea** (Optional)	907.12
Date	5/21/10 **Time** 1355	**Observer**	MD/AK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☒ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☑ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☐ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☐ None	☒ Insects	☒ Algae	☐ Fish ☐ Snails	☐ Mussels/ Barnacles ☒ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 84-86

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	22.7	NH_3-N (mg/L)	0.153	NO_3 (mg/L)	27.28	Ortho-PO_4 (mg/L)	0.388
pH (pH units)	7.9	TURB (NTU)	2.57	NO_3-N (mg/L)	6.165	Ortho-PO_4-P (mg/L)	0.088
COND (mS/cm)	4.42	MBAS (mg/L)	0.50	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

2010 Trash Assessment Form

SITE ID: J25C2 DATE: 5/21/10

OBSERVER: MD/AK TIME: 1355

LOCATION: At the east end of Country Scenes, east of Conejo Road

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): Sub Optimal

ESTIMATED AREA OF ASSESSMENT L x W (FT): 8 x 5

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ Optimal	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ Suboptimal	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ Marginal	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ Submarginal	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ Poor	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ Potential Threat to Human Health	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ Potential Threat to Aquatic Health	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

LC

(Field Screening) Confirmation For _____ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) (MS4) Receiving Water

Site ID	J3081	**Latitude**	32.85175	**Watershed**	**Hydrologic Unit**	907
Location	In the Woodglen Vista Channel at the ~~Inter~~ Riverwalk Drive and Park Center Drive intersection, on the north side of the bridge	**Longitude**	-116.97606		**Hydrologic Area**	907.1
		TB Page	1231-D6		**Hydrologic Subarea** (Optional)	907.12
Date	5/19/10 **Time** 1410	**Observer**	MD/AK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only): (Residential) Commercial Industrial Agricultural Parks Open

Land Use (Secondary) (Optional, greater than 10%): Residential Commercial Industrial Agricultural Parks Open (None)

Conveyance (Check one only): Manhole Catch Basin Outlet Concrete Channel (Natural Creek) Earthen Channel Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather: (Sunny) Partly Cloudy Overcast Fog

Tide: (N/A) Low Incoming High Outgoing **Tide Height:** _____ ft.

Last Rain: (> 72 hours) < 72 hours

Rainfall: (None) < 0.1" > 0.1"

RUNOFF CHARACTERISTICS

Odor	(None)	Musty	Rotten Eggs	Chemical	Sewage	Other
Color	(None)	Yellow	Brown	White	Gray	Other
Clarity	(Clear)		Slightly Cloudy	Opaque		Other
Floatables	(None)	Trash	Bubbles/Foam	Sheen	Fecal Matter	Other
Deposits	None	(Sediment/Gravel)	(Fine Particulates)	Stains	Oily Deposits	Other
Vegetation	None	Limited	(Normal)	Excessive		Other

Biology	None	(Insects)	Algae	(Fish)	Snails	Mussels/ Barnacles	Insect/ Algae	Insect/ Snail	(Other) crayfish

Water Flow: (Flowing) Ponded Dry Tidal

Does the storm drain flow reach the Receiving Water? Yes No (N/A)

Evidence of Overland Flow? Yes (No) Irrigation Runoff Other: _____

Photo Taken (Yes) No **Photo #** 44-47

Field Screening Samples Collected? (Yes) No

Water Temp (°C)	21.6	NH_3-N (mg/L)	0.171	NO_3 (mg/L)	7.186	Ortho-PO_4 (mg/L)	0.111
pH (pH units)	7.6	TURB (NTU)	2.48	NO_3-N (mg/L)	1.624	Ortho-PO_4 -P (mg/L)	0.036
COND (mS/cm)	2.93	MBAS (mg/L)	0.25	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	5	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2010 Trash Assessment Form

SITE ID: T3021 DATE: 5/19/10

OBSERVER: MD/AK TIME: 1410

LOCATION: In the Woodglen Vista Channel, at the Riverwalk Drive and Park Center Drive intersection, on the north side of the bridge

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L x W (FT): 25 x 15

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ Optimal	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ Suboptimal	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ Marginal	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ Submarginal	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ Poor	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ Potential Threat to Human Health	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ Potential Threat to Aquatic Health	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

LC

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	015P		**Latitude**	32.84653	**Watershed**	**Hydrologic Unit**	907
Location	North side of Northcote Road, between Woodside Avenue and Via Mandonna		**Longitude**	-116.95520		**Hydrologic Area**	907.1
			TB Page	1231 - G5		**Hydrologic Subarea** (Optional)	907.12
Date	5/21/10	**Time** 12:00	**Observer**	MDIAK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only) ☒ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☒ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☒ None	☐ Insects ☐ Algae	☐ Fish ☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☐ Flowing ☒ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 81-82

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	21.0	NH_3-N (mg/L)	0.060	NO_3 (mg/L)	3.018	Ortho-PO_4 (mg/L)	0.855
pH (pH units)	7.8	TURB (NTU)	5.39	NO_3-N (mg/L)	0.682	Ortho-PO_4 -P (mg/L)	0.289
COND (mS/cm)	0.99	MBAS (mg/L)	0.25	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	ponded	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2010 Trash Assessment Form

SITE ID: O 15P DATE: 5/21/10

OBSERVER: MD/AK TIME: 12:00

LOCATION: North side of Northcote Road, between Woodside Avenue and Via Madonna

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L x W (FT): 4 x 4

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ Optimal	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ Suboptimal	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ Marginal	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ Submarginal	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ Poor	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ Potential Threat to Human Health	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ Potential Threat to Aquatic Health	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

MRP

(Field Screening) Confirmation For _____ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) (MS4) Receiving Water

Site ID	040b		**Latitude**	32.84851	**Watershed**	**Hydrologic Unit**	907
Location	At the north end of Abraham Way, south of San Diego River		**Longitude**	-116.96392		**Hydrologic Area**	907.1
			TB Page	1231-F5		**Hydrologic Subarea** (Optional)	907.12
Date	5/18/10	**Time** 9:45	**Observer**	MD/AK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only): Residential (Commercial) Industrial Agricultural Parks Open

Land Use (Secondary) (Optional, greater than 10%): Residential Commercial (Industrial) Agricultural Parks Open None

Conveyance (Check one only): Manhole Catch Basin (Outlet) Concrete Channel Natural Creek Earthen Channel Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather	Sunny	(Partly Cloudy)	Overcast	Fog		
Tide	(N/A)	Low	Incoming	High	Outgoing	**Tide Height:** _____ ft.
Last Rain	(> 72 hours)	< 72 hours				
Rainfall	(None)	< 0.1"	> 0.1"			

RUNOFF CHARACTERISTICS

Odor	(None)	Musty	Rotten Eggs	Chemical	Sewage	Other
Color	(None)	Yellow	Brown	White	Gray	Other
Clarity	(Clear)		Slightly Cloudy	Opaque		Other
Floatables	(None)	Trash	Bubbles/Foam	Sheen	Fecal Matter	Other
Deposits	None	Sediment/Gravel	(Fine Particulates)	Stains	Oily Deposits	Other
Vegetation	None	Limited	(Normal)	Excessive		Other
Biology	None	(Insects) (Algae)	Fish	Snails	Mussels/ Barnacles	(Insect/ Algae) Insect/ Snail Other
Water Flow	(Flowing)	Ponded	Dry	Tidal		

Does the storm drain flow reach the Receiving Water? (Yes) No (N/A)

Evidence of Overland Flow? Yes (No) Irrigation Runoff Other: _____

Photo Taken (Yes) No **Photo #** 15 - 17

Field Screening Samples Collected? (Yes) No

Water Temp (°C)	18.3	NH_3-N (mg/L)	0.136	NO_3 (mg/L)	104.3	Ortho-PO_4 (mg/L)	0.720
pH (pH units)	8.2	TURB (NTU)	2.23	NO_3-N (mg/L)	23.57	Ortho-PO_4 -P (mg/L)	0.235
COND (mS/cm)	2.45	MBAS (mg/L)	0.50	DO (mg/L)	6.63		

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	<1	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2010 Trash Assessment Form

SITE ID: 040b DATE: 5/18/10

OBSERVER: MD/AK TIME: 9:45

LOCATION: At the north end of Abraham Way, south of San Diego River

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L x W (FT): 15 x 15

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☐ Optimal	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☒ Suboptimal	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ Marginal	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ Submarginal	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ Poor	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ Potential Threat to Human Health	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ Potential Threat to Aquatic Health	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

MRM

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

Field Screening **Confirmation For** Nitrate **IC/ID Follow-Up For** _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) (MS4) **Receiving Water**

Site ID	0406		**Latitude**	32.84881	**Watershed**	**Hydrologic Unit**	907
Location	At the north end of Abraham Way, south of San Diego River		**Longitude**	-116.96392		**Hydrologic Area**	907.1
			TB Page	1231-F5		**Hydrologic Subarea** (Optional)	907.12
Date	5/19/10	**Time** 9:30	**Observer**	MD/AK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only): Residential (Commercial) Industrial Agricultural Parks Open

Land Use (Secondary) (Optional, greater than 10%): Residential Commercial (Industrial) Agricultural Parks Open None

Conveyance (Check one only): Manhole Catch Basin (Outlet) Concrete Channel Natural Creek Earthen Channel Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather: Sunny (Partly Cloudy) Overcast Fog

Tide: (N/A) Low Incoming High Outgoing **Tide Height:** _____ ft.

Last Rain: (>72 hours) < 72 hours

Rainfall: (None) < 0.1" > 0.1"

RUNOFF CHARACTERISTICS

Odor	(None)	Musty	Rotten Eggs	Chemical	Sewage	Other
Color	(None)	Yellow	Brown	White	Gray	Other
Clarity	(Clear)		Slightly Cloudy	Opaque		Other
Floatables	(None)	Trash	Bubbles/Foam	Sheen	Fecal Matter	Other
Deposits	None	Sediment/Gravel	(Fine Particulates)	Stains	Oily Deposits	Other
Vegetation	None	Limited	(Normal)	Excessive		Other
Biology	None	(Insects) (Algae)	Fish	Snails	Mussels/ Barnacles	(Insect/ Algae) Insect/ Snail Other

Water Flow: (Flowing) Ponded Dry Tidal

Does the storm drain flow reach the Receiving Water? (Yes) No N/A

Evidence of Overland Flow? Yes (No) Irrigation Runoff Other: _____

Photo Taken Yes (No) **Photo #** _____

Field Screening Samples Collected? (Yes) No

Water Temp (°C)	18.7	NH_3-N (mg/L)	NA	NO_3 (mg/L)	55.92	Ortho-PO_4 (mg/L)	NA
pH (pH units)	8.3	TURB (NTU)	NA	NO_3-N (mg/L)	12.64	Ortho-PO_4-P (mg/L)	NA
COND (mS/cm)	2.32	MBAS (mg/L)	NA	DO (mg/L)			

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	4.1	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

MRW

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☐ Field Screening ☒ 2nd Confirmation For Nitrate ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	0406		**Latitude**	32.84851	**Watershed**	**Hydrologic Unit**	907
Location	At the north end of Abraham Way, south of the San Diego River		**Longitude**	-116.96392		**Hydrologic Area**	907.1
			TB Page	1231-F5		**Hydrologic Subarea** (Optional)	907.12
Date	5/21/10	**Time** 10:40	**Observer**	MD/AK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☒ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☒ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☒ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☐ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☒ Normal	☐ Excessive		☐ Other

Biology ☐ None ☒ Insects ☒ Algae ☐ Fish ☐ Snails ☐ Mussels/ Barnacles ☒ Insect/ Algae ☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☒ Yes ☐ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☐ Yes ☒ No **Photo #** _____

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	19.3	NH_3-N (mg/L)	NA	NO_3 (mg/L)	72.42	Ortho-PO_4 (mg/L)	NA
pH (pH units)	8.3	TURB (NTU)	NA	NO_3-N (mg/L)	16.37	Ortho-PO_4-P (mg/L)	NA
COND (mS/cm)	2.35	MBAS (mg/L)	NA	DO (mg/L)			

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	~1	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

MRM

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

Field Screening Confirmation For _____ IC/ID Follow-Up For Nitrate

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) (MS4) Receiving Water

Site ID	0406-1		**Latitude**	32.844498	Watershed	**Hydrologic Unit**	907
Location	Manhole at the corner of Stevens Road and Hartley Road		**Longitude**	116.96278		**Hydrologic Area**	907.1
			TB Page	1231-F5		**Hydrologic Subarea** (Optional)	907.12
Date	5/19/10	**Time** 10:35	**Observer**	MD/AK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only): Residential Commercial (Industrial) Agricultural Parks Open

Land Use (Secondary) (Optional, greater than 10%): Residential Commercial Industrial Agricultural Parks Open (None)

Conveyance (Check one only): (Manhole) Catch Basin Outlet Concrete Channel Natural Creek Earthen Channel Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather	(Sunny)	Partly Cloudy	Overcast	Fog		
Tide	(N/A)	Low	Incoming	High	Outgoing	**Tide Height:** _____ ft.
Last Rain	(> 72 hours)	< 72 hours				
Rainfall	(None)	< 0.1"	> 0.1"			

RUNOFF CHARACTERISTICS

Odor	(None)	Musty	Rotten Eggs	Chemical	Sewage	Other
Color	(None)	Yellow	Brown	White	Gray	Other
Clarity	(Clear)		Slightly Cloudy	Opaque		Other
Floatables	(None)	Trash	Bubbles/Foam	Sheen	Fecal Matter	Other
Deposits	None	Sediment/Gravel	(Fine Particulates)	Stains	Oily Deposits	Other
Vegetation	(None)	Limited	Normal	Excessive		Other
Biology	(None)	Insects	Algae	Fish	Snails	Mussels/ Barnacles	Insect/ Algae	Insect/ Snail	Other

Water Flow: (Flowing) Ponded Dry Tidal

Does the storm drain flow reach the Receiving Water? Yes No (N/A)

Evidence of Overland Flow? Yes (No) Irrigation Runoff Other: _____

Photo Taken (Yes) No **Photo #** 29-37

Field Screening Samples Collected? (Yes) No

Water Temp (°C)	NA	NH_3-N (mg/L)	NA	NO_3 (mg/L)	75.29	Ortho-PO_4 (mg/L)	NA
pH (pH units)	NA	TURB (NTU)	NA	NO_3-N (mg/L)	17.02	Ortho-PO_4 -P (mg/L)	NA
COND (mS/cm)	NA	MBAS (mg/L)	NA	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity	trickling	ft/sec
Flow	trickling	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

MRM

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☐ Field Screening ☐ Confirmation For _____ ☒ IC/ID Follow-Up For Nitrate

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	040b-2a	**Latitude**	32.84505	**Watershed**	**Hydrologic Unit**	907
Location	Gutter in front of 10965 Hartley Road	**Longitude**	-116.96297		**Hydrologic Area**	907.1
		TB Page	1231-F5		**Hydrologic Subarea** (Optional)	907.12
Date	5/21/10 **Time** 10:55	**Observer**	MD/AK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☐ Commercial ☒ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☒ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** ____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☐ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☒ None	☐ Insects ☐ Algae ☐ Fish ☐ Snails		☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☐ Flowing ☒ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 71-77

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	NA	NH_3-N (mg/L)	NA	NO_3 (mg/L)	56.98	Ortho-PO_4 (mg/L)	NA
pH (pH units)	NA	TURB (NTU)	NA	NO_3-N (mg/L)	12.88	Ortho-PO_4-P (mg/L)	NA
COND (mS/cm)	NA	MBAS (mg/L)	NA	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	ponded	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☐ Field Screening ☐ Confirmation For _____ ☒ IC/ID Follow-Up For Nitrate

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	0406-26		**Latitude**	32.84506	**Watershed**	**Hydrologic Unit**	907
Location	Landscaping in front of 10965 ~~Soil Sample~~ Hartley Road		**Longitude**	-116.96296		**Hydrologic Area**	907.1
			TB Page	1231-F5		**Hydrologic Subarea** (Optional)	907.12
Date	5/21/10	**Time** 10:55	**Observer**	MD/AK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☐ Commercial ☒ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only) N/A ☐ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☐ None	☐ Musty	☐ Rotten Eggs	☒ Chemical	☐ Sewage	☐ Other
Color	☐ None	☒ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☐ Clear		☒ Slightly Cloudy	☐ Opaque		☐ Other ~~N/A~~
Floatables	☐ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other N/A
Deposits	☐ None	☐ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other N/A
Vegetation	☐ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other N/A

Biology ☐ None ☐ Insects ☐ Algae ☐ Fish ☐ Snails ☐ Mussels/ Barnacles ☐ Insect/ Algae ☐ Insect/ Snail ☐ Other N/A

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: N/A

Photo Taken ☒ Yes ☐ No **Photo #** 75

Field Screening Samples Collected? ☒ Yes ☒ No

Water Temp (°C)	NA	NH_3-N (mg/L)	~~Orth~~ NA	NO_3 (mg/L)	0.91	Ortho-PO_4 (mg/L)	NA
pH (pH units)	NA	TURB (NTU)	NA	NO_3-N (mg/L)	0.21	Ortho-PO_4 -P (mg/L)	NA
COND (mS/cm)	NA	MBAS (mg/L)	NA	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	NA	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: Dissolved fertilizer granules - NO_3 increased to 4.82 after full (N=1.09) dissolution

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☒ IC/ID Follow-Up For Nitrate

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☐ MS4 ☐ Receiving Water

Site ID	040b-2c		**Latitude**	32.84480	**Watershed**	**Hydrologic Unit**	907
Location	Next to manhole in front of 10695 Hartley Road		**Longitude**	-116.9628		**Hydrologic Area**	907.1
			TB Page	1231-F5		**Hydrologic Subarea** (Optional)	907.12
Date	5/21/10	**Time** 11:00	**Observer**	MD/AK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☐ Commercial ☒ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only) N/A ☐ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☐ None	☐ Yellow	☒ Brown	☐ White	☐ Gray	☐ Other
Clarity	☐ Clear		☐ Slightly Cloudy	☒ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other N/A
Deposits	☐ None	☐ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other N/A
Vegetation	☐ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other N/A

Biology ☐ None ☐ Insects ☐ Algae ☐ Fish ☐ Snails ☐ Mussels/ Barnacles ☐ Insect/ Algae ☐ Insect/ Snail ☐ Other N/A

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☐ No ☐ Irrigation Runoff ☐ Other: N/A

Photo Taken ☒ Yes ☐ No **Photo #** 79-80

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	N/A	NH_3-N (mg/L)	~~12~~ NA	NO_3 (mg/L)	12.84	Ortho-PO_4 (mg/L)	NA
pH (pH units)	NA	TURB (NTU)	NA	NO_3-N (mg/L)	2.90	Ortho-PO_4 -P (mg/L)	NA
COND (mS/cm)	NA	MBAS (mg/L)	NA	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	NA	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: Soil sample

LC

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	P10a		**Latitude**	32.83697	**Watershed**	**Hydrologic Unit**	907
Location	Manhole in the northbound lane of Graves Ave. in front of the northernmost gate of the Greystone Ridge Townhomes		**Longitude**	-116.96145		**Hydrologic Area**	907.1
			TB Page	1231-F6		**Hydrologic Subarea** (Optional)	907.12
Date	5/21/10	**Time**	12:30	**Observer**	MD/AK	**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only) ☒ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☐ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other N/A
Color	☐ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other N/A
Clarity	☐ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other N/A
Floatables	☐ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other N/A
Deposits	☐ None	☒ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☒ None	☐ Insects ☐ Algae	☐ Fish ☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☒ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☐ Yes ☒ No **Photo #** _____

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)	N/A	NH_3-N (mg/L)	N/A	NO_3 (mg/L)	N/A	Ortho-PO_4 (mg/L)	N/A
pH (pH units)	N/A	TURB (NTU)	N/A	NO_3-N (mg/L)	N/A	Ortho-PO_4-P (mg/L)	N/A
COND (mS/cm)	N/A	MBAS (mg/L)	N/A	DO (mg/L)	N/A		~~N/A~~

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	dry	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2010 Trash Assessment Form

SITE ID: P10a DATE: 5/21/10

OBSERVER: MD/AK TIME: 12:30

LOCATION: Manhole in the northbound lane of Graves Avenue, in front of the northernmost gate of the Greystone Ridge Townhomes

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L x W (FT): 4x4

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ Optimal	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ Suboptimal	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ Marginal	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ Submarginal	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ Poor	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ Potential Threat to Human Health	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ Potential Threat to Aquatic Health	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

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San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

(Field Screening) Confirmation For _____ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) (MS4) Receiving Water

Site ID	P20 4	**Latitude**	32.84674	**Watershed**	**Hydrologic Unit**	907
Location	East of North Magnolia Avenue, at the east end of Chubb Lane	**Longitude**	-116.96920		**Hydrologic Area**	907.1
		TB Page	1231 - E5		**Hydrologic Subarea** (Optional)	907.12
Date	5/20/10 **Time** 10:10	**Observer**	MD/AK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only): (Residential) Commercial Industrial Agricultural Parks Open

Land Use (Secondary) (Optional, greater than 10%): Residential (Commercial) Industrial Agricultural Parks Open None

Conveyance (Check one only): Manhole Catch Basin Outlet (Concrete Channel) Natural Creek Earthen Channel Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather	(Sunny)	Partly Cloudy	Overcast	Fog		
Tide	(N/A)	Low	Incoming	High	Outgoing	**Tide Height:** _____ ft.
Last Rain	(> 72 hours)	< 72 hours				
Rainfall	(None)	< 0.1"	> 0.1"			

RUNOFF CHARACTERISTICS

Odor	(None)	Musty	Rotten Eggs	Chemical	Sewage	Other
Color	(None)	Yellow	Brown	White	Gray	Other
Clarity	(Clear)		Slightly Cloudy	Opaque		Other
Floatables	(None)	Trash	Bubbles/Foam	Sheen	Fecal Matter	Other
Deposits	None	Sediment/Gravel	(Fine Particulates)	Stains	Oily Deposits	Other
Vegetation	(None)	Limited	Normal	Excessive		Other
Biology	None	(Insects)	(Algae)	Fish	(Snails)	Mussels/ Barnacles (Insect/ Algae) (Insect/ Snail) Other
Water Flow	(Flowing)	Ponded	Dry	Tidal		

Does the storm drain flow reach the Receiving Water? Yes No (N/A)

Evidence of Overland Flow? Yes (No) Irrigation Runoff Other: _____

Photo Taken (Yes) No **Photo #** 53 - 55

Field Screening Samples Collected? (Yes) No

Water Temp (°C)	23.0	NH_3-N (mg/L)	0.114	NO_3 (mg/L)	19.08	Ortho-PO_4 (mg/L)	0.068
pH (pH units)	8.3	TURB (NTU)	0.98	NO_3-N (mg/L)	4.309	Ortho-PO_4 -P (mg/L)	0.022
COND (mS/cm)	1.43	MBAS (mg/L)	0.25	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width	15	in
Depth	.25	in
Velocity	10/a	ft/sec
Flow	13	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2010 Trash Assessment Form

SITE ID: P20F DATE: 5/20/10

OBSERVER: MD/AK TIME: 10:10

LOCATION: East of North Magnolia Avenue, at the east end of Chubb Lane

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L x W (FT): 20 x 8

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ Optimal	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ Suboptimal	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ Marginal	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ Submarginal	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ Poor	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ Potential Threat to Human Health	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ Potential Threat to Aquatic Health	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

MRH

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	Q20a		**Latitude**	32.83494	**Watershed**	**Hydrologic Unit**	907
Location	In front of 10220 Buena Vista Avenue		**Longitude**	-116.97509		**Hydrologic Area**	907.1
			TB Page	1231 - D7		**Hydrologic Subarea** (Optional)	907.12
Date	5/21/10	**Time** 10:00	**Observer**	MD/AK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☒ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☒ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☒ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☒ None	☐ Insects ☐ Algae ☐ Fish ☐ Snails		☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 69 - 70

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	22.4	NH_3-N (mg/L)	0.155	NO_3 (mg/L)	51.36	Ortho-PO_4 (mg/L)	0.873
pH (pH units)	8.2	TURB (NTU)	2.25	NO_3-N (mg/L)	11.61	Ortho-PO_4 -P (mg/L)	0.285
COND (mS/cm)	1.96	MBAS (mg/L)	0.25	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	21	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

2010 Trash Assessment Form

SITE ID: CR20a DATE: 5/21/10

OBSERVER: MD/AK TIME: 10:00

LOCATION: In front of 10220 Buena Vista Avenue

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE):

ESTIMATED AREA OF ASSESSMENT L x W (FT): 4x4

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ Optimal	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ Suboptimal	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ Marginal	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ Submarginal	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ Poor	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ Potential Threat to Human Health	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ Potential Threat to Aquatic Health	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☐ Field Screening ☒ Confirmation For Nitrate ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	Q20a	**Latitude**	32.83494	**Watershed**	**Hydrologic Unit**	907
Location	In front of 10220 Buena Vista Avenue	**Longitude**	-116.97509		**Hydrologic Area**	907.1
		TB Page	1231 - D7		**Hydrologic Subarea** (Optional)	907.12
Date	5/21/10	**Time**	15:40	**Observer**	MD/AK	**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☒ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☒ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☒ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☒ None	☐ Insects ☐ Algae	☐ Fish ☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☒ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☐ Yes ☒ No **Photo #** _____

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	23.9	NH_3-N (mg/L)	NA	NO_3 (mg/L)	59.49	Ortho-PO_4 (mg/L)	NA
pH (pH units)	8.2	TURB (NTU)	NA	NO_3-N (mg/L)	12.54	Ortho-PO_4 -P (mg/L)	NA
COND (mS/cm)	2.02	MBAS (mg/L)	NA	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	< 1	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

MRM

Field Screening X 2nd Confirmation For Nitrate IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) X MS4 Receiving Water

Site ID	Q20a		**Latitude**	32.83494	**Watershed**	**Hydrologic Unit**	907
Location	In front of 10220 Buena Vista Avenue		**Longitude**	-116.97509		**Hydrologic Area**	907.1
			TB Page			**Hydrologic Subarea** (Optional)	907.12
Date	6/2/10	**Time**	1420	**Observer**	MD/AK	**Discharge Area** (Optional)	

Land Use (Primary) (Check one only): X Residential | Commercial | Industrial | Agricultural | Parks | Open

Land Use (Secondary) (Optional, greater than 10%): Residential | X Commercial | Industrial | Agricultural | Parks | Open | None

Conveyance (Check one only): X Manhole | Catch Basin | Outlet | Concrete Channel | Natural Creek | Earthen Channel | Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather	X Sunny	Partly Cloudy	Overcast	Fog		
Tide	X N/A	Low	Incoming	High	Outgoing	**Tide Height:** _____ ft.
Last Rain	X > 72 hours	< 72 hours				
Rainfall	X None	< 0.1"	> 0.1"			

RUNOFF CHARACTERISTICS

Odor	X None	Musty	Rotten Eggs	Chemical	Sewage	Other
Color	X None	Yellow	Brown	White	Gray	Other
Clarity	X Clear		Slightly Cloudy	Opaque		Other
Floatables	X None	Trash	Bubbles/Foam	Sheen	Fecal Matter	Other
Deposits	None	X Sediment/Gravel	Fine Particulates	Stains	Oily Deposits	Other
Vegetation	X None	Limited	Normal	Excessive		Other

Biology	None	X Insects	Algae	Fish	Snails	Mussels/ Barnacles	Insect/ Algae	Insect/ Snail	Other

Water Flow: X Flowing | Ponded | Dry | Tidal

Does the storm drain flow reach the Receiving Water? Yes | No | X N/A

Evidence of Overland Flow? Yes | X No | Irrigation Runoff | Other: _____

Photo Taken Yes | X No **Photo #** _____

Field Screening Samples Collected? X Yes | No

Water Temp (°C)	25.0	NH_3-N (mg/L)	NA	NO_3 (mg/L)	27.98	Ortho-PO_4 (mg/L)	NA
pH (pH units)	8.3	TURB (NTU)	NA	NO_3-N (mg/L)	6.32	Ortho-PO_4-P (mg/L)	NA
COND (mS/cm)	1.86	MBAS (mg/L)	NA	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	21	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

MRM

Field Screening Confirmation For _____ X IC/ID Follow-Up For Nitrate

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) X MS4 Receiving Water

Site ID	Q20a-1		**Latitude**	32.83128	**Watershed**	**Hydrologic Unit**	907
Location	Former dry weather site Q5R; in the catch basin on the north side of Prospect Avenue 50 feet east of Railroad Avenue		**Longitude**	-116.97090		**Hydrologic Area**	907.1
			TB Page	1231-E7		**Hydrologic Subarea** (Optional)	907.12
Date	6/2/10	**Time** 1510	**Observer**	MD/AK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only): Residential | Commercial | X Industrial | Agricultural | Parks | Open

Land Use (Secondary) (Optional, greater than 10%): Residential | X Commercial | Industrial | Agricultural | Parks | Open | None

Conveyance (Check one only): Manhole | X Catch Basin | Outlet | Concrete Channel | Natural Creek | Earthen Channel | Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather	X Sunny	Partly Cloudy	Overcast	Fog		
Tide	X N/A	Low	Incoming	High	Outgoing	**Tide Height:** _____ ft.
Last Rain	X > 72 hours	< 72 hours				
Rainfall	X None	< 0.1"	> 0.1"			

RUNOFF CHARACTERISTICS

Odor	X None	Musty	Rotten Eggs	Chemical	Sewage	Other
Color	X None	Yellow	Brown	White	Gray	Other
Clarity	X Clear		X Slightly Cloudy	Opaque		Other
Floatables	X None	Trash	Bubbles/Foam	Sheen	Fecal Matter	Other
Deposits	None	Sediment/Gravel	X Fine Particulates	Stains	Oily Deposits	Other
Vegetation	X None	Limited	Normal	Excessive		Other

Biology	X None	Insects	Algae	Fish	Snails	Mussels/ Barnacles	Insect/ Algae	Insect/ Snail	Other

Water Flow: X Flowing | Ponded | Dry | Tidal

Does the storm drain flow reach the Receiving Water? Yes | No | X N/A

Evidence of Overland Flow? Yes | X No | Irrigation Runoff | Other: _____

Photo Taken Yes | X No **Photo #** _____

Field Screening Samples Collected? X Yes | No

Water Temp (°C)	NA	NH_3-N (mg/L)	NA	NO_3 (mg/L)	61.04	Ortho-PO_4 (mg/L)	NA
pH (pH units)	NA	TURB (NTU)	NA	NO_3-N (mg/L)	13.80	Ortho-PO_4 -P (mg/L)	NA
COND (mS/cm)	NA	MBAS (mg/L)	NA	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☐ Yes | ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	21	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: Former DW site Q5R

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

MRN

Field Screening Confirmation For _____ X IC/ID Follow-Up For Nitrate

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) X MS4 Receiving Water

Site ID	Q20a - #2		Latitude	32.83123	Watershed	Hydrologic Unit	907
Location	In the parking area in front of 10612 Prospect Avenue		Longitude	-116.96739		Hydrologic Area	907.1
			TB Page	1231 - E7		Hydrologic Subarea (Optional)	907.12
Date	6/2/10	Time 15:18	Observer	MD/AK		Discharge Area (Optional)	

Land Use (Primary) (Check one only): Residential | Commercial | X Industrial | Agricultural | Parks | Open

Land Use (Secondary) (Optional, greater than 10%): Residential | Commercial | Industrial | Agricultural | Parks | Open | X None

Conveyance (Check one only): Manhole | X Catch Basin | Outlet | Concrete Channel | Natural Creek | Earthen Channel | Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather	X Sunny	Partly Cloudy	Overcast	Fog		
Tide	X N/A	Low	Incoming	High	Outgoing	**Tide Height:** ____ ft.
Last Rain	X > 72 hours	< 72 hours				
Rainfall	X None	< 0.1"	> 0.1"			

RUNOFF CHARACTERISTICS

Odor	X None	Musty	Rotten Eggs	Chemical	Sewage	Other
Color	X None	Yellow	Brown	White	Gray	Other
Clarity	X Clear		Slightly Cloudy	Opaque		Other
Floatables	X None	Trash	Bubbles/Foam	Sheen	Fecal Matter	Other
Deposits	None	X Sediment/Gravel	X Fine Particulates	Stains	Oily Deposits	Other
Vegetation	X None	Limited	Normal	Excessive		Other

Biology	None	X Insects	Algae	Fish	Snails	Mussels/ Barnacles	Insect/ Algae	Insect/ Snail	Other

Water Flow: X Flowing | Ponded | Dry | Tidal

Does the storm drain flow reach the Receiving Water? Yes | No | X N/A

Evidence of Overland Flow? Yes | X No | Irrigation Runoff | Other: _____

Photo Taken Yes | X No **Photo #** _____

Field Screening Samples Collected? X Yes | No

Water Temp (°C)	NA	NH_3-N (mg/L)	NA	NO_3 (mg/L)	41.83	Ortho-PO_4 (mg/L)	NA
pH (pH units)	NA	TURB (NTU)	NA	NO_3-N (mg/L)	9.45	Ortho-PO_4-P (mg/L)	NA
COND (mS/cm)	NA	MBAS (mg/L)	NA	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☐ Yes | X No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	trickling	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

(Field Screening) Confirmation For _____ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) (MS4) Receiving Water

Site ID	RCP 1	**Latitude**	32.84959	Watershed	**Hydrologic Unit**	907
Location	North bank of the San Diego River in the RCP Brick factory, across from the southwest corner of the antennae field	**Longitude**	-116.96659		**Hydrologic Area**	907.1
		TB Page	1231 - E5		**Hydrologic Subarea** (Optional)	907.12
Date	5/19/10 **Time** 11:15	**Observer**	MD/AK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only): (Residential) Commercial Industrial Agricultural Parks Open

Land Use (Secondary) (Optional, greater than 10%): Residential Commercial Industrial Agricultural Parks Open (None)

Conveyance (Check one only): Manhole Catch Basin (Outlet) Concrete Channel Natural Creek Earthen Channel Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather	(Sunny)	Partly Cloudy	Overcast	Fog		
Tide	(N/A)	Low	Incoming	High	Outgoing	**Tide Height:** _____ ft.
Last Rain	(≥ 72 hours)	< 72 hours				
Rainfall	(None)	< 0.1"	> 0.1"			

RUNOFF CHARACTERISTICS

Odor	(None)	Musty	Rotten Eggs	Chemical	Sewage	Other
Color	(None)	Yellow	Brown	White	Gray	Other
Clarity	(Clear)		Slightly Cloudy	Opaque		Other
Floatables	(None)	Trash	Bubbles/Foam	Sheen	Fecal Matter	Other
Deposits	None	(Sediment/Gravel)	(Fine Particulates)	Stains	Oily Deposits	Other
Vegetation	None	Limited	(Normal)	Excessive		Other
Biology	None	(Insects)	(Algae) Fish Snails	Mussels/ Barnacles	(Insect/ Algae) Insect/ Snail	(Other) crayfish

Water Flow (Flowing) Ponded Dry Tidal

Does the storm drain flow reach the Receiving Water? (Yes) No N/A

Evidence of Overland Flow? Yes (No) Irrigation Runoff Other: _____

Photo Taken (Yes) No **Photo #** 58 - 40

Field Screening Samples Collected? (Yes) No

Water Temp (°C)	21.1	NH_3-N (mg/L)	0.146	NO_3 (mg/L)	34.70	Ortho-PO_4 (mg/L)	0.713
pH (pH units)	8.2	TURB (NTU)	1.67	NO_3-N (mg/L)	7.839	Ortho-PO_4 -P (mg/L)	0.232
COND (mS/cm)	1.58	MBAS (mg/L)	0.25	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	3	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2010 Trash Assessment Form

SITE ID: RCP1 DATE: 5/19/10

OBSERVER: MD/AK TIME: 11:15

LOCATION: North bank of the San Diego River in the RCP brick factory, across from the southwest corner of the antennae field

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L x W (FT): 15 x 15

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ Optimal	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ Suboptimal	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ Marginal	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ Submarginal	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ Poor	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ Potential Threat to Human Health	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ Potential Threat to Aquatic Health	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

4N

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	RCP3		**Latitude**	32.84975	**Watershed**	**Hydrologic Unit**	907
Location	North bank of the San Diego River in the RCP Brick Factory, across from the southeast corner of the antennae field		**Longitude**	-116.96341		**Hydrologic Area**	907.1
			TB Page	1231-E5		**Hydrologic Subarea** (Optional)	907.12
Date	5/20/10	**Time** 1500	**Observer**	MD/AK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☒ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather	☒ Sunny	☐ Partly Cloudy	☐ Overcast	☐ Fog		
Tide	☒ N/A	☐ Low	☐ Incoming	☐ High	☐ Outgoing	**Tide Height:** ____ ft.
Last Rain	☒ > 72 hours	☐ < 72 hours				
Rainfall	☒ None	☐ < 0.1"	☐ > 0.1"			

RUNOFF CHARACTERISTICS

Odor	☐ None	☐ Musty	☐ Rotten Eggs	☒ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☒ Sheen clear residue	☐ Fecal Matter	☐ Other
Deposits	☐ None	☒ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☒ Normal	☐ Excessive		☐ Other
Biology	☐ None	☒ Insects ☒ Algae	☐ Fish ☒ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other
Water Flow	☒ Flowing	☐ Ponded	☐ Dry	☐ Tidal		

Does the storm drain flow reach the Receiving Water? ☒ Yes ☐ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 61-63

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	22.8	NH_3-N (mg/L)	0.214	NO_3 (mg/L)	42.33	Ortho-PO_4 (mg/L)	0.364
pH (pH units)	7.9	TURB (NTU)	1.55	NO_3-N (mg/L)	9.569	Ortho-PO_4 -P (mg/L)	0.119
COND (mS/cm)	5.07	MBAS (mg/L)	0.50	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width	14	in
Depth	.25	in
Velocity	1.0/8	ft/sec
Flow	~~8~~ 14	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: Odor/film of paint thinner/gasoline

2010 Trash Assessment Form

SITE ID: RCP3 DATE: 5/20/10

OBSERVER: MD/AK TIME: 1500

LOCATION: North bank of the San Diego River, in the RCP Brick Factory, across from the southeast corner of the antennae field

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L x W (FT): 15 x 10

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ Optimal	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ Suboptimal	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ Marginal	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ Submarginal	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ Poor	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ Potential Threat to Human Health	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ Potential Threat to Aquatic Health	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☐ Field Screening ☒ Confirmation For chemical odor & sheen ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	RCP3		**Latitude**	32.84975	**Watershed**	**Hydrologic Unit**	907
Location	North bank of the San Diego River, in the RCP Brick Factory across from the southeast corner of the antennae field		**Longitude**	-116.96341		**Hydrologic Area**	907.1
			TB Page	1231-E5		**Hydrologic Subarea** (Optional)	907.12
Date	5/21/10	**Time**	1425	**Observer**	MD / AK	**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☒ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☐ None	☐ Musty	☐ Rotten Eggs	☒ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☐ None	☐ Trash	☐ Bubbles/Foam	☒ Sheen (chemical residue)	☐ Fecal Matter	☐ Other
Deposits	☐ None	☒ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☒ Normal	☐ Excessive		☐ Other
Biology	☐ None	☒ Insects	☒ Algae	☐ Fish ☒ Snails	☐ Mussels/ Barnacles ☒ Insect/ Algae ☒ Insect/ Snail	☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☒ Yes ☐ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☐ Yes ☒ No **Photo #** _____

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	22.2	NH_3-N (mg/L)	NA	NO_3 (mg/L)	50.45 NA	Ortho-PO_4 (mg/L)	NA
pH (pH units)	8.1	TURB (NTU)	OHH NA	NO_3-N (mg/L)	11.51 NA	Ortho-PO_4 -P (mg/L)	NA
COND (mS/cm)	1.86	MBAS (mg/L)	NA	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width	12	in
Depth	.25	in
Velocity	10/8	ft/sec
Flow	12	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

Field Screening 2nd **Confirmation For** Chemical Odor & Sheen **IC/ID Follow-Up For** _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) X **MS4** **Receiving Water**

Site ID	RCP3		**Latitude**	32.84975	**Watershed**	**Hydrologic Unit**	907
Location	North bank of the San Diego River in the RCP brick factory, across from the southeast corner of the antennae field		**Longitude**	-116.96341		**Hydrologic Area**	907.1
			TB Page	1231 - E5		**Hydrologic Subarea** (Optional)	907.12
Date	6/2/10	**Time** 12:20	**Observer**	MD/AK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only): X Residential | Commercial | Industrial | Agricultural | Parks | Open

Land Use (Secondary) (Optional, greater than 10%): Residential | Commercial | Industrial | Agricultural | Parks | Open | X None

Conveyance (Check one only): Manhole | Catch Basin | X Outlet | Concrete Channel | Natural Creek | Earthen Channel | Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather	X Sunny	Partly Cloudy	Overcast	Fog		
Tide	X N/A	Low	Incoming	High	Outgoing	**Tide Height:** _____ ft.
Last Rain	X > 72 hours	< 72 hours				
Rainfall	X None	< 0.1"	> 0.1"			

RUNOFF CHARACTERISTICS

Odor	X None	Musty	Rotten Eggs	Chemical	Sewage	Other
Color	X None	Yellow	Brown	White	Gray	Other
Clarity	X Clear		Slightly Cloudy	Opaque		Other
Floatables	None	Trash	Bubbles/Foam	X Sheen (oil)	Fecal Matter	Other
Deposits	None	X Sediment/Gravel	X Fine Particulates	Stains	Oily Deposits	Other
Vegetation	None	Limited	X Normal	Excessive		Other
Biology	None	X Insects	X Algae	Fish	X Snails	Mussels/ Barnacles	X Insect/ Algae	X Insect/ Snail	Other

Water Flow: X Flowing | Ponded | Dry | Tidal

Does the storm drain flow reach the Receiving Water? X Yes | No | N/A

Evidence of Overland Flow? Yes | X No | Irrigation Runoff | Other: _____

Photo Taken Yes | X No **Photo #** _____

Field Screening Samples Collected? X Yes | No

Water Temp (°C)	22.2	NH_3-N (mg/L)	NA	NO_3 (mg/L)	~~2.30~~ NA	Ortho-PO_4 (mg/L)	NA
pH (pH units)	8.2	TURB (NTU)	NA	NO_3-N (mg/L)	NA	Ortho-PO_4 -P (mg/L)	NA
COND (mS/cm)	1.62	MBAS (mg/L)	NA	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☐ Yes X No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width	10	in
Depth	.25	in
Velocity	10/10	ft/sec
Flow	8	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: Post City cleanup, Minor oil sheen at edges of earthen channel banks.

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

Field Screening | Confirmation For _____ | IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) | MS4 | Receiving Water

Site ID	S5c	**Latitude**	32.84363	Watershed	**Hydrologic Unit**	907
Location	North of Town Center Parkway between Mission Gorge Road and Cuyamaca Street, north-west of Michaels	**Longitude**	-116.98795		**Hydrologic Area**	907.1
		TB Page	1231 C6		**Hydrologic Subarea** (Optional)	907.12
Date	5/18/10 **Time** 12:15	**Observer**	MD/AK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only): Residential | Commercial | Industrial | Agricultural | Parks | Open

Land Use (Secondary) (Optional, greater than 10%): Residential | Commercial | Industrial | Agricultural | Parks | Open | None

Conveyance (Check one only): Manhole | Catch Basin | Outlet | Concrete Channel | Natural Creek | Earthen Channel | Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather	Sunny	Partly Cloudy	Overcast	Fog		
Tide	N/A	Low	Incoming	High	Outgoing	**Tide Height:** _____ ft.
Last Rain	> 72 hours	< 72 hours				
Rainfall	None	< 0.1"	> 0.1"			

RUNOFF CHARACTERISTICS

Odor	None	Musty	Rotten Eggs	Chemical	Sewage	Other
Color	None	Yellow	Brown	White	Gray	Other
Clarity	Clear		Slightly Cloudy	Opaque		Other
Floatables	None	Trash	Bubbles/Foam	Sheen	Fecal Matter	Other
Deposits	None	Sediment/Gravel	Fine Particulates	Stains	Oily Deposits	Other
Vegetation	None	Limited	Normal	Excessive		Other
Biology	None	Insects	Algae	Fish	Snails	Mussels/ Barnacles	Insect/ Algae	Insect/ Snail	Other

Water Flow: Flowing | Ponded | Dry | Tidal

Does the storm drain flow reach the Receiving Water? Yes | No | N/A

Evidence of Overland Flow? Yes | No | Irrigation Runoff | Other: _____

Photo Taken Yes | No **Photo #** 20-21

Field Screening Samples Collected? Yes | No

Water Temp (°C)	20.1	NH_3-N (mg/L)	0.025	NO_3 (mg/L)	34.19	Ortho-PO_4 (mg/L)	0.135
pH (pH units)	7.7	TURB (NTU)	4.04	NO_3-N (mg/L)	7.739	Ortho-PO_4-P (mg/L)	0.040
COND (mS/cm)	0.87	MBAS (mg/L)	0.25	DO (mg/L)	5.34		

Analytical Lab Samples Collected? ☑ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	2.1	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2010 Trash Assessment Form

SITE ID: S5c DATE: 5/18/10

OBSERVER: MD/AK TIME: 12:15

LOCATION: North of Town Center Parkway between Mission Gorge Road and Cuyamaca Street, northwest of Michael's

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L x W (FT): 10 x 5

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ Optimal	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ Suboptimal	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ Marginal	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ Submarginal	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ Poor	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ Potential Threat to Human Health	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ Potential Threat to Aquatic Health	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

LW

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

(Field Screening) Confirmation For _____ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) (MS4) Receiving Water

Site ID	S15b	**Latitude**	32.84326	**Watershed**	**Hydrologic Unit**	907
Location	North of Town Center Parkway, between Mission Gorge Road and Cuyamaca Street, north of Walmart, west of trail	**Longitude**	-116.98969		**Hydrologic Area**	907.1
		TB Page	1231-C6		**Hydrologic Subarea** (Optional)	907.12
Date	5/20/10 **Time** 1330	**Observer**	MD/AK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only): Residential (Commercial) Industrial Agricultural Parks Open

Land Use (Secondary) (Optional, greater than 10%): Residential Commercial Industrial Agricultural Parks Open (None)

Conveyance (Check one only): Manhole Catch Basin (Outlet) Concrete Channel Natural Creek Earthen Channel Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather	(Sunny)	Partly Cloudy	Overcast	Fog		
Tide	(N/A)	Low	Incoming	High	Outgoing	**Tide Height:** ____ ft.
Last Rain	(> 72 hours)	< 72 hours				
Rainfall	(None)	< 0.1"	> 0.1"			

RUNOFF CHARACTERISTICS

Odor	(None)	Musty	Rotten Eggs	Chemical	Sewage	Other
Color	None	(Yellow)	Brown	White	Gray	Other
Clarity	(Clear)		Slightly Cloudy	Opaque		Other
Floatables	(None)	Trash	Bubbles/Foam	Sheen	Fecal Matter	Other
Deposits	None	Sediment/Gravel	(Fine Particulates)	Stains	Oily Deposits	Other
Vegetation	None	Limited	(Normal)	Excessive		Other
Biology	None	(Insects) (Algae)	Fish	Snails	Mussels/ Barnacles	(Insect/ Algae) Insect/ Snail Other
Water Flow	(Flowing)	Ponded	Dry	Tidal		

Does the storm drain flow reach the Receiving Water? (Yes) No (N/A)

Evidence of Overland Flow? Yes (No) Irrigation Runoff Other: _____

Photo Taken (Yes) No **Photo #** 58-59

Field Screening Samples Collected? (Yes) No

Water Temp (°C)	21.3	NH_3-N (mg/L)	0.155	NO_3 (mg/L)	17.82	Ortho-PO_4 (mg/L)	0.732
pH (pH units)	8.0	TURB (NTU)	3.54	NO_3-N (mg/L)	4.029	Ortho-PO_4 -P (mg/L)	0.239
COND (mS/cm)	2.22	MBAS (mg/L)	0.38	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	21	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2010 Trash Assessment Form

SITE ID: S15h DATE: 5/20/10

OBSERVER: MD/AK TIME: 1530

LOCATION: North of Town Center Parkway, between Mission Gorge Road and Cuyamaca Street, north of Walmart, west of trail

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L x W (FT): 30 x 15

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☐ Optimal	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☒ Suboptimal	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ Marginal	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ Submarginal	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ Poor	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ Potential Threat to Human Health	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ Potential Threat to Aquatic Health	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

LW

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

(Field Screening) Confirmation For _____ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) (MS4) Receiving Water

Site ID	T5e	**Latitude**	32.83393	**Watershed**	**Hydrologic Unit**	907
Location	Northwest of the Prospect Avenue and Argent Street intersection, South of Forester Creek	**Longitude**	-116.98986		**Hydrologic Area**	907.1
		TB Page	1231 - C7		**Hydrologic Subarea** (Optional)	907.12
Date	8/20/10 **Time** 1410	**Observer**	MD / AK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only): Residential (Commercial) Industrial Agricultural Parks Open

Land Use (Secondary) (Optional, greater than 10%): Residential Commercial (Industrial) Agricultural Parks Open None

Conveyance (Check one only): Manhole Catch Basin (Outlet) Concrete Channel Natural Creek Earthen Channel Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather	(Sunny)	Partly Cloudy	Overcast	Fog		
Tide	(N/A)	Low	Incoming	High	Outgoing	**Tide Height:** ____ ft.
Last Rain	(> 72 hours)	< 72 hours				
Rainfall	(None)	< 0.1"	> 0.1"			

RUNOFF CHARACTERISTICS

Odor	None	Musty	Rotten Eggs	Chemical	Sewage	Other N/A
Color	None	Yellow	Brown	White	Gray	Other N/A
Clarity	Clear		Slightly Cloudy	Opaque		Other N/A
Floatables	None	Trash	Bubbles/Foam	Sheen	Fecal Matter	Other N/A
Deposits	(None)	Sediment/Gravel	Fine Particulates	Stains	Oily Deposits	Other
Vegetation	None	Limited	(Normal)	Excessive		Other
Biology	(None)	Insects	Algae	Fish	Snails	Mussels/ Barnacles; Insect/ Algae; Insect/ Snail; Other

Water Flow: Flowing Ponded (Dry) Tidal

Does the storm drain flow reach the Receiving Water? Yes (No) N/A

Evidence of Overland Flow? Yes (No) Irrigation Runoff Other: _____

Photo Taken (Yes) No **Photo #** 60

Field Screening Samples Collected? Yes (No)

Water Temp (°C)	NA	NH_3-N (mg/L)	NA	NO_3 (mg/L)	NA	Ortho-PO_4 (mg/L)	NA
pH (pH units)	NA	TURB (NTU)	NA	NO_3-N (mg/L)	NA	Ortho-PO_4-P (mg/L)	NA
COND (mS/cm)	NA	MBAS (mg/L)	NA	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	Dry	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2010 Trash Assessment Form

SITE ID: TSe DATE: 5/20/10

OBSERVER: MD/AK TIME: 1410

LOCATION: Northwest of the Prospect Avenue and Argent Street intersection, South of Forester Creek

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L x W (FT): 5 x 5

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ Optimal	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ Suboptimal	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ Marginal	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ Submarginal	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ Poor	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ Potential Threat to Human Health	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ Potential Threat to Aquatic Health	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

CR

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

(Field Screening) Confirmation For _____ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) (MS4) Receiving Water

Site ID	V402	**Latitude**	32.83375	Watershed	**Hydrologic Unit**	907
Location	On the South side of Prospect Avenue, east of Fanita Drive	**Longitude**	-117.00005		**Hydrologic Area**	907.1
		TB Page	1231 - B7		**Hydrologic Subarea** (Optional)	907.18
Date	5/20/10 **Time** 9:15	**Observer**	MD/AK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only): (Residential) Commercial Industrial Agricultural Parks Open

Land Use (Secondary) (Optional, greater than 10%): Residential Commercial Industrial Agricultural Parks Open (None)

Conveyance (Check one only): Manhole Catch Basin Outlet (Concrete Channel) Natural Creek Earthen Channel Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather	(Sunny)	Partly Cloudy	Overcast	Fog		
Tide	(N/A)	Low	Incoming	High	Outgoing	**Tide Height:** ____ ft.
Last Rain	(> 72 hours)	< 72 hours				
Rainfall	(None)	< 0.1"	> 0.1"			

RUNOFF CHARACTERISTICS

Odor	(None)	Musty	Rotten Eggs	Chemical	Sewage	Other
Color	(None)	Yellow	Brown	White	Gray	Other
Clarity	(Clear)		Slightly Cloudy	Opaque		Other
Floatables	(None)	Trash	Bubbles/Foam	Sheen	Fecal Matter	Other
Deposits	None	Sediment/Gravel	(Fine Particulates)	Stains	Oily Deposits	Other
Vegetation	(None)	Limited	Normal	Excessive		Other
Biology	None	(Insects)	(Algae)	Fish	(Snails) Mussels/ Barnacles	(Insect/ Algae) (Insect/ Snail) Other
Water Flow	(Flowing)	Ponded	Dry	Tidal		

Does the storm drain flow reach the Receiving Water? Yes No (N/A)

Evidence of Overland Flow? Yes (No) Irrigation Runoff Other: _____

Photo Taken (Yes) No **Photo #** 50-52

Field Screening Samples Collected? (Yes) No

Water Temp (°C)	20.1	NH_3-N (mg/L)	0.161	NO_3 (mg/L)	0.000	Ortho-PO_4 (mg/L)	0.042
pH (pH units)	8.3	TURB (NTU)	0.50	NO_3-N (mg/L)	0.000	Ortho-PO_4 -P (mg/L)	0.014
COND (mS/cm)	4.24	MBAS (mg/L)	0.50	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width	25	in
Depth	.25	in
Velocity	10/7	ft/sec
Flow	28	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: One Shopping cart

2010 Trash Assessment Form

SITE ID: V403 DATE: 5/20/10

OBSERVER: MD IAK TIME: 9:15

LOCATION: On the south side of Prospect Avenue, east of Fanita Drive

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE):

ESTIMATED AREA OF ASSESSMENT L x W (FT): 10 x 10

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ Optimal	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ Suboptimal	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ Marginal	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ Submarginal	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ Poor	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ Potential Threat to Human Health	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ Potential Threat to Aquatic Health	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

LN

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

X Field Screening Confirmation For _____ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) (MS4) Receiving Water

Site ID	V45k	**Latitude**	32.88895	Watershed	**Hydrologic Unit**	907
Location	On the north side of Mission Gorge Road, at the north end of freeway 125	**Longitude**	-117.00281		**Hydrologic Area**	907.1
		TB Page	1231-A6		**Hydrologic Subarea** (Optional)	907.12
Date	5/18/10 **Time** 1300	**Observer**	MD / AK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only): Residential | (Commercial) | Industrial | Agricultural | Parks | Open

Land Use (Secondary) (Optional, greater than 10%): Residential | Commercial | Industrial | Agricultural | Parks | (Open) | None

Conveyance (Check one only): Manhole | Catch Basin | Outlet | Concrete Channel | (Natural Creek) | Earthen Channel | Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather	Sunny	(Partly Cloudy)	Overcast	Fog		
Tide	(N/A)	Low	Incoming	High	Outgoing	**Tide Height:** ____ ft.
Last Rain	(> 72 hours)	< 72 hours				
Rainfall	(None)	< 0.1"	> 0.1"			

RUNOFF CHARACTERISTICS

Odor	(None)	Musty	Rotten Eggs	Chemical	Sewage	Other
Color	(None)	Yellow	Brown	White	Gray	Other
Clarity	(Clear)		Slightly Cloudy	Opaque		Other
Floatables	(None)	Trash	Bubbles/Foam	Sheen	Fecal Matter	Other
Deposits	None	(Sediment/Gravel)	(Fine Particulates)	Stains	Oily Deposits	Other
Vegetation	None	Limited	(Normal)	Excessive		Other
Biology	None	(Insects)	(Algae)	Fish	Snails	Mussels/ Barnacles	(Insect/ Algae)	Insect/ Snail	Other

Water Flow: (Flowing) | Ponded | Dry | Tidal

Does the storm drain flow reach the Receiving Water? (Yes) | No | N/A

Evidence of Overland Flow? Yes | (No) | Irrigation Runoff | Other: _____

Photo Taken (Yes) | No **Photo #** 22-24

Field Screening Samples Collected? (Yes) | No

Water Temp (°C)	20.4	NH_3-N (mg/L)	0.169	NO_3 (mg/L)	0.856	Ortho-PO_4 (mg/L)	0.233
pH (pH units)	7.8	TURB (NTU)	1.76	NO_3-N (mg/L)	0.189	Ortho-PO_4 -P (mg/L)	0.080
COND (mS/cm)	3.95	MBAS (mg/L)	0.50	DO (mg/L)	* 7.95		

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width	10	in
Depth	.5	in
Velocity	10/12	ft/sec
Flow	13	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2010 Trash Assessment Form

SITE ID: VH5K DATE: 5/18/10

OBSERVER: MD/AK TIME: 1300

LOCATION: On the north side of Mission Gorge Road, at the North end of freeway 125

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L x W (FT): 15 x 30

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ Optimal	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ Suboptimal	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ Marginal	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ Submarginal	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ Poor	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ Potential Threat to Human Health	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ Potential Threat to Aquatic Health	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

LN

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

(Field Screening) Confirmation For _____ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) (MS4) Receiving Water

Site ID	W30c	**Latitude**	32.834668	Watershed	**Hydrologic Unit**	907
Location	In the southbound lane of Mesa Road, at the intersection of Mesa Road and Graham Terrace	**Longitude**	-117.01383		**Hydrologic Area**	907.1
		TB Page	1230-J7		**Hydrologic Subarea** (Optional)	907.12
Date	9/19/10 **Time** 15:15	**Observer**	MD/AK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only): (Residential) Commercial Industrial Agricultural Parks Open

Land Use (Secondary) (Optional, greater than 10%): Residential Commercial Industrial Agricultural Parks Open (None)

Conveyance (Check one only): (Manhole) Catch Basin Outlet Concrete Channel Natural Creek Earthen Channel Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather: (Sunny) Partly Cloudy Overcast Fog

Tide: (N/A) Low Incoming High Outgoing **Tide Height:** _____ ft.

Last Rain: ~~> 72 hours~~ < 72 hours

Rainfall: (None) < 0.1" > 0.1"

RUNOFF CHARACTERISTICS

Odor	None	Musty	Rotten Eggs	(Chemical)	Sewage	Other
Color	None	Yellow	Brown	White	(Gray)	Other
Clarity	Clear		(Slightly Cloudy)	Opaque		Other
Floatables	(None)	Trash	Bubbles/Foam	Sheen	Fecal Matter	Other
Deposits	None	Sediment/Gravel	(Fine Particulates)	Stains	Oily Deposits	Other
Vegetation	(None)	Limited	Normal	Excessive		Other
Biology	(None)	Insects	Algae	Fish	Snails	Mussels/ Barnacles	Insect/ Algae	Insect/ Snail	Other

Water Flow: (Flowing) Ponded Dry Tidal

Does the storm drain flow reach the Receiving Water? Yes No (N/A)

Evidence of Overland Flow? Yes (No) Irrigation Runoff Other: _____

Photo Taken (Yes) No **Photo #** 48-49

Field Screening Samples Collected? (Yes) No

Water Temp (°C)	23.0	NH_3-N (mg/L)	3.052	NO_3 (mg/L)	3.895	Ortho-PO_4 (mg/L)	19.73
pH (pH units)	7.8	TURB (NTU)	147	NO_3-N (mg/L)	0.880	Ortho-PO_4 -P (mg/L)	16.21
COND (mS/cm)	4.27	MBAS (mg/L)	>3	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	2	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2010 Trash Assessment Form

SITE ID: W30c DATE: 5/19/10

OBSERVER: MD/AK TIME: 1515

LOCATION: In the south bound lane of Mesa Road, at the intersection of Mesa Road and Graham Terrace

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L x W (FT): 4 x 4

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ Optimal	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ Suboptimal	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ Marginal	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ Submarginal	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ Poor	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ Potential Threat to Human Health	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ Potential Threat to Aquatic Health	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

Field Screening X Confirmation For Ammonia, Turbidity, MBAS, Phosphate IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) (MS4) Receiving Water

Site ID	W30c	Latitude	32.834968	Watershed	Hydrologic Unit	907
Location	In the southbound lane of Mesa Road, at the intersection of Mesa Road and Carnham Terrace	Longitude	-117.01383		Hydrologic Area	907.1
		TB Page	1230-J7		Hydrologic Subarea (Optional)	907.12
Date	5/20/10	Time	~~11:15~~ 11:00	Observer	MD/AK	Discharge Area (Optional)	

Land Use (Primary) (Check one only): (Residential) Commercial Industrial Agricultural Parks Open

Land Use (Secondary) (Optional, greater than 10%): Residential Commercial Industrial Agricultural Parks Open (None)

Conveyance (Check one only): (Manhole) Catch Basin Outlet Concrete Channel Natural Creek Earthen Channel Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather	(Sunny)	Partly Cloudy	Overcast	Fog		
Tide	(N/A)	Low	Incoming	High	Outgoing	Tide Height: ____ ft.
Last Rain	(> 72 hours)	< 72 hours				
Rainfall	(None)	< 0.1"	> 0.1"			

RUNOFF CHARACTERISTICS

Odor	(None)	Musty	Rotten Eggs	Chemical	Sewage	Other
Color	(None)	Yellow	Brown	White	Gray	Other
Clarity	(Clear)		Slightly Cloudy	Opaque		Other
Floatables	(None)	Trash	Bubbles/Foam	Sheen	Fecal Matter	Other
Deposits	None	Sediment/Gravel	(Fine Particulates)	Stains	Oily Deposits	Other
Vegetation	(None)	Limited	Normal	Excessive		Other
Biology	(None)	Insects	Algae	Fish	Snails	Mussels/ Barnacles	Insect/ Algae	Insect/ Snail	Other

Water Flow: (Flowing) Ponded Dry Tidal

Does the storm drain flow reach the Receiving Water? Yes No (N/A)

Evidence of Overland Flow? Yes (No) Irrigation Runoff Other: _____

Photo Taken Yes (No) Photo # _____

Field Screening Samples Collected? (Yes) No

Water Temp (°C)	24.3	NH_3-N (mg/L)	0.175	NO_3 (mg/L)	NA	Ortho-PO_4 (mg/L)	0.470
pH (pH units)	8.3	TURB (NTU)	3.46	NO_3-N (mg/L)	NA	Ortho-PO_4 -P (mg/L)	0.153
COND (mS/cm)	4.81	MBAS (mg/L)	0.5	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	<1	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

4J

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	215a1		**Latitude**	32.83737	**Watershed**	**Hydrologic Unit**	907
Location	On the South side of Mission Gorge Road, east of Father Junipero Serra Trail		**Longitude**	-117.03005		**Hydrologic Area**	907.1
			TB Page	1230 - G7		**Hydrologic Subarea** (Optional)	907.12
Date	5/21/10	**Time** 9:00	**Observer**	MD/AK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only) ☒ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☐ Sunny ☐ Partly Cloudy ☒ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☒ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☒ None	☐ Insects ☐ Algae ☐ Fish ☐ Snails		☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 2 67.68

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	17.1	NH_3-N (mg/L)	0.657	NO_3 (mg/L)	9.385	Ortho-PO_4 (mg/L)	0.601
pH (pH units)	7.8	TURB (NTU)	6.43	NO_3-N (mg/L)	2.121	Ortho-PO_4 -P (mg/L)	0.197
COND (mS/cm)	1.21	MBAS (mg/L)	0.25	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2010 Trash Assessment Form

SITE ID: 215-1 DATE: 5/21/10

OBSERVER: MD/AK TIME: 9:00

LOCATION: On the south side of Mission Gorge Road, east of Father Junipero Serra Trail

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L x W (FT): 5 x 5

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ Optimal	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ Suboptimal	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ Marginal	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ Submarginal	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ Poor	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ Potential Threat to Human Health	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ Potential Threat to Aquatic Health	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

Round Two

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☑ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☑ MS4 ☐ Receiving Water

Site ID	A5c		**Latitude**	32.84081	Watershed	**Hydrologic Unit**	907
Location	Next to 8335 Carlton Oaks Dr, b/w Cadorette Ave and Prairie St.		**Longitude**	-117.02160		**Hydrologic Area**	907.1 JR
			TB Page	1230 H6		**Hydrologic Subarea** (Optional)	907.12
Date	9/21/10	**Time** 11:00	**Observer**	MD JR		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☑ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☑ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☑ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☐ Sunny ☐ Partly Cloudy ☑ Overcast ☐ Fog

Tide ☑ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☑ > 72 hours ☐ < 72 hours

Rainfall ☑ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☑ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☑ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☑ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☐ None	☑ Trash	☐ Bubbles/Foam	☑ Sheen DUST	☐ Fecal Matter	☐ Other
Deposits	☐ None	☑ Sediment/Gravel	☑ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☑ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☐ None	☐ Insects	☑ Algae ☐ Fish ☑ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☑ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☑ N/A

Evidence of Overland Flow? ☐ Yes ☑ No ☐ Irrigation Runoff ☐ Other:

Photo Taken ☑ Yes ☐ No **Photo #** 96-97

Field Screening Samples Collected? ☑ Yes ☐ No

Water Temp (°C)	18.1	NH_3-N (mg/L)	0.0910	NO_3 (mg/L)	9.789	Ortho-PO_4 (mg/L)	0.234
pH (pH units)	8.1	TURB (NTU)	1.08	NO_3-N (mg/L)	2.212	Ortho-PO_4-P (mg/L)	0.076
COND (mS/cm)	1.43	MBAS (mg/L)	0.25	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☐ Yes ☑ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	<1	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

2010 Trash Assessment Form

SITE ID: A5c DATE: 9/21/10

OBSERVER: MD/JK TIME: 11:00

LOCATION: Next to 8335 Carlton Oaks Dr. b/w Cadorette Ave and Prahl St

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): optimal

ESTIMATED AREA OF ASSESSMENT L x W (FT): 30 x 15

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☑ MS4 ☐ RECEIVING WATER ☐ BOTH	
☐ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☑ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ **Potential Threat to Human Health**	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ **Potential Threat to Aquatic Health**	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☑ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☑ MS4 ☐ Receiving Water

Site ID	ES91		**Latitude**	32.84885	**Watershed**	**Hydrologic Unit**	907
Location	Santee Recreational Lakes, West side of entrance road approx. 100 feet south of entrance toll booth in grassy area		**Longitude**	-117.00471		**Hydrologic Area**	907.17
			TB Page	1231 A5		**Hydrologic Subarea** (Optional)	907.12
Date	9/15/10	**Time**	3:30	**Observer**	MD/JR	**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☑ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☑ None

Conveyance (Check one only) ☑ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☑ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☑ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☑ > 72 hours ☐ < 72 hours

Rainfall ☑ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☑ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☑ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☑ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☑ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☑ Sediment/~~Gravel~~	☑ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☑ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other

Biology ☑ None ☐ Insects ☐ Algae ☐ Fish ☐ Snails ☐ Mussels/ Barnacles ☐ Insect/ Algae ☐ Insect/ Snail ☐ Other

Water Flow ☑ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☑ Yes ☐ No ☑ N/A

Evidence of Overland Flow? ☐ Yes ☑ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☑ Yes ☐ No **Photo #** 40/41/42

Field Screening Samples Collected? ☑ Yes ☐ No

Water Temp (°C)	23.2	NH_3-N (mg/L)	0.157	NO_3 (mg/L)	5.988	Ortho-PO_4 (mg/L)	0.956
pH (pH units)	7.9	TURB (NTU)	3.06	NO_3-N (mg/L)	1.353	Ortho-PO_4-P (mg/L)	0.312
COND (mS/cm)	2.82	MBAS (mg/L)	0.5	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☐ Yes ☑ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	< 1	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

2010 Trash Assessment Form

SITE ID: ESg 1 DATE: 9/15/10

OBSERVER: MD/JK TIME: 3:30

LOCATION: Santee Recreation lakes, west side of entrance road approx. 100 ft south of NW booth in grassy area

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): N/A

ESTIMATED AREA OF ASSESSMENT L x W (FT): 5 x 5

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☑ MS4 ☐ RECEIVING WATER ☐ BOTH	
☑ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ **Potential Threat to Human Health**	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ **Potential Threat to Aquatic Health**	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

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San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☑ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☑ MS4 ☐ Receiving Water

Site ID	G30C		**Latitude**	32.84501	**Watershed**	**Hydrologic Unit**	907
Location	South end of River Trail Place, north of SD River, down trail to the west (14:30)		**Longitude**	-116.99122		**Hydrologic Area**	907.1 JK
			TB Page	1231 C5		**Hydrologic Subarea** (Optional)	907.12
Date	9/20/10	**Time** 2:30	**Observer**	MP / JK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☑ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☑ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☑ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☑ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☑ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☑ > 72 hours ☐ < 72 hours

Rainfall ☑ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☑ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☐ None	☑ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☑ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☐ None	☑ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☑ Other water lilies, algae
Deposits	☐ None	☑ Sediment/Gravel	☑ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☑ Normal	☐ Excessive		☐ Other
Biology	☐ None	☑ Insects	☑ Algae	☐ Fish	☐ Snails	☐ Mussels/ Barnacles ☐ Insect/ Algae ☐ Insect/ Snail ☐ Other

Water Flow ☐ Flowing ☑ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☑ N/A

Evidence of Overland Flow? ☐ Yes ☑ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☑ Yes ☐ No **Photo #** 79-86

Field Screening Samples Collected? ☑ Yes ☐ No

Water Temp (°C)	25.8	NH_3-N (mg/L)	0.331	NO_3 (mg/L)	3.585	Ortho-PO_4 (mg/L)	0.843
pH (pH units)	8.2	TURB (NTU)	2.93	NO_3-N (mg/L)	0.810	Ortho-PO_4-P (mg/L)	0.275
COND (mS/cm)	2.65	MBAS (mg/L)	0.25	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☐ Yes ☑ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	ponded	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2010 Trash Assessment Form

SITE ID: G30c DATE: 9/20/10

OBSERVER: MD/JK TIME: 2:30 (14:30)

LOCATION: South end of River Trail Place, north of SD River, down trail to west

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): optimal

ESTIMATED AREA OF ASSESSMENT L x W (FT): 30 x 15

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☑ MS4 ☐ RECEIVING WATER ☐ BOTH	
☐ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☑ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present. shopping cart
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ **Potential Threat to Human Health**	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ **Potential Threat to Aquatic Health**	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☑ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☑ MS4 ☐ Receiving Water

Site ID	Site HSe		**Latitude**	32.84561	**Watershed**	**Hydrologic Unit**	907
Location	S of River Park Dr, at end of walkway between Brookview Ct & River Walk Ct, N of San Diego River		**Longitude**	-116.98769		**Hydrologic Area**	907.1
			TB Page	1231-C5		**Hydrologic Subarea** (Optional)	907.12
Date	9/14/10	**Time** 14:35	**Observer**	MO/IT		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☑ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☑ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☑ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☑ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☑ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☑ > 72 hours ☐ < 72 hours

Rainfall ☑ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☑ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☑ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☑ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☑ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☑ Sediment/Gravel	☑ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☑ Normal	☐ Excessive		☐ Other
Biology	☐ None	☑ Insects ☑ Algae	☐ Fish	☑ Snails	☐ Mussels/ Barnacles ☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☑ Flowing ☑ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☑ N/A

Evidence of Overland Flow? ☐ Yes ☑ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☐ Yes ☐ No **Photo #** 23-24

Field Screening Samples Collected? ☑ Yes ☐ No

Water Temp (°C)	23.0	NH_3-N (mg/L)	0.133	NO_3 (mg/L)	1.315	Ortho-PO_4 (mg/L)	0.652
pH (pH units)	7.7	TURB (NTU)	1.55	NO_3-N (mg/L)	0.297	Ortho-PO_4 -P (mg/L)	0.206
COND (mS/cm)	1.92	MBAS (mg/L)	0.13	DO (mg/L)			

Analytical Lab Samples Collected? ☐ Yes ☑ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	ponded	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2010 Trash Assessment Form

SITE ID: Site #5e DATE: 9/14/10

OBSERVER: MD/CT TIME: 14:35

LOCATION: S of River Park Dr., at end of walkway between Bantaview Ct & River Rock Ct., N of San Diego River

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): Suboptimal

ESTIMATED AREA OF ASSESSMENT L x W (FT): 15 x 10

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☑ MS4 ☐ RECEIVING WATER ☐ BOTH	
☑ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ **Potential Threat to Human Health**	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ **Potential Threat to Aquatic Health**	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☑ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☑ MS4 ☐ Receiving Water

Site ID	I10c	**Latitude**	32.84561	Watershed	**Hydrologic Unit**	907
Location	South bank of the San Diego River, East of Cuyamaca St, under bridge, Westernmost outfall	**Longitude**	-116.98340		**Hydrologic Area**	907.1 JR
		TB Page	1231 C5		**Hydrologic Subarea** (Optional)	907.12
Date	9/21/10 **Time** 12:10	**Observer**	MD/JR		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☑ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☑ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☑ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☑ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☑ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☑ > 72 hours ☐ < 72 hours

Rainfall ☑ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☑ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☑ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☑ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☐ None	☑ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☑ Sediment/Gravel	☑ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☑ Normal	☐ Excessive		☐ Other

Biology ☐ None ☑ Insects ☐ Algae ☐ Fish ☐ Snails ☐ Mussels/ Barnacles ☐ Insect/ Algae ☐ Insect/ Snail ☐ Other

Water Flow ☑ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☑ Yes ☐ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☑ No ☐ Irrigation Runoff ☐ Other:

Photo Taken ☑ Yes ☐ No **Photo #** 98-100

Field Screening Samples Collected? ☑ Yes ☐ No

Water Temp (°C)	24.1	NH_3-N (mg/L)	0.060	NO_3 (mg/L)	22.38	Ortho-PO_4 (mg/L)	0.030
pH (pH units)	7.8	TURB (NTU)	0.29	NO_3-N (mg/L)	5.058	Ortho-PO_4-P (mg/L)	0.010
COND (mS/cm)	1.10	MBAS (mg/L)	0.13	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☐ Yes ☑ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width	7	in
Depth	0.25	in
Velocity	5/7	ft/sec
Flow	4	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

2010 Trash Assessment Form

SITE ID: I10C DATE: 9/21/10

OBSERVER: MD/JK TIME: 12:10

LOCATION: South bank of the San Diego River, East of Cuyamaca St, under bridge, westernmost outfalls

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): ~~N/A~~ Marginal

ESTIMATED AREA OF ASSESSMENT L x W (FT): 25 x 8

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☑ MS4 ☐ RECEIVING WATER ☐ BOTH	
☐ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☑ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ **Potential Threat to Human Health**	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ **Potential Threat to Aquatic Health**	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

SITE ID: I10 c

*** Complete the following section for Submarginal, and Poor Evaluations ONLY ***

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging	1		✓	✓				✓			✓	
Food Waste												
Household	3		✓	✓				✓			✓	
Shopping Carts (1)	2	✓						✓			✓	
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments: _____

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☑ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☑ MS4 ☐ Receiving Water

Site ID	J25c		**Latitude**	32.85813	Watershed	**Hydrologic Unit**	907
Location	West end of Caretree Drive on the west side of the channel		**Longitude**	-116.97601		**Hydrologic Area**	907.12
			TB Page	1231 D4		**Hydrologic Subarea** (Optional)	907.12
Date	9/17/10	**Time** 12:50	**Observer**	MD/JR		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☑ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☑ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☑ Outlet ☑ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☑ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☑ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☑ > 72 hours ☐ < 72 hours

Rainfall ☑ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☑ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☑ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☑ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☑ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☑ Sediment/~~Gravel~~	☑ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☑ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other

Biology ☐ None ☐ Insects ☑ Algae ☐ Fish ☐ Snails ☐ Mussels/ Barnacles ☐ Insect/ Algae ☐ Insect/ Snail ☐ Other

Water Flow ☑ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☑ N/A

Evidence of Overland Flow? ☐ Yes ☑ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☑ Yes ☐ No **Photo #** 08-70

Field Screening Samples Collected? ☑ Yes ☐ No

Water Temp (°C)	23.1	NH_3-N (mg/L)	0.197	NO_3 (mg/L)	3.151	Ortho-PO_4 (mg/L)	0.095
pH (pH units)	8.2	TURB (NTU)	1.58	NO_3-N (mg/L)	0.712	Ortho-PO_4 -P (mg/L)	0.031
COND (mS/cm)	1.100	MBAS (mg/L)	0.25	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☑ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width	7	in
Depth	0.25	in
Velocity	5/4	ft/sec
Flow	7	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

2010 Trash Assessment Form

SITE ID: J25C DATE: 9/17/10

OBSERVER: MD/JK TIME: 12:50

LOCATION: West end of Carefree Drive on the west side of the channel

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): optimal

ESTIMATED AREA OF ASSESSMENT L x W (FT): 10 x 4

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☑ MS4 ☐ RECEIVING WATER ☐ BOTH	
☑ Optimal	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ Suboptimal	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ Marginal	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ Submarginal	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ Poor	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ Potential Threat to Human Health	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ Potential Threat to Aquatic Health	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

San Diego Stormwater Copermittees

City of Santee

Dry Weather Monitoring Field Datasheet

☐ Field Screening ☑ Confirmation For Bacteria (Total and fecal) ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION

(NAD 83 decimal degrees to 5th place) ☑ MS4 ☐ Receiving Water

Site ID	J25C		Latitude	32.85813	Watershed	Hydrologic Unit	907
Location	West end of Carefree Drive on the west side of the channel		Longitude	-116.97001		Hydrologic Area	907.1
			TB Page	1231 D4		Hydrologic Subarea (Optional)	907.12
Date	9/27/10	Time 12:20	Observer	MD / JK		Discharge Area (Optional)	

Land Use (Primary) (Check one only): ☑ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%): ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☑ None

Conveyance (Check one only): ☐ Manhole ☐ Catch Basin ☑ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather: ☑ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide: ☐ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain: ☑ > 72 hours ☐ < 72 hours

Rainfall: ☑ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☑ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☑ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☑ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☑ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☑ Sediment/Gravel	☑ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☑ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☐ None	☐ Insects	☑ Algae	☐ Fish	☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail	☐ Other

Water Flow: ☑ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☑ N/A

Evidence of Overland Flow? ☐ Yes ☑ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☑ Yes ☐ No **Photo #** 8-9

Field Screening Samples Collected? ☑ Yes ☐ No

Water Temp (°C)	24.2	NH_3-N (mg/L)	NA	NO_3 (mg/L)	NA	Ortho-PO_4 (mg/L)	NA
pH (pH units)	8.3	TURB (NTU)	NA	NO_3-N (mg/L)	NA	Ortho-PO_4-P (mg/L)	NA
COND (mS/cm)	4.19	MBAS (mg/L)	NA	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☑ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width	5	in
Depth	0.25	in
Velocity	5/8	ft/sec
Flow	2	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

16

☐ Field Screening ☐ Confirmation For _____ ☑ IC/ID Follow-Up For Bacteria (Total and Fecal)

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☑ MS4 ☐ Receiving Water

Site ID	J25c-1		**Latitude**	32.86248	**Watershed**	**Hydrologic Unit**	907
Location	El Nopal and Molino Rd on west side		**Longitude**	-116.97963		**Hydrologic Area**	907.1
			TB Page	1231 D3		**Hydrologic Subarea** (Optional)	907.12
Date	9/27/10	**Time** 2:10	**Observer**	MD/JR		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☑ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☑ None

Conveyance (Check one only) ☑ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☑ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☑ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☑ > 72 hours ☐ < 72 hours

Rainfall ☑ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☑ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☑ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☑ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☑ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☑ Sediment/Gravel	☑ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☑ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☑ None	☐ Insects ☐ Algae	☐ Fish ☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☑ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☑ N/A

Evidence of Overland Flow? ☐ Yes ☑ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☑ Yes ☐ No **Photo #** 10-14 (with channel) P1.0

Field Screening Samples Collected? ☐ Yes ☑ No

Water Temp (°C)	NA	NH_3-N (mg/L)	NA	NO_3 (mg/L)	NA	Ortho-PO_4 (mg/L)	NA
pH (pH units)	NA	TURB (NTU)	NA	NO_3-N (mg/L)	NA	Ortho-PO_4 -P (mg/L)	NA
COND (mS/cm)	NA	MBAS (mg/L)	NA	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☑ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	<1	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

LC

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☐ Field Screening ☐ Confirmation For _____ ☑ IC/ID Follow-Up For Bacteria (Total and Fecal)

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☑ MS4 ☐ Receiving Water

Site ID	J25c-2		**Latitude**	32.86275	**Watershed**	**Hydrologic Unit**	907
Location	channel at El Nopal and Molino Rd on west side		**Longitude**	-116.97967		**Hydrologic Area**	907.1
			TB Page	1231 D3		**Hydrologic Subarea** (Optional)	907.12
Date	9/27/10	**Time**	3:30 (15:30)	**Observer**	MD/JR	**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☑ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☑ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☐ Outlet ☑ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☑ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☑ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☑ > 72 hours ☐ < 72 hours

Rainfall ☑ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☑ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☑ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☑ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☐ None	☑ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☑ Sediment/Gravel	☑ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☑ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other

Biology ☐ None ☑ Insects ☑ Algae ☐ Fish ☐ Snails ☐ Mussels/ Barnacles ☐ Insect/ Algae ☐ Insect/ Snail ☑ Other larvae

Water Flow ☐ Flowing ☑ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☑ N/A

Evidence of Overland Flow? ☐ Yes ☑ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☑ Yes ☐ No **Photo #** 10-14 (with manhole pics)

Field Screening Samples Collected? ☐ Yes ☑ No

Water Temp (°C)	NA	NH_3-N (mg/L)	NA	NO_3 (mg/L)	NA	Ortho-PO_4 (mg/L)	NA
pH (pH units)	NA	TURB (NTU)	NA	NO_3-N (mg/L)	NA	Ortho-PO_4 -P (mg/L)	NA
COND (mS/cm)	NA	MBAS (mg/L)	NA	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☑ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	ponded	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: dry near manhole downstream and farther upstream in concrete channel, sampled with syringe
animal waste in channel / on edges, miner trash
decomposing algae and other vegetation

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

VC

☐ Field Screening ☐ Confirmation For _____ ☑ IC/ID Follow-Up For Bacteria (Total and fec

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☑ MS4 ☐ Receiving Water

Site ID	J25C-3		**Latitude**	32.86227	**Watershed**	**Hydrologic Unit**	907
Location	outlet to sedimentation basin at west end of Shoredale Dr.		**Longitude**	-116.98203		**Hydrologic Area**	907.1
			TB Page	1231 D3		**Hydrologic Subarea** (Optional)	907.12
Date	9/27/10	**Time** 2:40 (14:40)	**Observer**	MD/JR		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☑ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☑ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☑ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☑ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☑ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☑ > 72 hours ☐ < 72 hours

Rainfall ☑ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☑ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☑ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☑ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☑ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☑ Sediment/Gravel	☑ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☑ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other

Biology ☐ None ☑ Insects ☑ Algae ☐ Fish ☐ Snails ☐ Mussels/ Barnacles ☐ Insect/ Algae ☐ Insect/ Snail ☐ Other

Water Flow ☑ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☑ N/A

Evidence of Overland Flow? ☐ Yes ☑ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☑ Yes ☐ No **Photo #** 15-16

Field Screening Samples Collected? ☐ Yes ☑ No

Water Temp (°C)	NA	NH_3-N (mg/L)	NA	NO_3 (mg/L)	NA	Ortho-PO_4 (mg/L)	NA
pH (pH units)	NA	TURB (NTU)	NA	NO_3-N (mg/L)	NA	Ortho-PO_4 -P (mg/L)	NA
COND (mS/cm)	NA	MBAS (mg/L)	NA	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☑ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	4	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: outlet drain inside detention basin

LC

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☐ Field Screening ☐ Confirmation For _____ ☑ IC/ID Follow-Up For Bacteria (Total and Fecal)

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☑ MS4 ☐ Receiving Water

Site ID	J25c-4		**Latitude**	32.86238	**Watershed**	**Hydrologic Unit**	907
Location	Downstream of sedimentation basin at the west end of Shoredale Dr.		**Longitude**	-116.98193		**Hydrologic Area**	907.1
			TB Page	1231 D3		**Hydrologic Subarea** (Optional)	907.12
Date	9/27/10	**Time**	2:50 (1450)	**Observer**	MD/JK	**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☑ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☑ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☑ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☑ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☑ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☑ > 72 hours ☐ < 72 hours

Rainfall ☑ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☑ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☑ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☑ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☑ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☑ Sediment/Gravel	☑ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☑ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☐ None	☑ Insects ☑ Algae	☐ Fish ☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☑ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☑ N/A

Evidence of Overland Flow? ☐ Yes ☑ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☑ Yes ☐ No **Photo #** 17-18

Field Screening Samples Collected? ☐ Yes ☑ No

Water Temp (°C)	NA	NH_3-N (mg/L)	NA	NO_3 (mg/L)	NA	Ortho-PO_4 (mg/L)	NA
pH (pH units)	NA	TURB (NTU)	NA	NO_3-N (mg/L)	NA	Ortho-PO_4 -P (mg/L)	NA
COND (mS/cm)	NA	MBAS (mg/L)	NA	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☑ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	<1	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: outflow from catch basin

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☑ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION

(NAD 83 decimal degrees to 5th place) ☐ MS4 ☑ Receiving Water

Site ID	J30d1	Latitude	32.85175	Watershed	Hydrologic Unit	907
Location	In Woodglen Vista Channel at Kirkwalk Dr and Park Center Dr intersection, north side of bridge	Longitude	-116.97606		Hydrologic Area	907.12
		TB Page	1231 D4		Hydrologic Subarea (Optional)	907.12
Date	9/16/10	Time	12:10	Observer	MD/JK	Discharge Area (Optional)	

Land Use (Primary) (Check one only) ☑ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☑ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☑ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☑ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☑ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☑ > 72 hours ☐ < 72 hours

Rainfall ☑ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☑ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other	
Color	☑ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other	
Clarity	☑ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other	
Floatables	☑ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other	
Deposits	☐ None	☑ Sediment/Gravel	☑ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other	
Vegetation	☐ None	☐ Limited	☑ Normal	☐ Excessive		☐ Other	
Biology	☑ None	☐ Insects	☐ Algae	☐ Fish	☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail	☐ Other

Water Flow ☑ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☑ Yes ☐ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☑ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☑ Yes ☐ No **Photo #** 48/49/50

Field Screening Samples Collected? ☑ Yes ☐ No

Water Temp (°C)	19.4	NH_3-N (mg/L)	0.270	NO_3 (mg/L)	1.130	Ortho-PO_4 (mg/L)	0.078
pH (pH units)	7.60	TURB (NTU)	0.01	NO_3-N (mg/L)	0.255	Ortho-PO_4-P (mg/L)	0.025
COND (mS/cm)	3.04	MBAS (mg/L)	0.25	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☑ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	3	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: Due to dense vegetation, width/depth could not be measured so flow was estimated.

2010 Trash Assessment Form

SITE ID: J30d1 DATE: 9/16/10

OBSERVER: MD/JK TIME: 12:10

LOCATION: In Woodglen vista channel at Riverwalk Dr and Park Center Dr intersection, north side of bridge

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): N/A

ESTIMATED AREA OF ASSESSMENT L x W (FT): 20 x 5

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☐ MS4 ☑ RECEIVING WATER ☐ BOTH	
☑ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ **Potential Threat to Human Health**	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ **Potential Threat to Aquatic Health**	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☑ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☑ MS4 ☐ Receiving Water

Site ID	015f		**Latitude**	32.84653	Watershed	**Hydrologic Unit**	907
Location	North side of Northcote Road, between Woodside Avenue and Via Madonna		**Longitude**	-116.95520		**Hydrologic Area**	907.1 JR
			TB Page	1231 G5		**Hydrologic Subarea** (Optional)	907.12
Date	9/16/10	**Time** (14:15) 2:15	**Observer**	MD/JR		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☑ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☑ None

Conveyance (Check one only) ☑ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☑ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☑ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☑ > 72 hours ☐ < 72 hours

Rainfall ☑ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☐ None	☑ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☐ None	☑ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☑ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☑ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☑ Sediment/Gravel	☑ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☑ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☑ None	☐ Insects ☐ Algae ☐ Fish ☐ Snails		☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☐ Flowing ☑ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☑ No ☑ N/A

Evidence of Overland Flow? ☐ Yes ☑ No ☐ Irrigation Runoff ☐ Other:

Photo Taken ☑ Yes ☐ No **Photo #** 51/52

Field Screening Samples Collected? ☑ Yes ☐ No

Water Temp (°C)	24.0	NH_3-N (mg/L)	3.108	NO_3 (mg/L)	0.884	Ortho-PO_4 (mg/L)	2.885
pH (pH units)	7.4	TURB (NTU)	16.010	NO_3-N (mg/L)	0.200	Ortho-PO_4 -P (mg/L)	0.941
COND (mS/cm)	1.58	MBAS (mg/L)	2.5	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☐ Yes ☑ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	ponded	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2010 Trash Assessment Form

SITE ID: 015 f DATE: 9/16/10

OBSERVER: MD/JR TIME: 2:15 (14:15)

LOCATION: North side of Northcote Rd, between Woodside Ave and Via Madonna

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): ~~N/A~~ Optimal

ESTIMATED AREA OF ASSESSMENT L x W (FT): 5 x 5

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☑ MS4 ☐ RECEIVING WATER ☐ BOTH	
☑ Optimal	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ Suboptimal	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ Marginal	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ Submarginal	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ Poor	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ Potential Threat to Human Health	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ Potential Threat to Aquatic Health	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

San Diego Stormwater Copermittees

City of Santee

Dry Weather Monitoring Field Datasheet

☐ Field Screening ☑ Confirmation For Ammonia and Detergent (MBAS) ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☑ MS4 ☐ Receiving Water

Site ID	015f	**Latitude**	32.84653	Watershed	**Hydrologic Unit**	907
Location	North side of Northcote Road, between Woodside Av. and Via Madonna	**Longitude**	-116.95520		**Hydrologic Area**	907.1
		TB Page	1231 G5		**Hydrologic Subarea** (Optional)	907.12
Date	9/17/10	**Time**	14:30	**Observer**	MD DR	**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☑ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☑ None

Conveyance (Check one only) ☑ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☑ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☑ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☑ > 72 hours ☐ < 72 hours

Rainfall ☑ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☑ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☐ None	☑ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☑ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☑ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☑ Sediment/Gravel	☑ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☑ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☑ None	☐ Insects	☐ Algae	☐ Fish	☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail	☐ Other

Water Flow ☐ Flowing ☑ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☑ N/A

Evidence of Overland Flow? ☐ Yes ☑ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☐ Yes ☑ No **Photo #** _____

Field Screening Samples Collected? ☑ Yes ☐ No

Water Temp (°C)	24.8	NH_3-N (mg/L)	3.30	NO_3 (mg/L)	NA	Ortho-PO_4 (mg/L)	NA
pH (pH units)	7.4	TURB (NTU)	23.49	NO_3-N (mg/L)	NA	Ortho-PO_4-P (mg/L)	NA
COND (mS/cm)	1.35	MBAS (mg/L)	1.5	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☐ Yes ☑ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	Ponded	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

LC

☐ Field Screening ☑ 2nd Confirmation For Ammonia and Detrgent (MBAS) ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☑ MS4 ☐ Receiving Water

Site ID	015 f	**Latitude**	32.84653	Watershed	**Hydrologic Unit**	907	
Location	Northside of Northcote Rd between Woodside Ave and Via Madonna	**Longitude**	-116.95520		**Hydrologic Area**	907.1	
		TB Page	1231 G5		**Hydrologic Subarea** (Optional)	907.12	
Date	9/20/10	**Time**	1:30 (13:30)	**Observer**	MD/JK	**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☑ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☑ None

Conveyance (Check one only) ☑ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather	☑ Sunny	☐ Partly Cloudy	☐ Overcast	☐ Fog		
Tide	☑ N/A	☐ Low	☐ Incoming	☐ High	☐ Outgoing	**Tide Height:** _____ ft.
Last Rain	☑ > 72 hours	☐ < 72 hours				
Rainfall	☑ None	☐ < 0.1"	☐ > 0.1"			

RUNOFF CHARACTERISTICS

Odor	☑ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☑ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☑ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☑ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☑ Sediment/~~Gravel~~	☑ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☑ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☑ None	☐ Insects	☐ Algae	☐ Fish	☐ Snails	☐ Mussels/ Barnacles ☐ Insect/ Algae ☐ Insect/ Snail ☐ Other

Water Flow ☐ Flowing ☑ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☑ N/A

Evidence of Overland Flow? ☐ Yes ☑ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☐ Yes ☑ No **Photo #** _____

Field Screening Samples Collected? ☑ Yes ☐ No

Water Temp (°C)	24.4	NH_3-N (mg/L)	2.227	NO_3 (mg/L)	NA	Ortho-PO_4 (mg/L)	NA
pH (pH units)	7.2	TURB (NTU)	7.98	NO_3-N (mg/L)	NA	Ortho-PO_4-P (mg/L)	NA
COND (mS/cm)	2.98	MBAS (mg/L)	0.5	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☐ Yes ☑ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	ponded	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

LC

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☑ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☑ MS4 ☐ Receiving Water

Site ID	0406	**Latitude**	32.84851	Watershed	**Hydrologic Unit**	907
Location	At the north end of Abraham Way, south of San Diego River	**Longitude**	-116.96392		**Hydrologic Area**	907.1 JR
		TB Page	1231 F5		**Hydrologic Subarea** (Optional)	907.12
Date	9/21/10 **Time** 10:10	**Observer**	MD/JR		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☑ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☑ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☑ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☐ Sunny ☐ Partly Cloudy ☑ Overcast ☐ Fog

Tide ☑ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☑ > 72 hours ☐ < 72 hours

Rainfall ☑ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☑ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☑ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☑ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☑ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☑ Sediment/Gravel	☑ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☐ None	☐ Insects	☑ Algae	☐ Fish	☐ Snails	☐ Mussels/ Barnacles ☐ Insect/ Algae ☐ Insect/ Snail ☐ Other

Water Flow ☐ Flowing ☑ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☑ Yes ☐ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☑ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☑ Yes ☐ No **Photo #** 94-95

Field Screening Samples Collected? ☑ Yes ☐ No

Water Temp (°C)	17.8	NH_3-N (mg/L)	0.515	NO_3 (mg/L)	34.70	Ortho-PO_4 (mg/L)	1.6064
pH (pH units)	8.1	TURB (NTU)	18.56	NO_3-N (mg/L)	9.022	Ortho-PO_4-P (mg/L)	0.542
COND (mS/cm)	2.00	MBAS (mg/L)	0.75	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☐ Yes ☑ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	ponded	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2010 Trash Assessment Form

SITE ID: 040b DATE: 9/21/10

OBSERVER: MD/JR TIME: 10:10

LOCATION: At the north end of Abraham Way, south of San Diego River

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): Suboptimal

ESTIMATED AREA OF ASSESSMENT L x W (FT): 25 x 10

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☑ MS4 ☐ RECEIVING WATER ☐ BOTH	
☐ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☑ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ **Potential Threat to Human Health**	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ **Potential Threat to Aquatic Health**	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☑ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☑ MS4 ☐ Receiving Water

Site ID	P10a		**Latitude**	32.83647	**Watershed**	**Hydrologic Unit**	907
Location	Northbound lane of Graves Ave., in front of northernmost gate at Greystone Ridge Townhouses		**Longitude**	-116.96145		**Hydrologic Area**	907.1
			TB Page	1231 F7		**Hydrologic Subarea** (Optional)	907.12
Date	9/21/10	**Time** 9:20	**Observer**	MD/JR		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☑ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☑ None

Conveyance (Check one only) ☑ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☐ Sunny ☐ Partly Cloudy ☑ Overcast ☐ Fog

Tide ☑ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☑ > 72 hours ☐ < 72 hours

Rainfall ☑ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☐ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other NA
Color	☐ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other NA
Clarity	☐ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other NA
Floatables	☐ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other NA
Deposits	☐ None	☑ Sediment/~~Gravel~~	☑ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☑ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☑ None	☐ Insects ☐ Algae	☐ Fish ☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☐ Flowing ☐ Ponded ☑ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☑ N/A

Evidence of Overland Flow? ☐ Yes ☑ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☑ Yes ☐ No **Photo #** 92-93

Field Screening Samples Collected? ☐ Yes ☑ No

Water Temp (°C)	NS	NH_3-N (mg/L)	NS	NO_3 (mg/L)	NS	Ortho-PO_4 (mg/L)	NS
pH (pH units)	NS	TURB (NTU)	NS	NO_3-N (mg/L)	NS	Ortho-PO_4 -P (mg/L)	NS
COND (mS/cm)	NS	MBAS (mg/L)	NS	DO (mg/L)	NS		

Analytical Lab Samples Collected? ☐ Yes ☑ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	DRY	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2010 Trash Assessment Form

SITE ID: P10a DATE: 9/21/10

OBSERVER: MD/JK TIME: 9:20

LOCATION: Northbound lane of Graves Ave, in front of northernmost gate of Greystone Ridge townhouses

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): ~~N/A~~ Optimal

ESTIMATED AREA OF ASSESSMENT L x W (FT): 4 x 4

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☑ MS4 ☐ RECEIVING WATER ☐ BOTH	
☑ Optimal	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ Suboptimal	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ Marginal	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ Submarginal	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ Poor	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ Potential Threat to Human Health	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ Potential Threat to Aquatic Health	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

San Diego Stormwater Copermittees

City of Santee

Dry Weather Monitoring Field Datasheet

☑ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION

(NAD 83 decimal degrees to 5th place) ☑ MS4 ☐ Receiving Water

Site ID	P20f		Latitude	32.84674	Watershed	Hydrologic Unit	907
Location	Magnolia Avenue, east of Chubb Lane		Longitude	-116.96920		Hydrologic Area	907.1
			TB Page	1231 E5		Hydrologic Subarea (Optional)	907.12
Date	9/17/10	Time 12:15	Observer	MD/JK		Discharge Area (Optional)	

Land Use (Primary) (Check one only) ☑ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☑ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☐ Outlet ☑ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☑ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☑ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☑ > 72 hours ☐ < 72 hours

Rainfall ☑ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☑ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☑ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☑ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☑ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☑ Sediment/Gravel	☑ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☑ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☐ None	☐ Insects	☑ Algae	☐ Fish	☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail	☐ Other

Water Flow ☑ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☑ Yes ☐ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☑ No ☐ Irrigation Runoff ☐ Other:

Photo Taken ☑ Yes ☐ No **Photo #** 66-67

Field Screening Samples Collected? ☑ Yes ☐ No

Water Temp (°C)	29.7	NH_3-N (mg/L)	0.179	NO_3 (mg/L)	19.54	Ortho-PO_4 (mg/L)	0.105
pH (pH units)	8.7	TURB (NTU)	0.22	NO_3-N (mg/L)	4.416	Ortho-PO_4-P (mg/L)	0.034
COND (mS/cm)	1.38	MBAS (mg/L)	0.25	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☑ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width	10	in
Depth	0.25	in
Velocity	5/8	ft/sec
Flow	5	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

2010 Trash Assessment Form

SITE ID: P20-f DATE: 9/17/10

OBSERVER: MD/JR TIME: 9ish 12:15

LOCATION: Magnolia Avenue, east of Chubb Lane

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): marginal

ESTIMATED AREA OF ASSESSMENT L x W (FT): 25 x 15

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☑ MS4 ☐ RECEIVING WATER ☐ BOTH	
☐ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☑ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ **Potential Threat to Human Health**	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ **Potential Threat to Aquatic Health**	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

San Diego Stormwater Copermittees

City of Santee

Dry Weather Monitoring Field Datasheet

☑ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION

(NAD 83 decimal degrees to 5th place) ☑ MS4 ☐ Receiving Water

Site ID	Q20a	Latitude	32.83499	Watershed	Hydrologic Unit	907
Location	In front of 10220 Buena Vista Avenue	Longitude	-116.97509		Hydrologic Area	907.1 JK
		TB Page	1231 D7		Hydrologic Subarea (Optional)	907.12
Date	9/20/10	Time	3:20 (15:20)	Observer	MD / JK	Discharge Area (Optional)	

Land Use (Primary) (Check one only): ☑ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%): ☐ Residential ☑ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only): ☑ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☑ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☑ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** ____ ft.

Last Rain ☑ > 72 hours ☐ < 72 hours

Rainfall ☑ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☑ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☑ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☑ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☐ None	☐ Trash	☑ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☑ Sediment/Gravel	☑ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☑ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other

Biology ☑ None ☐ Insects ☐ Algae ☐ Fish ☐ Snails ☐ Mussels/ Barnacles ☐ Insect/ Algae ☐ Insect/ Snail ☐ Other

Water Flow ☐ Flowing ☑ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☑ N/A

Evidence of Overland Flow? ☐ Yes ☑ No ☐ Irrigation Runoff ☐ Other:

Photo Taken ☑ Yes ☐ No **Photo #** 81 - 84

Field Screening Samples Collected? ☑ Yes ☐ No

Water Temp (°C)	25.3	NH_3-N (mg/L)	0.190	NO_3 (mg/L)	46.90	Ortho-PO_4 (mg/L)	1.182
pH (pH units)	8.3	TURB (NTU)	2.90	NO_3-N (mg/L)	10.599	Ortho-PO_4-P (mg/L)	0.385
COND (mS/cm)	2.08	MBAS (mg/L)	0.5	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☐ Yes ☑ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	ponded	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: sediment build up

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

2010 Trash Assessment Form

SITE ID: Q20a DATE: 9/20/10

OBSERVER: MD/JK TIME: 3:20 (15:20)

LOCATION: In front of 10220 Buena Vista Avenue

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): ~~N/A~~ Optimal

ESTIMATED AREA OF ASSESSMENT L x W (FT): 5 x 5

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☑ MS4 ☐ RECEIVING WATER ☐ BOTH	
☑ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ **Potential Threat to Human Health**	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ **Potential Threat to Aquatic Health**	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☐ Field Screening ☑ Confirmation For Nitrate ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☑ MS4 ☐ Receiving Water

Site ID	Q200a		**Latitude**	32.83494	**Watershed**	**Hydrologic Unit**	907
Location	In front of 10220 Buena Vista Ave.		**Longitude**	-116.97509		**Hydrologic Area**	907 JK
			TB Page	1231 D7		**Hydrologic Subarea** (Optional)	907.12
Date	9/21/10	**Time** 13:45	**Observer**	MD / JK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☑ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☑ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☑ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☑ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☑ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☑ > 72 hours ☐ < 72 hours

Rainfall ☑ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☐ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other NA
Color	☐ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other NA
Clarity	☐ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other NA
Floatables	☐ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other NA
Deposits	☐ None	☑ Sediment/Gravel	☑ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☑ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other

Biology ☑ None ☐ Insects ☐ Algae ☐ Fish ☐ Snails ☐ Mussels/ Barnacles ☐ Insect/ Algae ☐ Insect/ Snail ☐ Other

Water Flow ☐ Flowing ☐ Ponded ☑ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☑ N/A

Evidence of Overland Flow? ☐ Yes ☑ No ☐ Irrigation Runoff ☐ Other:

Photo Taken ☐ Yes ☑ No **Photo #** _____

Field Screening Samples Collected? ☐ Yes ☑ No

Water Temp (°C)	NS	NH_3-N (mg/L)	NS	NO_3 (mg/L)	NS	Ortho-PO_4 (mg/L)	NS
pH (pH units)	NS	TURB (NTU)	NS	NO_3-N (mg/L)	NS	Ortho-PO_4 -P (mg/L)	NS
COND (mS/cm)	NS	MBAS (mg/L)	NS	DO (mg/L)	NS		

Analytical Lab Samples Collected? ☐ Yes ☑ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	DRY	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☑ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION

(NAD 83 decimal degrees to 5th place) ☑ MS4 ☐ Receiving Water

Site ID	RCP1		Latitude	32.84959	Watershed	Hydrologic Unit	907
Location	North bank of San Diego River in RCP Brick Factory, across from SW corner of Ankenae Rd		Longitude	-116.96659		Hydrologic Area	907.12 JR
			TB Page	1231 E5		Hydrologic Subarea (Optional)	907.12
Date	9/16/10	Time 10:50	Observer	MD/JR		Discharge Area (Optional)	

Land Use (Primary) (Check one only) ☑ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☑ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☑ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☑ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☑ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☑ > 72 hours ☐ < 72 hours

Rainfall ☑ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☑ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other	
Color	☑ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other	
Clarity	☑ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other	
Floatables	☑ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other	
Deposits	☐ None	☑ Sediment/Gravel	☑ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other	
Vegetation	☐ None	☐ Limited	☑ Normal	☐ Excessive		☐ Other	
Biology	☐ None	☐ Insects	☑ Algae	☐ Fish	☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail	☐ Other

Water Flow ☑ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☑ N/A

Evidence of Overland Flow? ☐ Yes ☑ No ☐ Irrigation Runoff ☐ Other:

Photo Taken ☑ Yes ☐ No **Photo #** 46/47

Field Screening Samples Collected? ☑ Yes ☐ No

Water Temp (°C)	21.8	NH_3-N (mg/L)	0.149	NO_3 (mg/L)	46.81	Ortho-PO_4 (mg/L)	0.209
pH (pH units)	8.2	TURB (NTU)	0.25	NO_3-N (mg/L)	10.579	Ortho-PO_4-P (mg/L)	0.068
COND (mS/cm)	1.65	MBAS (mg/L)	0.25	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☑ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width	6	in
Depth	0.25	in
Velocity	5/7	ft/sec
Flow	3	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

2010 Trash Assessment Form

SITE ID: RCP 1 DATE: 9/16/10

OBSERVER: MD/JK TIME: 10:00

LOCATION: North bank of San Diego River in RCP Brick Factory, across from SW corner of antennae field

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): Optimal

ESTIMATED AREA OF ASSESSMENT L x W (FT): 20 x 5

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☑ MS4 ☐ RECEIVING WATER ☐ BOTH	
☑ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ **Potential Threat to Human Health**	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ **Potential Threat to Aquatic Health**	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

MDM

☐ Field Screening ☑ Confirmation For Nitrate ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☑ MS4 ☐ Receiving Water

Site ID	RCP1		**Latitude**	32.84959	**Watershed**	**Hydrologic Unit**	907
Location	North bank of San Diego River in RCP Brick factory, across from SW corner of antennae field		**Longitude**	-116.96659		**Hydrologic Area**	907.12
			TB Page	1231 E5		**Hydrologic Subarea** (Optional)	
Date	9/17/10	**Time** 11:50	**Observer**	MD/JK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☑ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☑ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☑ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☑ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☑ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☑ > 72 hours ☐ < 72 hours

Rainfall ☑ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☑ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☑ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☑ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☑ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☑ Sediment/Gravel	☑ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☑ Normal	☐ Excessive		☐ Other
Biology	☐ None	☐ Insects	☑ Algae ☐ Fish ☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☑ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☑ N/A

Evidence of Overland Flow? ☐ Yes ☑ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☐ Yes ☑ No **Photo #** _____

Field Screening Samples Collected? ☑ Yes ☐ No

Water Temp (°C)	22.0	NH_3-N (mg/L)	NA	NO_3 (mg/L)	30.52	Ortho-PO_4 (mg/L)	NA
pH (pH units)	8.2	TURB (NTU)	14.016	NO_3-N (mg/L)	6.898	Ortho-PO_4-P (mg/L)	NA
COND (mS/cm)	1.41	MBAS (mg/L)	NA	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☐ Yes ☑ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width	7	in
Depth	0.25	in
Velocity	5.7	ft/sec
Flow	4	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☑ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☑ MS4 ☐ Receiving Water

Site ID	RCP-SF-03		**Latitude**	32.84959	**Watershed**	**Hydrologic Unit**	907
Location	N. bank of the San Diego River in the RCP Brick Factory, across from the SE corner of the antenna field		**Longitude**	-116.96859		**Hydrologic Area**	907.1
			TB Page	1231-G5		**Hydrologic Subarea** (Optional)	907.17
Date	9/14/10	**Time** 13:45	**Observer**	MB/IT		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☑ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☑ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☑ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☑ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☑ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☑ > 72 hours ☐ < 72 hours

Rainfall ☑ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☑ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☑ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☑ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☑ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☑ Sediment/Gravel	☑ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☑ Normal	☐ Excessive		☐ Other
Biology	☐ None	☑ Insects	☑ Algae	☐ Fish	☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail	☐ Other

Water Flow ☑ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☑ Yes ☐ No ☑ N/A

Evidence of Overland Flow? ☐ Yes ☑ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☑ Yes ☐ No **Photo #** 20-22

Field Screening Samples Collected? ☑ Yes ☐ No

Water Temp (°C)	24.6	NH_3-N (mg/L)	0.171	NO_3 (mg/L)	43.78	Ortho-PO_4 (mg/L)	0.410
pH (pH units)	7.9	TURB (NTU)	4.29	NO_3-N (mg/L)	9.894	Ortho-PO_4-P (mg/L)	0.134
COND (mS/cm)	1.84	MBAS (mg/L)	0.25	DO (mg/L)			

Analytical Lab Samples Collected? ☐ Yes ☑ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width	8	in
Depth	.25	in
Velocity	5/8	ft/sec
Flow	4	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2010 Trash Assessment Form

SITE ID: Site RCP-03 DATE: 9/14/10

OBSERVER: MD/IT TIME: 13:45

LOCATION: N. bank of the San Diego River in the RCP Back Factory, across from SE corner of antennae field

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): Marginal

ESTIMATED AREA OF ASSESSMENT L x W (FT): 15x10

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☑ MS4 ☐ RECEIVING WATER ☐ BOTH	
☑ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ **Potential Threat to Human Health**	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ **Potential Threat to Aquatic Health**	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☑ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☑ MS4 ☐ Receiving Water

Site ID	SSC	**Latitude**	32.84363	Watershed	**Hydrologic Unit**	907
Location	North of Town Center Pkwy, bw Mission Gorge Rd and Cuyamaca st, NW of Michaels	**Longitude**	-116.98795		**Hydrologic Area**	907.1
		TB Page	1231 C6		**Hydrologic Subarea** (Optional)	907.12
Date	9/16/10 **Time** 3:20	**Observer**	MD/JK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☑ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☑ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☑ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☑ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☑ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☐ > 72 hours ☐ < 72 hours

Rainfall ☐ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☑ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☑ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☑ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☑ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☑ Sediment/Gravel	☑ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☑ Normal	☐ Excessive		☐ Other

Biology ☐ None ☑ Insects ☑ Algae ☐ Fish ☐ Snails ☐ Mussels/Barnacles ☐ Insect/Algae ☐ Insect/Snail ☐ Other

Water Flow ☑ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☑ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☑ No ☐ Irrigation Runoff ☐ Other:

Photo Taken ☑ Yes ☐ No **Photo #** 53/54, 55-61

Field Screening Samples Collected? ☑ Yes ☐ No

Water Temp (°C)	23.7	NH_3-N (mg/L)	0.079	NO_3 (mg/L)	0.220	Ortho-PO_4 (mg/L)	0.213
pH (pH units)	7.9	TURB (NTU)	1.37	NO_3-N (mg/L)	1.407	Ortho-PO_4-P (mg/L)	0.0109
COND (mS/cm)	1.24	MBAS (mg/L)	0.13	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☐ Yes ☑ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	~1	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: evidence of human inhabitants - tents and belongings

2010 Trash Assessment Form

SITE ID: S5c DATE: 9/16/10

OBSERVER: MD/JR TIME: 3:20

LOCATION: North of Town Center Pkwy, b/w Mission Gorge Rd and Cuyamaca St, NW of Michael's

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): N/A

ESTIMATED AREA OF ASSESSMENT L x W (FT): 10 x 5

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☑ MS4 ☐ RECEIVING WATER ☐ BOTH	
☐ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☑ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ **Potential Threat to Human Health**	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ **Potential Threat to Aquatic Health**	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☑ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☑ MS4 ☐ Receiving Water

Site ID	S15h		**Latitude**	32.84326	Watershed	**Hydrologic Unit**	907
Location	North of Town Center Pkwy between Mission Gorge Rd and Cuyamaca St, north of Walmart		**Longitude**	-116.98969		**Hydrologic Area**	907.1 JR
			TB Page	1231 C6		**Hydrologic Subarea** (Optional)	907.12
Date	9/15/10	**Time**	2:15 west of trail	**Observer**	MD/JR	**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☑ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☑ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☑ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☑ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☑ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☑ > 72 hours ☐ < 72 hours

Rainfall ☑ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☑ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☑ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☑ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☑ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☑ Sediment/Gravel	☑ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☑ None	☐ Limited	☑ Normal	☐ Excessive		☐ Other

Biology ☐ None ☑ Insects ☑ Algae ☐ Fish ☐ Snails ☐ Mussels/ Barnacles ☐ Insect/ Algae ☐ Insect/ Snail ☐ Other

Water Flow ☑ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☑ Yes ☐ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☑ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☑ Yes ☐ No **Photo #** 38/39

Field Screening Samples Collected? ☑ Yes ☐ No

Water Temp (°C)	23.8	NH_3-N (mg/L)	1.060	NO_3 (mg/L)	1.332	Ortho-PO_4 (mg/L)	0.972
pH (pH units)	7.4	TURB (NTU)	3.31	NO_3-N (mg/L)	0.301	Ortho-PO_4-P (mg/L)	0.317
COND (mS/cm)	2.13	MBAS (mg/L)	0.5	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☐ Yes ☑ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	<1 (trickle)	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

2010 Trash Assessment Form

SITE ID: S15h DATE: 9/15/10

OBSERVER: MD/JR TIME: 2:15

LOCATION: North of Town Centr Pkwy between Mission Gorge Rd and Cuyamaca St, north of Walmart east of trail

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): suboptimal

ESTIMATED AREA OF ASSESSMENT L x W (FT): 20 x 5

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☑ MS4 ☐ RECEIVING WATER ☐ BOTH	
☐ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☑ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ **Potential Threat to Human Health**	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ **Potential Threat to Aquatic Health**	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

HLM

☐ Field Screening ☑ Confirmation For Ammonia ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☑ MS4 ☐ Receiving Water

Site ID	S15h		**Latitude**	32.84326	**Watershed**	**Hydrologic Unit**	907
Location	North of Town Center Pkwy between Mission Gorge Rd and Cuyamaca St, north of mall, west of trail		**Longitude**	-116.98969		**Hydrologic Area**	907.12
			TB Page	1231 C6		**Hydrologic Subarea** (Optional)	
Date	9/16/10	**Time** 10:15	**Observer**	MD/JR		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☑ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☑ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☑ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☐ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☑ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☐ > 72 hours ☐ < 72 hours

Rainfall ☑ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☐ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☐ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☑ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☐ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☑ Sediment/~~Gravel~~	☑ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☑ Normal	☐ Excessive		☐ Other
Biology	☐ None	☑ Insects	☐ Algae	☐ Fish	☐ Snails	☐ Mussels/ Barnacles ☐ Insect/ Algae ☐ Insect/ Snail ☐ Other

Water Flow ☐ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☑ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☑ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☐ Yes ☑ No **Photo #** _____

Field Screening Samples Collected? ☑ Yes ☐ No

Water Temp (°C)	19.9	NH_3-N (mg/L)	0.355	NO_3 (mg/L)	NA	Ortho-PO_4 (mg/L)	NA
pH (pH units)	8.0	TURB (NTU)	NA	NO_3-N (mg/L)	NA	Ortho-PO_4 -P (mg/L)	NA
COND (mS/cm)	2.20	MBAS (mg/L)	NA	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☐ Yes ☑ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	<1	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

LC

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☑ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☑ MS4 ☐ Receiving Water

Site ID	T5e	**Latitude**	32.83393	**Watershed**	**Hydrologic Unit**	907
Location	NW of the Prospect Ave and Argent St. intersection, south of Forester Creek	**Longitude**	-116.98956		**Hydrologic Area**	907.~~12~~ JR
		TB Page	1231 C7		**Hydrologic Subarea** (Optional)	907.12
Date	9/20/10 **Time** 11:00	**Observer**	MD/JR		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☑ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☑ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☑ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☑ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☑ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☑ > 72 hours ☐ < 72 hours

Rainfall ☑ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor ☑ None ☐ Musty ☐ Rotten Eggs ☐ Chemical ☐ Sewage ☐ Other

Color ☑ None ☐ Yellow ☐ Brown ☐ White ☐ Gray ☐ Other

Clarity ☑ Clear ☐ Slightly Cloudy ☐ Opaque ☐ Other

Floatables ☑ None ☐ Trash ☐ Bubbles/Foam ☐ Sheen ☐ Fecal Matter ☐ Other

Deposits ☐ None ☑ Sediment/~~Gravel~~ ☑ Fine Particulates ☐ Stains ☐ Oily Deposits ☐ Other

Vegetation ☑ None ☐ Limited ☐ Normal ☐ Excessive ☐ Other

Biology ☑ None ☐ Insects ☐ Algae ☐ Fish ☐ Snails ☐ Mussels/ Barnacles ☐ Insect/ Algae ☐ Insect/ Snail ☐ Other

Water Flow ☐ Flowing ☑ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☑ N/A

Evidence of Overland Flow? ☐ Yes ☑ No ☐ Irrigation Runoff ☐ Other:

Photo Taken ☑ Yes ☐ No **Photo #** 77-78

Field Screening Samples Collected? ☑ Yes ☐ No

Water Temp (°C)	21.7	NH_3-N (mg/L)	0.279	NO_3 (mg/L)	3.742	Ortho-PO_4 (mg/L)	0.967
pH (pH units)	7.2	TURB (NTU)	~~27.52~~ 21.88	NO_3-N (mg/L)	0.846	Ortho-PO_4-P (mg/L)	0.315
COND (mS/cm)	0.92	MBAS (mg/L)	0.13	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☐ Yes ☑ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	ponded	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: Turbidity was due to sampling within rocks. Water was disturbed.

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

2010 Trash Assessment Form

SITE ID: TSe DATE: 9/20/10

OBSERVER: MD/JK TIME: 11:00

LOCATION: NW of the Prospect Ave and Argent St Intersection, south of Forester Creek

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): optimal

ESTIMATED AREA OF ASSESSMENT L x W (FT): 10 x 3

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☑ MS4 ☐ RECEIVING WATER ☐ BOTH	
☐ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☑ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ **Potential Threat to Human Health**	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ **Potential Threat to Aquatic Health**	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

MLH

☑ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION

(NAD 83 decimal degrees to 5th place) ☑ MS4 ☐ Receiving Water

Site ID	V40d	**Latitude**	32.83375	Watershed	**Hydrologic Unit**	907
Location	on south side of Prospect Ave, east of Fanita Drive	**Longitude**	-117.00005		**Hydrologic Area**	907.17 SM
		TB Page	1231 B7		**Hydrologic Subarea** (Optional)	907.12
Date	9/17/10	**Time**	10:10	**Observer**	MD / JR	**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☑ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☑ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☐ Outlet ☑ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☑ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☐ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☑ > 72 hours ☐ < 72 hours

Rainfall ☑ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☑ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other	
Color	☑ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other	
Clarity	☑ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other	
Floatables	☑ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other	
Deposits	☐ None	☑ Sediment/Gravel	☑ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other	
Vegetation	☐ None	☑ Limited	☐ Normal	☐ Excessive		☐ Other	
Biology	☐ None	☐ Insects	☑ Algae	☐ Fish	☑ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail	☐ Other

Water Flow ☑ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☑ N/A

Evidence of Overland Flow? ☐ Yes ☑ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☑ Yes ☐ No **Photo #** 64-65

Field Screening Samples Collected? ☑ Yes ☐ No

Water Temp (°C)	23.5	NH_3-N (mg/L)	0.455	NO_3 (mg/L)	2.132	Ortho-PO_4 (mg/L)	0.022
pH (pH units)	8.3	TURB (NTU)	3.35	NO_3-N (mg/L)	0.482	Ortho-PO_4-P (mg/L)	0.007
COND (mS/cm)	3.84	MBAS (mg/L)	0.5	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☑ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width	20	in
Depth	0.25	in
Velocity	10/8	ft/sec
Flow	20	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

2010 Trash Assessment Form

SITE ID: V40d DATE: ~~10:10~~ 9/17/10

OBSERVER: MD/JK TIME: 10:10

LOCATION: On South side of Prospect Ave, east of Fanita Drive

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): Suboptimal

ESTIMATED AREA OF ASSESSMENT L x W (FT): 30 x 15

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☑ MS4 ☐ RECEIVING WATER ☐ BOTH	
☐ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☑ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present. Shopping cart
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ **Potential Threat to Human Health**	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ **Potential Threat to Aquatic Health**	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

San Diego Stormwater Copermittees

City of Santee

Dry Weather Monitoring Field Datasheet

LC

☐ Field Screening ☑ Confirmation For Bacteria (Enterococcus) ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION

(NAD 83 decimal degrees to 5th place) ☑ MS4 ☐ Receiving Water

Site ID	V40d		Latitude	32.83375	Watershed	Hydrologic Unit	907
Location	on south side of Prospect Ave, east of Fanita Drive		Longitude	-117.00005		Hydrologic Area	907.1
			TB Page	1231 B7		Hydrologic Subarea (Optional)	907.12
Date	9/27/10	Time 9:45	Observer	MD/JR		Discharge Area (Optional)	

Land Use (Primary) (Check one only): ☑ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%): ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☑ None

Conveyance (Check one only): ☐ Manhole ☐ Catch Basin ☐ Outlet ☑ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☑ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☑ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☑ > 72 hours ☐ < 72 hours

Rainfall ☑ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☑ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☑ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☑ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☑ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☑ Sediment/Gravel	☑ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☑ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☐ None	☑ Insects ☑ Algae	☐ Fish ☑ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☑ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☑ N/A

Evidence of Overland Flow? ☐ Yes ☑ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☑ Yes ☐ No **Photo #** 1-5

Field Screening Samples Collected? ☑ Yes ☐ No

Water Temp (°C)	26.3	NH_3-N (mg/L)	NA	NO_3 (mg/L)	NA	Ortho-PO_4 (mg/L)	NA
pH (pH units)	8.2	TURB (NTU)	NA	NO_3-N (mg/L)	NA	Ortho-PO_4-P (mg/L)	NA
COND (mS/cm)	3.00	MBAS (mg/L)	NA	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☑ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width	18	in
Depth	0.25	in
Velocity	10/8	ft/sec
Flow	17.86	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: animal waste along edges

San Diego Stormwater Copermittees

City of Santee

Dry Weather Monitoring Field Datasheet

LC

☐ Field Screening ☐ Confirmation For _____ ☑ IC/ID Follow-Up For Bacteria (Entero ccc)

GENERAL SITE DESCRIPTION

(NAD 83 decimal degrees to 5th place) ☑ MS4 ☐ Receiving Water

Site ID	V40d-1		Latitude	32.82719	Watershed	Hydrologic Unit	907
Location	Natural creek in Farrington ~~Court~~ Drive.		Longitude	117.00134		Hydrologic Area	907.1
			TB Page	1251 B1		Hydrologic Subarea (Optional)	907.12
Date	9/27/10	Time 10:50	Observer	MD / JR		Discharge Area (Optional)	

Land Use (Primary) (Check one only): ☑ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%): ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☑ None

Conveyance (Check one only): ☐ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☑ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☑ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☑ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing Tide Height: _____ ft.

Last Rain ☑ > 72 hours ☐ < 72 hours

Rainfall ☑ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☑ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☑ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☑ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☑ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☑ Sediment/Gravel	☑ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☑ Normal	☐ Excessive		☐ Other

Biology ☐ None ☑ Insects ☐ Algae ☐ Fish ☐ Snails ☐ Mussels/ Barnacles ☐ Insect/ Algae ☐ Insect/ Snail ☐ Other

Water Flow ☑ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☑ N/A

Evidence of Overland Flow? ☐ Yes ☑ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☑ Yes ☐ No **Photo #** 6-7

Field Screening Samples Collected? ☐ Yes ☑ No

Water Temp (°C)	NA	NH_3-N (mg/L)	NA	NO_3 (mg/L)	NA	Ortho-PO_4 (mg/L)	NA
pH (pH units)	NA	TURB (NTU)	NA	NO_3-N (mg/L)	NA	Ortho-PO_4-P (mg/L)	NA
COND (mS/cm)	NA	MBAS (mg/L)	NA	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☑ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width	35	in
Depth	0.25	in
Velocity	10/10	ft/sec
Flow	27	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: animal waste along edges

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☑ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☑ MS4 ☐ Receiving Water

Site ID	Site V45k		**Latitude**	32.83895	**Watershed**	**Hydrologic Unit**	907
Location	on the N side of Mission Gorge Rd, at the N end of freeway 125		**Longitude**	-117.00251		**Hydrologic Area**	907.1
			TB Page	1231-A6		**Hydrologic Subarea** (Optional)	907.12
Date	9/14/10	**Time**	~~9/14/10~~ 15:40	**Observer**	MD/TT	**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☑ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☑ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☑ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☑ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☑ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☑ > 72 hours ☐ < 72 hours

Rainfall ☑ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☑ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☑ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☑ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☑ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☑ Sediment/Gravel	☑ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☑ Normal	☐ Excessive		☐ Other
Biology	☐ None	☑ Insects	☑ Algae	☐ Fish	☐ Snails	☐ Mussels/ Barnacles ☐ Insect/ Algae ☐ Insect/ Snail ☐ Other

Water Flow ☑ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☑ N/A

Evidence of Overland Flow? ☐ Yes ☑ No ☐ Irrigation Runoff ☐ Other:

Photo Taken ☑ Yes ☐ No **Photo #** 25-27

Field Screening Samples Collected? ☑ Yes ☐ No

Water Temp (°C)	22.0	NH_3-N (mg/L)	0.345	NO_3 (mg/L)	5.350	Ortho-PO_4 (mg/L)	0.177
pH (pH units)	7.7	TURB (NTU)	4.53	NO_3-N (mg/L)	1.209	Ortho-PO_4 -P (mg/L)	0.058
COND (mS/cm)	4.24	MBAS (mg/L)	0.25	DO (mg/L)			

Analytical Lab Samples Collected? ☐ Yes ☑ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width	5	in
Depth	.25	in
Velocity	5/8	ft/sec
Flow	2	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2010 Trash Assessment Form

SITE ID: Site V95K DATE: 9/14/10

OBSERVER: MD/IT TIME: 15:40

LOCATION: On the N Side of Mission Gorge Rd, at the W end of freeway 125

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): Optimal

ESTIMATED AREA OF ASSESSMENT L X W (FT): 20x15

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☑ MS4 ☐ RECEIVING WATER ☐ BOTH	
☑ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ **Potential Threat to Human Health**	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ **Potential Threat to Aquatic Health**	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☑ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☑ MS4 ☐ Receiving Water

Site ID	W30c	**Latitude**	32.83468	**Watershed**	**Hydrologic Unit**	907
Location	In southbound lane of Mesa Rd, at the intersection of Mesa Rd and Graham Terrace	**Longitude**	-117.01383		**Hydrologic Area**	907.12 JK
		TB Page	1230 J7		**Hydrologic Subarea** (Optional)	907.12
Date	9/20/10	**Time**	4:15 (16:15)	**Observer**	MD / JK	**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☑ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☑ None

Conveyance (Check one only) ☑ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☑ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☐ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☑ > 72 hours ☐ < 72 hours

Rainfall ☑ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☑ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☑ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☑ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☑ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☑ Sediment/Gravel	☑ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☑ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☑ None	☐ Insects ☐ Algae	☐ Fish ☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☑ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☑ N/A

Evidence of Overland Flow? ☐ Yes ☑ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☑ Yes ☐ No **Photo #** 87-91

Field Screening Samples Collected? ☑ Yes ☐ No

Water Temp (°C)	24.4	NH_3-N (mg/L)	0.245	NO_3 (mg/L)	2.092	Ortho-PO_4 (mg/L)	0.238
pH (pH units)	8.2	TURB (NTU)	2.73	NO_3-N (mg/L)	0.608	Ortho-PO_4 -P (mg/L)	0.078
COND (mS/cm)	4.71	MBAS (mg/L)	0.5	DO (mg/L)	NA		

Analytical Lab Samples Collected? ☐ Yes ☑ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	<1	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: smell from animal waste when manhole opened.

2010 Trash Assessment Form

SITE ID: W30c DATE: 9/20/10

OBSERVER: MD/JK TIME: 4:15 (16:15)

LOCATION: In the southbound lane of Mesa Rd at the intersection of Mesa Rd and Graham Terrace

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): Optimal

ESTIMATED AREA OF ASSESSMENT L x W (FT): 5 x 5

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☑ MS4 ☐ RECEIVING WATER ☐ BOTH	
☑ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ **Potential Threat to Human Health**	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ **Potential Threat to Aquatic Health**	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

MDV

☑ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☑ MS4 ☐ Receiving Water

Site ID	215a1		**Latitude**	32.83737	Watershed	**Hydrologic Unit**	907
Location	On southside of Mission Gorge Road, east of Father Junipero Serra Trail		**Longitude**	-117.03005		**Hydrologic Area**	907.1 JSK
			TB Page	1230G7		**Hydrologic Subarea** (Optional)	907.12
Date	9/17/10	**Time** 9:10	**Observer**	MD / JR		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☑ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☑ None

Conveyance (Check one only) ☑ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☐ Sunny ☐ Partly Cloudy ☑ Overcast ☐ Fog

Tide ☑ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☑ > 72 hours ☐ < 72 hours

Rainfall ☑ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☑ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☐ None	☑ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☑ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☑ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☑ Sediment/~~Gravel~~	☑ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☑ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☑ None	☐ Insects ☐ Algae	☐ Fish ☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☑ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☑ N/A

Evidence of Overland Flow? ☐ Yes ☑ No ☑ ~~Irrigation~~ Runoff ☐ Other: _____

Photo Taken ☑ Yes ☐ No **Photo #** 62-63

Field Screening Samples Collected? ☑ Yes ☐ No

Water Temp (°C)	17.5	NH_3-N (mg/L)	0.149	NO_3 (mg/L)	12.44	Ortho-PO_4 (mg/L)	1.348
pH (pH units)	7.8	TURB (NTU)	9.69	NO_3-N (mg/L)	2.811	Ortho-PO_4 -P (mg/L)	0.439
COND (mS/cm)	1.19	MBAS (mg/L)	0.5	DO (mg/L)	N/A		

Analytical Lab Samples Collected? ☐ Yes ☑ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	<1	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

2010 Trash Assessment Form

SITE ID: 215a1 DATE: 9/17/10

OBSERVER: MD/JR TIME: 9:10

LOCATION: On southside of Mission Gorge Road, east of Father Junipero Serra Trail

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): N/A

ESTIMATED AREA OF ASSESSMENT L x W (FT): 6 x 3

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☑ MS4 ☐ RECEIVING WATER ☐ BOTH	
☑ Optimal	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ Suboptimal	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ Marginal	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
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☐ Poor	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Potential Threat to Human Health and/or Aquatic Health (applies to area of assessment)	
☐ Potential Threat to Human Health	Presence of more than one of, or a combination of the following items: hypodermic needles or other medical waste; used diapers, animal waste, or human feces; any toxic substance such as chemical containers, vehicle batteries, or fluorescent light bulbs. Alternatively high prevalence of any one item (e.g. Greater than 50 items that present a puncture or laceration hazard); or observations of mosquito larvae directly observed in water ponded due to trash. All subject to best professional judgment. Describe potential threat on back of form.
☐ Potential Threat to Aquatic Health	Large amount* of persistent, buoyant litter such as: hard or soft plastics, balloons, Styrofoam (equivalent to a cup), or large amount of settleable, degradable and nontoxic debris; cigarette butts. Presence of more than one of, or a combination of the following items: toxic items such as vehicle batteries or spray cans; any evidence large clumps of yard waste from landscape maintenance such as yard waste or dumped leaf litter (not naturally occurring). All subject to best professional judgment. Describe potential threat on back of form. *Large amount is defined as 50 pieces or more.

CITY OF SANTEE



Jurisdictional Urban Runoff Management Program

Annual Report 2010-2011

TABLE OF CONTENTS

CERTIFICATION STATEMENT

EXECUTIVE SUMMARY ES-1

1.0 INTRODUCTION 1-1
- 1.1 Background 1-1
  - 1.1.1 Regulatory Background 1-1
  - 1.1.2 City Setting 1-1
- 1.2 Purpose and Objectives 1-4
- 1.3 Report Organization 1-4

2.0 DEVELOPMENT PLANNING COMPONENT 2-1
- 2.1 Introduction 2-1
  - 2.1.1 Summary of Notable Accomplishments 2-1
- 2.2 Land Use Planning 2-1
  - 2.2.1 Background 2-1
  - 2.2.2 Source Characterization 2-2
  - 2.2.3 Best Management Practice Requirements 2-2
  - 2.2.4 Program Implementation 2-2
- 2.3 Environmental Review Process 2-2
- 2.4 Development Project Approval and Verification Process 2-3
  - 2.4.1 Background 2-3
  - 2.4.2 Source Characterization 2-3
  - 2.4.3 Best Management Practice Requirements 2-3
  - 2.4.4 Program Implementation 2-3
    - 2.4.4.1 Outreach and Staff Training 2-3
    - 2.4.4.2 Urban Runoff Approval Process for Development Projects 2-4
    - 2.4.4.3 Treatment Control BMP Inspection and Maintenance Verification Program. 2-6
- 2.5 Development Planning Component Effectiveness Assessment 2-11
- 2.6 Program Review and Modification 2-11

3.0 CONSTRUCTION 3-1
- 3.1 Introduction 3-1
  - 3.1.1 Summary of Notable Accomplishments 3-1
- 3.2 Source Characterization 3-2
- 3.3 Updates to Ordinances and Approval Processes 3-2
- 3.4 Best Management Practice Requirements 3-2
- 3.5 Program Implementation 3-2
  - 3.5.1 Education and Staff Training 3-3
  - 3.5.2 Construction and Grading Approval Process 3-3
  - 3.5.3 Inspection of Construction Sites 3-3
  - 3.5.4 Enforcement Measures 3-4
- 3.6 Construction Activities Effectiveness Assessment 3-5
- 3.7 Program Review and Modification 3-5

TABLE OF CONTENTS (CONTINUED)

4.0 MUNICIPAL COMPONENT 4-1
4.1 Introduction 4-1
4.1.1 Summary of Notable Accomplishments 4-1
4.2 Fixed Facilities 4-2
4.2.1 Background 4-2
4.2.2 Source Characterization 4-2
4.2.3 Best Management Practice Requirements 4-2
4.2.4 Program Implementation 4-3
4.3 Roads, Streets, Highways, and Parking Facilities 4-4
4.3.1 Background 4-4
4.3.2 Source Characterization 4-4
4.3.3 Best Management Practices 4-4
4.3.4 Program Implementation 4-4
4.4 MS4 4-5
4.4.1 Background 4-5
4.4.2 Source Characterization 4-5
4.4.3 Best Management Practices 4-5
4.4.4 Program Implementation 4-6
4.5 Sanitary Sewer System 4-7
4.5.1 Background 4-7
4.5.2 Source Characterization 4-7
4.5.3 Best Management Practices 4-7
4.5.4 Program Implementation 4-7
4.6 Mobile Municipal Activities 4-8
4.6.1 Background 4-8
4.6.2 Source Characterization 4-8
4.6.3 Best Management Practices 4-8
4.6.4 Program Implementation 4-8
4.7 Special Events 4-8
4.7.1 Background 4-8
4.7.2 Source Characterization 4-8
4.7.3 Best Management Practices 4-8
4.7.4 Program Implementation 4-9
4.8 Education and Outreach 4-9
4.9 Spill Reporting, Response, and Prevention 4-9
4.10 Public Reporting of Illicit Discharges and Connections 4-10
4.11 Municipal Component Effectiveness Assessment 4-10
4.12 Program Modification and Review 4-10
5.0 INDUSTRIAL AND COMMERCIAL 5-1
5.1 Introduction 5-1
5.1.1 Summary of Notable Accomplishments 5-1
5.2 Stationary Industrial and Commercial Sites / Sources Element 5-1

TABLE OF CONTENTS (CONTINUED)

5.2.1 Background 5-1
5.2.2 Source Characterization 5-2
5.2.3 Best Management Practice Requirements 5-2
5.2.4 Program Implementation 5-3
5.3 Mobile Sources 5-6
5.3.1 Background 5-6
5.3.2 Source Characterization 5-7
5.3.3 Best Management Practice Requirements 5-7
5.3.4 Program Implementation 5-7
5.4 Industrial and Commercial Component Effectiveness Assessment 5-8
5.5 Program Review and Modification 5-8

6.0 RESIDENTIAL 6-1
6.1 Introduction 6-1
6.1.1 Summary of Notable Accomplishments 6-1
6.2 Source Characterization 6-1
6.3 Best Management Practice Requirements 6-1
6.4 Program Implementation 6-2
6.4.1 Outreach and Education 6-2
6.4.2 Used Oil and Waste Collection Services 6-4
6.4.3 Hotlines and Websites 6-4
6.4.4 Complaint Investigation 6-5
6.4.5 Enforcement 6-5
6.4.6 Regional Residential Education Program 6-6
6.4.7 Methods Evaluation 6-6
6.5 Effectiveness Assessment 6-7
6.6 Program Review and Modification 6-7

7.0 ILLICIT DISCHARGE DETECTION AND ELIMINATION 7-1
7.1 Introduction 7-1

8.0 EDUCATION COMPONENT 8-1
8.1 Introduction 8-1
8.1.1 Summary of Notable Accomplishments 8-1
8.2 Staff Training Element 8-1
8.3 Educational Outreach Element 8-2
8.3.1 Industrial and Commercial Businesses 8-2
8.3.1.1 Mobile Businesses 8-4
8.3.2 Construction Site Owners and Developers 8-4
8.3.3 Residential Areas 8-4
8.3.4 Underserved Communities 8-5
8.3.5 Complaint Investigations 8-6
8.3.6 Educational Material Distributed 8-6
8.4 Outreach Component Effectiveness Assessment 8-7
8.5 Program Review and Modification 8-7

TABLE OF CONTENTS (CONTINUED)

9.0 PUBLIC PARTICIPATION 9-1
9.1 Introduction 9-1
9.1.1 Summary of Notable Accomplishments 9-1
9.2 Events and Programs 9-1
9.3 Public Participation Component Effectiveness Assessment 9-3
9.4 Program Review and Modification 9-3
10.0 FISCAL ANALYSIS 10-1
10.1 Introduction 10-1
11.0 EFFECTIVENESS ASSESSMENT 11-1
11.1 Introduction 11-1
11.2 Effectiveness Assessment Results 11-1
11.2.1 Outcome Level Assessments 11-2
11.2.2 Overall Component Assessments 11-4
11.3 Program Review and Modification 11-6
12.0 SPECIAL INVESTIGATIONS 12-1
12.1 Surface Water Quality Monitoring 12-1
12.2 Environmental Protection Agency Questionnaire 12-1
13.0 NON-EMERGENCY FIRE FIGHTING 13-1
14.0 JURMP REVISIONS 14-1
15.0 CONCLUSIONS AND RECOMMENDATIONS 15-1
16.0 REFERENCES 16-1

Tables

Table 1-1 City of Santee Land Use Breakdown
Table 2-1 Development Project Subject to SUSMP Requirements During 2010/2011
Table 2-2 Assessment of Compliance with Required Inspection Frequencies
Table 2-3 Summary of Treatment Control BMP Inspection Results
Table 3-1 Total Number of Enforcement Actions Taken
Table 4-1 Street Sweeping Prioritization and Frequency
Table 5-1 Violations of the General Industrial Permit
Table 5-2 Industrial and Commercial Sites Inspected During the Reporting Period
Table 6-1 Summary of Outreach and Education Activities
Table 8-1 Educational Material Distributed
Table 9-1 Summary of Cleanup Events
Table 10-1 Expenditure Summary
Table 10-2 Fund Summary
Table 10-3 Watershed Urban Runoff Management Program (WURMP) Expenses
Table 10-4 Regional Urban Runoff Management Program (RURMP) Expenses

TABLE OF CONTENTS (CONTINUED)

Tables (Continued)

Table 11-1 Development Planning Component Assessment Measures
Table 11-2 Construction Component Assessment Measures
Table 11-3 Municipal Component Assessment Measures
Table 11-4 Industrial and Commercial Component Assessment Measures
Table 11-5 Residential Component Assessment Measures
Table 11-6 Illicit Discharge Detection and Elimination Component Assessment Measures
Table 11-7 Education Component Assessment Measures
Table 11-8 Public Participation Component Assessment Measures

Figures

Figure 1-1 City of Santee Land Use and Drainage Basins
Figure 11-1 Dry Weather Monitoring Historical Exceedance Summary: Field Screening Tests
Figure 11-2 Dry Weather Monitoring Historical Exceedance Summary: Laboratory Analytical Tests
Figure 11-3 Additional Study Data: pH
Figure 11-4 Additional Study Data: Fecal Coliform, Forester Creek
Figure 11-5 Additional Study Data: Fecal Coliform, San Diego River
Figure 11-6 Additional Study Data: Fecal Coliform, Sycamore Creek

Appendices

Appendix A Inventories
- A.1 Permanent Treatment Control BMP Inventory
- A.2 Construction Inventory
- A.3 Municipal Inventory
- A.4 Industrial/Commercial Inventory

Appendix B Summary of Documented Complaints
Appendix C JURMP Annual Report Requirements Checklist

Attachments

Attachment 5.1 Stormwater Factsheets
Attachment 8.1 Santee Review Articles
Attachment 12.1 Additional Study

CERTIFICATION STATEMENT

Date: September 2011

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Pedro Orso Delgado, P.E.
Deputy City Manager/Director of Development Services

EXECUTIVE SUMMARY

The City of Santee (City) has been actively developing and implementing storm water pollution prevention measures since 1990. The City's Jurisdictional Urban Runoff Management Program (JURMP) was updated and submitted to the San Diego Regional Water Quality Control Board (RWQCB) in March 2008. The JURMP update was required by the re-issued storm water permit, RWQCB Order No. R9-2007-0001 (Municipal Permit). The Municipal Permit was jointly issued to 18 municipalities in San Diego County, including the City; the County of San Diego; the San Diego County Regional Airport Authority; and the San Diego Unified Port District (collectively referred to as "Copermittees").

The City's JURMP includes Best Management Practices (BMP) standards for businesses, construction, development projects, residents, and the City's own activities. The JURMP also includes programs for water quality monitoring and educational outreach.

This JURMP Annual Report presents the City's activities to implement its JURMP during the 2010/2011 fiscal year (Reporting Period), which began on July 1, 2010 and ended on June 30, 2011. Each section of this JURMP Annual Report discusses how the City's efforts during the Reporting Period met the requirements of the Municipal Permit. Key actions taken for the major components of the City's storm water program are summarized in the table below.

Component	Key Actions
Development Planning	• Stormwater Management Plans and grading plans were reviewed prior to project entitlement and grading plan issue. • Inspected 27 sites with treatment control BMPs installed and required annual verification letters to be completed. • City was active in the development, review and approval process for the model Standard Urban Runoff Mitigation Plan (SUSMP) and hydromodification plan. • The City's SUSMP was updated to incorporate hydromodification requirements and is available with related forms on the City's website.
Construction	• Active construction sites were inspected to assess BMP implementation during the Reporting Period; a total of 142 construction inspections were completed at 13 sites. •The City conducted plan checks of erosion control plans to ensure construction projects proposed appropriate BMPs that met the City's minimum requirements.

Component	Key Actions
	• The City continued its program of inspecting sites prior to predicted rain events and during rain events, when appropriate, to foster BMP implementation when the highest potential for pollutant discharge is present. • The City participated in the regional Construction subworkgroup.
Municipal	• The City inspected all high threat to water quality municipal fixed facilities and continued its street sweeping and storm drain (MS4) maintenance programs. • A total of 671 tons of trash and debris was removed from street sweeping activities and 445 tons of debris was removed from standard MS4 maintenance. • The City has a grant proposal in a San Diego Integrated Regional Water Management Plan (IRWMP) application for Proposition 84 funding. This will be a pilot project for installing infiltration measures in concrete channels, eliminating dry weather flows and improving water quality.
Industrial and Commercial	• During the Reporting Period the City inspected 262 businesses, which exceeded the Municipal Permit requirement to inspect at least 25 percent of the inventoried stationary industrial and commercial business. • Each facility's compliance with the State of California General Industrial Permit (Industrial Permit) was also assessed during inspections.
Residential	• The City also responded to 44 complaints made to the City storm water hotline regarding residential areas. The complaint investigations were used as opportunities to enforce BMP requirements and to educate residents. • The City's *Santee Review* newsletter, which included storm water-related articles, was made available to residents online during the Reporting Period.
Illicit Discharge Detection and Elimination	• During this period, the City responded to and resolved 67 complaints made to its storm water hotline and to the City website, as well as referrals from City staff. • The City completed its 2010 Dry Weather Field Screening and Analytical Monitoring Program (Dry Weather Monitoring Program). The recommendations in the final report for the Dry

Component	Key Actions
	Weather Monitoring Program were addressed during the Reporting Period.
Education	• Over 1,689 copies of various educational materials were distributed during the Reporting Period. • The City continued to conduct various education and outreach activities throughout the Reporting Period as a means to raise storm water awareness in various communities in the City. • The City now circulates the *Santee Review* newsletter online, it has included storm water-related articles aimed at both residents and businesses in the City.
Public Participation	• During the Reporting Period, the City provided a variety of opportunities for individuals in the City to participate in the City's storm water program, including trash removal activities. • The City hosted clean-up events along Forester Creek and the San Diego River; volunteers removed approximately 23,100 pounds of trash and debris. • The San Diego River Park Foundation donated 20 new San Diego River Trail markers for Mast Park West, which were then installed by local Boy Scouts for an Eagle Scout project.
Fiscal Analysis	• Itemized expenditures for the Reporting Period are presented in this section.
Effectiveness Assessment	• The City has identified significant activities within each program component and metrics to assess each one. Standard tables to report this information have been created and included in Section 11 of this JURMP Annual Report.
Special Investigations	• The City conducted ambient water quality monitoring in the San Diego River, Forester Creek, and Sycamore Creek as part of an additional study conducted concurrently with the Dry Weather Monitoring Program.

Conclusions and Recommendations

The results of the City's study of the receiving waters in Santee show fecal coliform bacteria levels from the most recent round of sampling at the Forester Creek and San Diego River downstream sites were 94 percent and 89 percent lower than they were in the first year of the program, 2002. The City has completed a major stream restoration project in Forester Creek, and monitoring after project completion has shown an 87 percent reduction in fecal coliform bacteria from the upstream to downstream end of the

project area. These observations indicate that the stormwater program has been effective.

The City will continue to implement the new and updated programs in its JURMP during the 2011/2012 Fiscal Year. Additionally, in response to the bacteria TMDL adopted in 2010/2011, the City and other jurisdictions within the San Diego River Watershed have begun developing a TMDL implementation plan. It is anticipated that some program refinements will be made as implementation progresses.

1.0 INTRODUCTION

1.1 BACKGROUND

This Jurisdictional Urban Runoff Management Plan (JURMP) Annual Report presents a summary of the activities of the City of Santee (City) during the 2010/2011 fiscal year (Reporting Period). Preparation and submittal of the JURMP Annual Report is required by San Diego Regional Water Quality Control Board (RWQCB) Order No. R9-2007-0001 (Municipal Permit).

1.1.1 REGULATORY BACKGROUND

The 1987 amendments to the Federal Water Pollution Control Act (also known as the Clean Water Act, or CWA) established a framework for regulating MS4 discharges under the National Pollutant Discharge Elimination System (NPDES). The RWQCB issued the first regional NPDES permit for municipalities in the San Diego Region in 1990, followed by a revised permit in 2001. The revised permit, RWQCB Order No. 2001-01 was replaced by the current Municipal Permit R9-2007-0001, in 2007.

Like all the other municipalities in the San Diego region regulated by R9-2007-0001, collectively referred to as Copermittees, the City developed and submitted a JURMP to the RWQCB in 2002. As required by the Municipal Permit, the City submitted an updated JURMP in March 2008. The JURMP includes management measures for a variety of different sectors and activity types such as municipal, industrial, commercial, construction, and significant development and re-development activities.

Annual reports on the implementation of the JURMP are required to be submitted to the RWQCB September 30 of each year. This JURMP Annual Report presents information for the 2010/2011 fiscal year (July 1, 2010 to June 30, 2011).

1.1.2 CITY SETTING

The City of Santee is located in central San Diego County and is bordered by the City of San Diego to the west, the City of El Cajon to the south, and unincorporated portions of San Diego County. The City itself includes approximately 16 square miles and an estimated population of 58,000. Land use within the City is mainly residential; other land uses in the City include municipal facilities, industrial and commercial facilities, streets, highways, and undeveloped open spaces. Land use categories with the corresponding acreage percentage of the total area are included in Table 1-1, below.

Table 1-1
City of Santee Land Use Breakdown

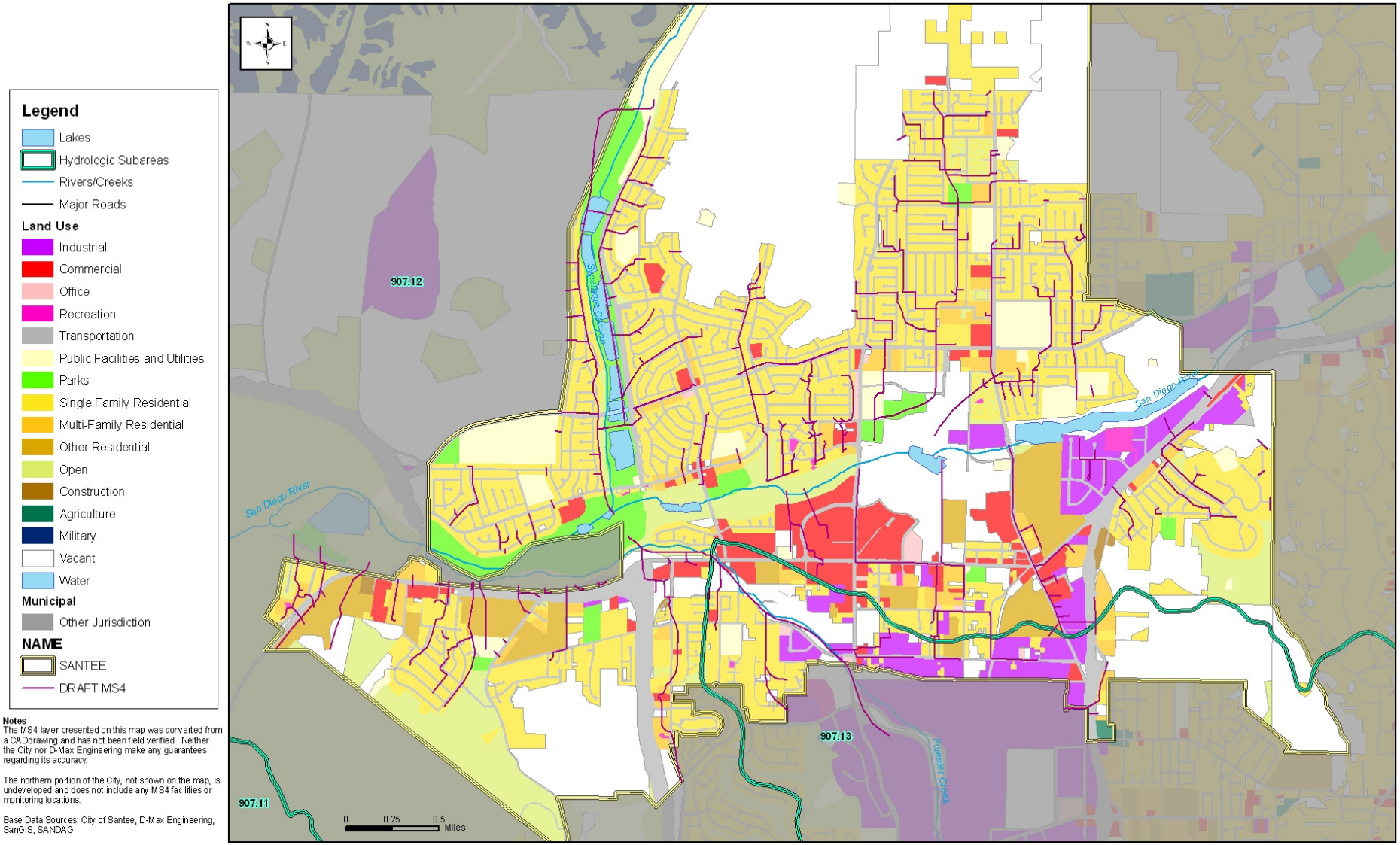
Land Use	Total Area (Acres)	Percentage
Vacant	4,478	42%
Single Family Residential	2,328	22%
Transportation	1,152	11%
Open	542	5%
Public Facilities and Utilities	380	4%
Commercial	373	4%
Other Residential	322	3%
Industrial	315	3%
Parks	279	3%
Multi-Family Residential	234	2%
Water	111	1%
Office	21	<1%
Recreation	20	<1%
Construction	13	<1%
Agriculture	5	<1%
Total	**10,574**	**100%**

Source: 2007 SANDAG land use data

The City of Santee is located entirely in the San Diego River Watershed, Hydrologic Unit (HU) 907. Specifically, the entire City of Santee is located within the Lower San Diego River Hydrologic Area (HA), 907.1. While a significant portion of the City drains directly to San Diego River (which flows from east to west across the City), some sections of the City drain first to other receiving waterbodies within the City that then ultimately discharge into San Diego River. Forester Creek enters the City of Santee from the southeast, eventually merging with San Diego River west of Carlton Hills Boulevard. Sycamore Creek enters the City from the north, flows south, eventually merging with the San Diego River west of Santee Recreation Lakes (Santee Lakes).

Both Forester Creek and the lower San Diego River have bacteria impairments on the 2010 Clean Water Act (CWA) 303(d) list, and a regional bacteria Total Maximum Daily Load (TMDL) adopted in 2010/2011 specifically names both of these water bodies as subject to its requirements. The City and other jurisdictions are preparing a TMDL implementation plan during 2011/2012. In addition to bacteria, the lower San Diego River is listed as being impaired for low dissolved oxygen, phosphorus, nitrogen, manganese and toxicity, and the portion of Forester Creek within the City of Santee is impaired for selenium, phosphorus, and total dissolved solids (TDS). Forester Creek upstream of the City is also listed for a pH impairment. Sycamore Creek is listed as having a RARE beneficial use and does not have any 303(d) listed impairments.

Figure 1-1
City of Santee Land Use and Drainage Basins



Notes
The MS4 layer presented on this map was converted from a CADdrawing and has not been field verified. Neither the City nor D-Max Engineering make any guarantees regarding its accuracy.

The northern portion of the City, not shown on the map, is undeveloped and does not include any MS4 facilities or monitoring locations.

Base Data Sources: City of Santee, D-Max Engineering, SanGIS, SANDAG

1.2 PURPOSE AND OBJECTIVES

The City's JURMP presents a strategy to reduce the discharge of pollutants from the MS4 to the maximum extent practicable (MEP). The JURMP includes a variety of programs intended to minimize or eliminate the effects of urban runoff from the City on receiving water bodies. This JURMP Annual Report has been prepared to document the City's implementation of its JURMP during the 2010/2011 reporting period.

1.3 REPORT ORGANIZATION

This report follows the standard reporting outline jointly developed by the Copermittees and submitted to the RWQCB in July 2007. The following sections are included in the JURMP Annual Report.

Section 1 **Introduction**
Section 2 **Development Planning Component**
Section 3 **Construction Component**
Section 4 **Municipal Component**
Section 5 **Industrial and Commercial Component**
Section 6 **Residential Component**
Section 7 **Illicit Discharge Detection and Elimination Component**
Section 8 **Education Component**
Section 9 **Public Participation Component**
Section 10 **Fiscal Analysis Component**
Section 11 **Effectiveness Assessment Component**
Section 12 **Special Investigations**
Section 13 **Non-Emergency Fire Fighting**
Section 14 **JURMP Revisions**
Section 15 **Conclusions and Recommendations**
Section 16 **References**

Each section includes all the sections required by the standard JURMP Annual Report format. In some cases, additional subsections within the standardized sections have been added to provide a clearer explanation of the City's activities during the reporting period. For example, in this introduction section, the standard reporting format only includes subsections 1.1 and 1.2. Subsection 1.1, Background, has been divided into subsections 1.1.1, Regulatory Background, and 1.1.2, City Setting, for the sake of clarity.

2.0 DEVELOPMENT PLANNING COMPONENT

2.1 INTRODUCTION

The development planning component of the City's JURMP aims to improve overall storm water quality by reducing the discharge of pollutants from development projects to the MEP and managing potential increases in runoff from development projects that have the potential to negatively affect downstream water bodies. During the Reporting Period, the City accomplished these goals through implementation of its JURMP.

The City implemented new Municipal Permit requirements for development planning during this Reporting Period. The City's SUSMP (Standard Urban Stormwater Mitigation Plan) requirements were updated to incorporate the July 2010 Model SUSMP and regional Hydromodification Management Plan (HMP).

City staff participated in the development and review of this Model SUSMP and regional Hydromodification Management Plan.

2.1.1 SUMMARY OF NOTABLE ACCOMPLISHMENTS

Some notable achievements for the development planning component during the Reporting Period are presented in the following bulleted list. The following subsections of this section provide more details on how the City complied with the Municipal Permit during the Reporting Period.

- Updated the City's Stormwater Ordinance to reflect state-of-the-art language, clarify requirements and be more cohesive.
- Updated the City's Standard Urban Storm Water Mitigation Plan (SUSMP), incorporating the regional Hydromodification Management Plan.
- Ensured that the updated SUSMP/HMP were made available on the City's website.
- Conducted maintenance inspections of treatment control BMPs at 14 completed development projects throughout the City.
- Trained City staff in the updated SUSMP/HMP requirements.

2.2 LAND USE PLANNING

2.2.1 BACKGROUND

The City's General Plan was last updated in 2003 and contains water quality and watershed protection principles in the plan's Conservation Element. The comprehensive principles established in 2003 provide an ample framework for implementing the

requirements of the Municipal Permit, and no changes to these policies were necessary during the reporting period.

2.2.2 SOURCE CHARACTERIZATION

The City's General Plan contains established restrictions on the types of new development projects based on their planned land uses to ensure public safety and limit negative impacts to the surrounding environment. No changes to development restrictions in the City's General Plan for storm water purposes were necessary during the reporting period.

2.2.3 BEST MANAGEMENT PRACTICE REQUIREMENTS

Please refer to the City's updated JURMP document for a list of the water protection policies included in the City's General Plan. These policies remained the same throughout the Reporting Period.

2.2.4 PROGRAM IMPLEMENTATION

The City implemented its water protection related land-use policies during the reporting period mainly through the City's Municipal Code. During the Reporting Period the City's Storm Water Ordinance was updated to reflect state-of-the-art language and current developments in stormwater, and to clarify some requirements. For example, the language was updated to include reference to TMDL requirements. Although this update did not expand the requirements of the ordinance, it improved the ease of use of the original document that had been subjected to two revisions. A copy of the ordinance can be obtained at www.ci.santee.ca.us.

Details on how the City implemented its established water protection policies through its environmental review process and its development project approval and verification processes during the reporting period are provided in Sections 2.3 and 2.4 of this JURMP Annual Report document.

2.3 ENVIRONMENTAL REVIEW PROCESS

Stormwater requirements for a project are reviewed during the pre-application stage. As described in the JURMP, the project proponent is required to complete the updated Project Applicability, LID and Source Control Checklist so that these requirements can be evaluated. Preliminary designs are required to incorporate the placement and description of BMPs to be used, so that an assessment can be made to determine whether it is feasible for the project to comply with applicable stormwater requirements. The project approval document incorporates the conditions needed to comply with these applicable stormwater requirements (for example, filing an NOI to comply with the State Construction Permit, development of a SWPPP, development of a SWMP, use of treatment control BMPs which have a high or medium removal efficiency for applicable pollutants, execution of a BMP maintenance agreement, etc.). No modifications to the

City's environmental review process have been made since the submittal of the updated JURMP.

2.4 Development Project Approval and Verification Process

2.4.1 Background

During the Reporting Period, the City implemented the watershed protection principles in the City's General Plan through various aspects of the City's development project approval and verification process, as detailed below. BMP selection and verification followed the process described in the City's JURMP.

2.4.2 Source Characterization

The different priority pollutants, sources, and activities associated with development projects within the City are addressed through the implementation of the City's SUSMP requirements.

2.4.3 Best Management Practice Requirements

The City's BMP requirements mirror those in the regionally-developed Model SUSMP. The City is encouraging the incorporation of BMPs within landscape features (such as bioretention facilities) over proprietary products that are typically installed in catch basins or at the end of a pipe. Bioretention facilities are more likely to remove priority pollutants in the City at the required efficiency ensuring Municipal Permit compliance and need less intensive maintenance by the property owner. These features can also provide an aesthetic benefit to the property. The one Priority Project reviewed and approved during the Reporting Period proposed bioretention.

2.4.4 Program Implementation

During the Reporting Period, the City required implementation of its BMPs for development projects through education, a comprehensive development project approval process, and the treatment control BMP inspection and maintenance verification program.

2.4.4.1 Outreach and Staff Training

The City regularly trains staff involved in the planning and review of development projects within the City and works closely with the development community to communicate its development requirements throughout the entire approval process. During the Reporting Period, staff and industry training was focused on changes being made to the City's SUSMP and HMP requirements. Details on trainings conducted and educational materials developed and distributed related to the new development during the reporting period can be found in Section 8 of this JURMP Annual Report document.

Distribution of maintenance verification letters to parties responsible for maintenance of treatment control BMPs at completed projects continues to increase the level of knowledge of regulated parties.

2.4.4.2 URBAN RUNOFF APPROVAL PROCESS FOR DEVELOPMENT PROJECTS

All development projects that met the SUSMP definition for high priority projects were required to complete the City's urban runoff approval process as detailed in the City's JURMP. Forms and reports completed by project applicants are kept with the project's file at the City for future reference. The City thoroughly examines all development applications to determine what documents related to storm water compliance are required. Development projects determined to be Priority Projects after completing the Project Applicability, LID and Source Control Checklist are required to prepare a Storm Water Management Plan (SWMP). The City uploaded a copy of the most recent SUSMP and HMP to its website so that project proponents can easily access them. The City will continue to work closely with development proponents to ensure compliance with the City's SUSMP requirements.

Table 2-1 lists the Priority Project subject to the City's SUSMP requirements during the Reporting Period, the number of document reviews for it, and the date it was approved. This project proposed a BMP with a high or medium removal efficiency for the pollutants of concern, so no feasibility analysis was required, and no SUSMP waiver was issued.

Table 2-1
Development Project Subject to SUSMP Requirements During 2010/2011

#	Project Name	Location	Number of Reviews	Approval date
1	Vidovich Subdivision	8645 Fanita Drive	3	8/6/10*

*As of this writing, grading has not commenced on Vidovich Subdivision. Based on City review of grandfathering requirements, it is possible that this project will be now subject to HMP requirements. Therefore additional reviews are required on this project during 2011/2012.

An example of a project conditioned to meet SUSMP requirements is Vidovich Subdivision, which involved splitting a single parcel into four parcels.

- The original SWMP incorporated a bioretention facility that addressed the majority of the BMP requirements for the development. However there was some uncertainty over how the bioretention facility and Site Design LID BMPs would be maintained and who would be responsible for maintenance. This is being clarified through discussions with the developer.
- The developer was required to clarify the inlet and outlet points and their elevations to confirm that the bioretention facility had been appropriately designed.

- The developer originally proposed standard vegetated swales. Based on City review, this was changed to bioretention swales or areas, which should provide more effective treatment of runoff.

The City will continue to monitor the review process and provide ways to educate project proponents as needed. Not only have example inspection and maintenance documents been provided to project proponents, but the SWMP guidance document and example SWMP have been updated for ease of use. The example SWMP includes the HSAs and beneficial uses applicable for Santee.

During the reporting period, no projects received a SUSMP waiver for implementation of treatment control BMPs. The City has never issued a SUSMP waiver in the past, and at this time the City has no plans to develop a SUSMP waiver mitigation program.

Hydromodification Management Plan

During the reporting period the Copermittee Land Development Workgroup met regularly to discuss key HMP development issues and provide updates on the status of consultant work products. The City regularly participated in the Land Development Workgroup during the Reporting Period.

The City incorporated the regional HMP into its SUSMP prior to the required deadline. Only one Priority Project was reviewed and approved during the Reporting Period. That project, Vidovich Subdivision, was approved before the new requirements were adopted and is less than 50 acres, so neither the Interim Hydromodification Criteria nor the final HMP requirements applied to the project. As described in the footnote to Table 2-1 earlier in this section though, because the project has still not started grading, Vidovich Subdivision will be required to update its design to incorporate HMP requirements in 2011/2012.

BMP Installation Verification

Five Priority Projects under construction during the 2010/2011 fiscal year were completed prior to the end of the reporting period. Verification that the BMPs proposed in the projects' SWMPs were installed in accordance with approved documents was performed during the final project inspection prior to occupancy of the site. Project engineers conducting these checks are aware that checks for permanent storm water BMPs should be performed during the final inspection. The information from the inspection is then relayed to the City's Stormwater Program Manager, who updates the treatment control BMP inventory accordingly. Responsible parties are promptly notified of the requirements to maintain the BMPs after occupancy, and newly installed BMPs are typically inspected during the fist summer after occupancy, whether or not they are prioritized as high priority.

The Toyota project was the subject of a RWQCB Audit during the 2008/2009 fiscal year. Based on the audit, the developer was directed to implement improvements to the contours of the biofilter strips on the project. These improvements were made. However during a follow-up inspection during a rain event further improvements were identified. Although the water was observed to be able to flow through the bioretention

strip, water was observed to accumulate at the curb cuts to the strips. The developer was directed to install a cobble surface at the curb cuts to the Site Design LID BMPs (landscaped areas) to facilitate water ingress. This correction was implemented.

All completed Priority Projects have been assigned TTWQ priorities using the prioritization flow chart presented in the City's JURMP, and the projects have been added to the City's treatment control BMP inventory included as Attachment A.1 of this document. Projects completed during the Reporting Period have been noted with an asterisk.

2.4.4.3 TREATMENT CONTROL BMP INSPECTION AND MAINTENANCE VERIFICATION PROGRAM

Table 2-2 below provides a summary of the sites inspected and inspection frequency.

Table 2-2
Assessment of Compliance with Required Inspection Frequencies

Class	Number of Sites	Inspections	Percent Inspected*	Permit Requirement	Requirement Met
All Inventoried Sites	35	27	77	20%	**Yes**
Sites with Drainage Inserts	21	19	90	50%	**Yes**
High TTWQ Sites	10	10	100	100%	**Yes**

*Inspections of post-construction BMPs are typically completed by the end of June each year. This year, due to rescheduling of program tasks to accommodate staff absences, inspections were completed approximately one month later (i.e., in FY2011-12). The table above shows the number of inspections completed during FY2010-11 and early FY2011-12, as they are largely part of the same effort (ensuring maintenance is completed prior to Fall 2011. Fourteen sites were inspected during FY2010-11, which comprises 40 percent of the inventory.

During inspections City staff used information included in the City's treatment control BMP database to determine what BMPs should be present at the individual project sites. Each BMP was visually inspected, and the inspector documented the findings for each site visited.

Treatment control inspections were conducted during June, July and August 2011. Based on these inspections, notices regarding maintenance requirements were sent and follow-up inspections conducted. Table 2-3 provides more detailed information about the inspections. The table includes the development projects inspected, the BMPs installed at each site, the BMPs inspected, brief descriptions of inspection findings, and a discussion of how any issues noted were resolved. Public Priority Projects are marked as Capital Improvement Projects (CIP) in the table.

Table 2-3
Summary of Treatment Control BMP Inspection Results

#	Project Name	BMP(s)	Inspection Date(s)	Inspection and Follow-Up Notes
1	Altair[1]	Hydrodynamic separator, drainage inserts (7)	7/18/11, 7/19/11	The BMPs were in acceptable condition.
2	AT&T Storage Yard	Grass swale	10/20/10	Swale in acceptable condition.
3	Autowerks	Grassy swale, drainage inserts (2)	5/26/10, 10/07/10	BMP required maintenance during routine inspection. Reinspected 10/07/10, BMPs in acceptable condition.
4	Autumnwood II	Hydrodynamic Separators (2)	7/18/11	BMPs in acceptable condition.
5	Boys and Girls Club	Vegetated Swale, drainage insert (2)	6/22/11	Drainage inserts needed maintenance, other BMPs in acceptable condition. The responsible party was notified of these findings
6	Cameron II	Grassy Swale, drainage insert (1)	7/19/11	Drainage insert and swale need maintenance. Property owner notified of findings.
7	Ciraolo Family	Grassy Swale, drainage insert (1)	6/29/11	Drainage inserts need maintenance. Property owner notified of findings.
8	Cuyamaca Town Commons	Drainage inserts (4)	6/22/11	BMPs in acceptable condition.
9	Farrington Court[1]	Drainage insert (1)	6/22/11	Filter needs maintenance. The responsible party was notified of these findings.
10	Fred's Fences	Grassy swale, drainage insert (2)	7/19/11	Vegetated swale acceptable, drain inserts need maintenance. Property owner notified of findings.
11	Lunar Lane	Cobble swale	4/18/11, 5/16/11, 5/18/11	This facility was constructed during the Reporting Period and was inspected during April and May 2011 to verify that the BMPs were constructed to plan and appeared to be functioning.
12	Marketplace[1]	Infiltration trench, grass swale, water quality inlet (4), and drainage insert (2).	8/2/11	All BMPs required maintenance. The property owner was notified of findings.

Table 2-3
Summary of Treatment Control BMP Inspection Results

#	Project Name	BMP(s)	Inspection Date(s)	Inspection and Follow-Up Notes
13	Mission View Estates (Chapparel)	Vegetated buffer strips (2) and media filter	7/28/11	This facility was constructed during the Reporting Period. BMPs were deemed to be in acceptable condition, with the exception of one vegetated buffer strip which required maintenance. The HOA was notified of these findings.
14	Morningside	Hydrodynamic Separator (1)	7/18/11	BMP was in acceptable condition..
15	Padre Dam Service Center[1, 2]	Drainage Inserts (6)	8/2/11	BMPs were in acceptable condition.
16	Prospect Glen[1, 2]	Drainage Inserts (3)	6/30/11	BMPs needed maintenance. Property owner was notified of these findings..
17	Rayo Wholesale[1], Rayo II	Grassy Swale, Grassy detention basin with sand cone filter (1)	4/17/11	The facility was inspected on 4/17/11 to verify that the BMPs at Rayo II were functioning after reinstallation.
18	Santee Affordable (Cedar Creek Appartments)	Bioretention facility	7/25/11	This facility was completed during the Reporting Period. Facility inspected 7/25/11 and requires maintenance. Property owner was notified of these findings.
19	Sky Business Park	Grassy swale, media filter and drain insert (1)	6/30/11	This project was completed during the 2008/2009 reporting period. Inspected on 6/30/11, BMPs were deemed to be in acceptable condition, with the exception of the drain insert, which required maintenance. The facility should be checked during rain to ensure that it properly drains. The property owner was informed of the findings.

Table 2-3
Summary of Treatment Control BMP Inspection Results

#	Project Name	BMP(s)	Inspection Date(s)	Inspection and Follow-Up Notes
20	Sonic Car Wash	Grassy swale, drainage inserts (2)	10/20/10, 7/29/11	The facility was inspected on 10/20/10 as annual certification was not received. The drainage inserts required maintenance. Certification of maintenance was received on 10/27/10. The facility was inspected on 7/29/11. One filter insert required maintenance and swale needed maintenance. The property owner was informed of the findings.
21	Sonic Restaurant	Grass swale	6/23/11	The BMPs were in acceptable condition.
22	Town Center Community Park	Media Filter, bioswales (5), buffer strips (2), inlet filters (5)	8/2/11	Swales, insert filters, and media filter needed maintenance. Party responsible for maintenance notified of findings; maintenance has been scheduled to be completed before start of rainy season.
23	Toyota	Extended detention basin, bioretention facilities and drainage inserts (7)	7/25/11	The opening to the detention facility had been secured with a cap (per the direction from a previous inspection) which the inspector could not remove. The inspector notified the responsible party that access to the facility was required, and an inspection date is being coordinated.
24	Treviso[1]	Hydrodynamic Separator (1), drainage inserts (2)	7/18/11	The drainage inserts required maintenance. The property manager was informed of the findings.
25	Santee Trolley Square[1, 2]	Drainage inserts (12)	9/20/10, 7/25/11	Some of the drainage inserts required maintenance. The property manager was informed of the findings.
26	Vista Este[1, 2]	Drainage inserts (2)	6/22/11	BMPs required maintenance. The property manager was informed of the findings.
27	Walgreens 1	Media filter	9/28/10, 7/18/11	The facility was maintained and certification of maintenance was received on 4/19/11. BMPs were in acceptable condition.

Notes
1. Site also inspected in the summer of 2010, prior to the 2010/2011 wet season. Please refer to the City's 2009/2010 JURMP Annual Report for details of the inspection findings.
2. Project approved prior to development of the City's SUSMP requirements.

Three of the development sites inspected during the Reporting Period were approved prior to development of the City's SUSMP which requires installation of treatment control BMPs. These sites are marked with an asterisk in the table above, and are included in a separate table with the City's Treatment Control BMP Inventory in Appendix A.1. While the City is aware that treatment control BMPs exist on these project sites, no maintenance agreements or SWMPs were required for these sites when they were approved. Consequently, the City does not have a written agreement to require maintenance and annual maintenance certification for the treatment control BMPs at these locations. However the City still provided inspection reports to owners of the treatment control BMPs at these sites and followed up to see that maintenance was performed. The City will continue to periodically monitor the status of treatment control BMPs at these locations.

After inspection, follow-up letters were sent to the responsible party for all projects needing maintenance prior to 10/1/10, and the City conducted follow-up inspections and enforcement as necessary. City follow-up actions and the resolutions for these cases are described above in Table 2-3. During the Reporting Period, none of the inspected sites were observed to present a significant threat to human health or the environment during inspections; therefore none were reported to the RWQCB.

In addition to City-conducted maintenance inspections, the Municipal Permit requires annual verification of operation and maintenance of treatment control BMPs installed within the City's jurisdiction. Annual verification must be provided by the party responsible for treatment control BMP maintenance and must be required prior to the start of the rainy season (October 1st). The City notified operators of the facilities within the inventory of the need to provide annual BMP maintenance verifications for the 2010/2011 fiscal year prior to October 1, 2010. Annual verification of maintenance was received for all applicable properties during the 2010/2011 fiscal year.

Walgreens 1 and 2 were completed during 2009. However the property is leased from a company called Interra Development. It was challenging to identify the person who is responsible for BMP maintenance. The City sent letters to various individuals at three addresses and left voicemails, with no response. The store managers were unable to provide the information, as they do not have contact with the leasing company. The City contacted other jurisdictions who have recently-developed Walgreens facilities to find a contact name and telephone number. Contact was made with a representative of the maintenance company during a site visit at Walgreens 2. The BMPs at both Walgreens 1 and 2 were maintained, and certification of maintenance was received on April 19, 2011. Annual certifications for both of the Walgreens facilities should be received in a more timely manner in the future.

The following actions have been taken to ensure maintenance of post-construction treatment control BMPs:

- A BMP Maintenance Agreement that is signed by the developer and recorded with the property.

- Procedures to notify responsible parties of their obligations as a project is completed have been developed to allow property owners to budget for maintenance.
- Standard forms and letters have been developed to routinely notify and remind property owners of their responsibility to maintain and submit certifications.
- Information on treatment control BMP maintenance and verification letters that can be downloaded.

Protecting water quality is the overall objective of ensuring the maintenance of treatment control BMPs. Through the BMP Maintenance Agreement that the City uses on Priority Projects, the City has the right to maintain treatment control BMPs on private property and to recoup the costs from the responsible party. The City will use this tool when appropriate and feasible.

Enforcement Summary

The City took action to resolve issues observed during both field inspections and the maintenance verification program, as described above. A total of 13 follow-up letters instructing responsible parties to correct deficiencies noted during inspections were sent during 2010/2011. No notices of violation were issued during the Reporting Period, as compliance was largely achieved through experiences from earlier years, notices to comply and telephone calls. The City's approach was effective at bringing about compliance with its requirements, as shown in the more detailed discussions included earlier in this section.

2.5 DEVELOPMENT PLANNING COMPONENT EFFECTIVENESS ASSESSMENT

Please refer to Section 11 of this JURMP Annual Report for the assessment of program effectiveness.

2.6 PROGRAM REVIEW AND MODIFICATION

The City's JURMP was recently updated in March 2008. No changes to the City's development planning component have been made since that time.

3.0 CONSTRUCTION

3.1 INTRODUCTION

The City's construction program has been designed to prevent illicit discharges from construction sites. Projects subject to the General Construction Permit are not issued permits until they have demonstrated that they have filed a notice of intent (NOI) and developed a SWPPP. The City has developed a database and procedures to ensure that construction sites are prioritized and inspected at the frequencies required by the Municipal Permit. In addition, the City is an active participant in the Land Development Workgroup, which addresses developments in project design and construction.

All staff associated with construction projects are aware of the stormwater requirements and take appropriate follow-up action when potential violations are observed. This allows the City to leverage the staff currently working on construction projects to ensure that compliance is consistently achieved. Stormwater program staff ensure that the requirements of the municipal permit are met and assist in ensuring that compliance is achieved at each site.

3.1.1 SUMMARY OF NOTABLE ACCOMPLISHMENTS

Some notable achievements for the construction component during the Reporting Period are presented in the following bulleted list. The following subsections of this section provide more details on how the City complied with the Municipal Permit during the reporting period.

- Prepared individual rainy season notification letters which identified what individual BMP improvements are needed at each construction site prior to the rainy season, in addition to summarizing the requirements for all construction sites. The information in these letters was used as a cross-reference during pre- and early rainy season inspections.
- Developers were required to submit a form describing how they intended to manage site runoff and BMPs during the upcoming rainy season. The rainy season form also included a section for the developer to provide contact information to be used during rain events.
- Conducted plan checks of erosion control plans and SWPPPs to ensure construction projects planned to comply with the City's minimum BMP requirements.
- Conducted 142 construction inspections at 13 sites per the frequencies in the JURMP. During the wet season, high TTWQ sites were inspected bi-weekly, medium TTWQ sites monthly, and at least once for low TTWQ sites with grading activity.
- Conducted 46 follow-up inspections, issued 10 written warnings, 10 NOVs, and

no administrative citation to construction sites in response to violations of the City's minimum BMP requirements.

3.2 SOURCE CHARACTERIZATION

An inventory of active construction projects during the Reporting Period is presented in Appendix A of this JURMP Annual Report document; all sites are located within the San Diego River Watershed. The City's inventory was maintained throughout the reporting period. New construction projects were added to the inventory at the start of construction, and projects were removed from the inventory after construction was completed. Since construction projects were continually being added and removed throughout the fiscal year, inventory updates were usually performed more frequently than the minimum once per month.

3.3 UPDATES TO ORDINANCES AND APPROVAL PROCESSES

The City updated its Grading and Storm Water Management and Discharge Control ordinances during the Reporting Period. However the changes were solely made to clarify the Ordinance and did not result in any change in the requirements for construction sites. No changes have been made in City's approval process for construction site during the Reporting Period.

3.4 BEST MANAGEMENT PRACTICE REQUIREMENTS

The City's construction and grading project requirements are described in the City's BMP Manual, which was included as Appendix C of the City's updated JURMP document. These BMP requirements were implemented starting in March 2008.

Note that in response to a letter from the RWQCB to the City dated February 27, 2009 the maximum disturbed area for hillside developments (as defined on the City of Santee Landuse Map) is now limited to 17 acres. Hillside sites as defined by the City's Land Use Map, which originates from the General Plan. Sites that are in compliance with applicable storm water regulations and have adequate control practices implemented to prevent storm water pollution may expand their maximum grading area on the approval of the City Engineer to allow a balanced cut-and-fill approach. The 50-acre maximum grading area will still apply to non-hillside developments.

3.5 PROGRAM IMPLEMENTATION

The City implemented the construction component of its JURMP throughout the reporting period through:

- Education and staff training; and
- A comprehensive construction and grading approval process; and
- A construction inspection program.

This program is described below.

3.5.1 EDUCATION AND STAFF TRAINING

Education and staff training implemented during the 2010/2011 fiscal year focused on the new State General Construction Permit and on communicating the City's construction requirements to both City staff and the construction community. Please see Section 8 of this JURMP Annual Report document for details on training performed and educational materials distributed related to construction and grading activities.

3.5.2 CONSTRUCTION AND GRADING APPROVAL PROCESS

During the reporting period, City personnel verified that all construction projects planned to implement BMPs to meet the City's minimum requirements prior to issuing any building or grading permits. The City's grading approval process is described thoroughly in Section 5 of the City's JURMP.

No projects in Santee that began construction after October 1, 2007 were larger than 50 acres. Note that while none of the City's construction sites were subject to the 50 acre grading limitation, all construction sites were still required to limit exposed cleared or graded areas to the amount of area that could be protected prior to a rain event, as prescribed in the City's seasonal BMP requirements. Also note that a smaller maximum disturbed area limit of 17 acres will be applied to hillside projects, however, no projects to date have met this criterion.

Criteria for determining when advanced treatment is required are detailed in the City's BMP Manual (Appendix C of the JURMP). During the Reporting Period, the City's minimum BMP requirements were generally adequate at controlling sediment discharges at all of the active construction sites within the City's jurisdiction. During this Reporting Period advanced treatment methods were not required at any construction sites.

3.5.3 INSPECTION OF CONSTRUCTION SITES

Appendix A.2 of this JURMP Annual Report contains a list of construction projects that were active during the Reporting Period, along with their assigned TTWQ priorities, the number of weeks the site was active within the rainy season, the numbers of inspections conducted during the wet and dry seasons, the number of follow-up and complaint inspections, and the total number of inspections for each site. In total, 142 construction inspections were performed for 13 construction sites.

Construction inspections conducted during the reporting period were performed as described in the City's updated JURMP. Key components of the inspections include checks for coverage under the General Construction Permit during the initial inspection and assessments of compliance with the City's minimum BMPs and discharge requirements during all inspections. Responsible parties at the sites are educated as needed during inspections. Copies of the inspection forms are kept on file at the City.

The City conducted inspections at high TTWQ construction sites bi-weekly during the wet season and monthly for medium TTWQ sites. While the Municipal Permit only requires construction inspections at low TTWQ on an "as needed" basis year round, the City conducted at least one inspection at active low TTWQ construction projects with grading activities during the wet season. The number of weeks each site was open during the wet season and the number of inspections completed at each site are presented in Appendix A.2.

When any violations were noted during routine or follow-up inspections, these violations were documented on the project's inspection form, and the sites were given a list of corrective actions necessary to address the observed violation. When necessary, a written notice was issued for the violation, and the City inspector followed up with the site until compliance was achieved. In most cases, violations were corrected while the inspector was still at the site, and follow-up visits were not necessary. Details on the enforcement actions taken for construction sites during the implementation period are described below.

3.5.4 ENFORCEMENT MEASURES

During inspections, violations of the City's BMP requirements were noted. In such instances, City inspectors took enforcement actions as necessary to bring about compliance. Table 3-1 presents the number of enforcement actions taken during the reporting period in response to violations of the City's minimum construction BMP requirements. Enforcement actions are administered in an escalating manner as described in the City's updated JURMP.

Table 3-1
Total Number of Enforcement Actions Taken

Written Warnings	Follow-Up Inspections	Administrative Citations	NOVs	Stop Work Orders
10	42	0	10	0

During the Reporting Period, no Stop Work Orders were issued nor were there other high levels of enforcement used. This is due to a combination of an effective construction oversight program and due to a low number of active construction projects. Morning View (Ladera) can be used as an example of a construction project that was brought into compliance. This site had been inactive for over a year and was purchased by a new owner. The City met with the developer, communicated the BMP requirements of the City, and shared previous experience with managing the construction site during the rainy season. However during the City's pre-rainy season checks, City staff were alerted to the lack of preparation for the rainy season (for example, slopes were not stabilized by mid-September with no scheduled date for stabilization to be completed).

City staff met with the responsible party to discuss the need to complete pre-rainy season preparations prior to October 1st and to agree to a schedule for completion. The developer began implementing the required BMPs within the agreed schedule. However there was rain early in the rainy season, and erosion occurred on the site. The City issued a Notice of Violation for inadequate implementation of BMPs prior to the rainy season. The developer reduced the schedule for BMP implementation, so that the site was ready for the rainy season earlier than projected.

None of the violations observed at construction sites during the Reporting Period were found to endanger human health or the environment. The City was able to address these violations through the City's established enforcement process, and it was not necessary to report any of these sites to the RWQCB.

3.6 CONSTRUCTION ACTIVITIES EFFECTIVENESS ASSESSMENT

Please refer to Section 11 of this JURMP Annual Report for the assessment of program effectiveness.

3.7 PROGRAM REVIEW AND MODIFICATION

The City's JURMP was updated in March 2008. No changes to the City's construction component have been made since that time.

4.0 MUNICIPAL COMPONENT

4.1 INTRODUCTION

Throughout the Reporting Period, the City of Santee continued to manage municipal areas and activities to reduce municipal discharges of pollutants to the MS4 to the MEP. As discussed in detail in the City's JURMP, the City owns and operates a variety of municipal facilities and activities. Public parks and recreation facilities, administrative buildings, fire stations, and public works facilities make up the bulk of the municipal areas in the City. Municipal activities conducted by the City include street sweeping, street and sidewalk repair, and MS4 maintenance. Note that the City is not responsible for water supply or wastewater conveyance and treatment. These activities are the responsibility of Padre Dam Municipal Water District (PDMWD).

4.1.1 SUMMARY OF NOTABLE ACCOMPLISHMENTS

Some notable achievements for the municipal component during the 2010/2011 reporting period are presented in the following bulleted list. The following subsections of this section provide more details on how the City complied with both the previous permit and the new Municipal Permit during the reporting period.

- The City inspected all high TTWQ fixed municipal facilities.
- The City provided formal training sessions for 26 municipal staff members.
- The City removed a total of 671 tons of debris from street sweeping activities.
- The City removed a total of 445 cubic yards of debris from standard MS4 cleaning activities.
- City personnel continued to restock the pet waste bag dispensers in City parks, using 360,000 pet waste bags during 2010/2011.
- The City prepared a grant proposal to install infiltration features in concrete channels to address water quality, among other issues. This has been approved by the Integrated Regional Water Management Plan committee for the San Diego Region and included in the region's application for Prop 84 funding.
- Provided over 2,000 gravel bags to residents over the rainy season to prevent soil erosion.
- The City replaced 412 linear feet of storm drain pipe during 2010/2011, and 60 feet of storm drain were replaced with a box culvert structure.

4.2 FIXED FACILITIES

4.2.1 BACKGROUND

The City owns and operates a variety of municipal fixed facilities. As mentioned in the City's JURMP, municipal fixed facilities have been grouped under one category, fixed facilities, because these facilities receive routine inspections as part of the City's municipal program, making program implementation generally similar. For the purposes of organization, municipal fixed facilities are divided into the following categories: Parks and Recreational Facilities, Public Works Facilities, Fire Stations, and Other Fixed Facilities, which includes fixed facilities that could not be placed into another category.

4.2.2 SOURCE CHARACTERIZATION

All fixed facilities are included on the City's municipal inventory, which was revised during the JURMP update in early 2008. The JURMP includes detailed descriptions of each of the categories mentioned in the previous subsection and a discussion of activities beyond what is suggested by the facility's category or facility name. With the exception of the addition of the recently-completed Mast Park West, there were no changes to the City's municipal inventory nor were there any updates to the discussions of any fixed facilities on the City's inventory. The City's inventory is included as Appendix A.3.

4.2.3 BEST MANAGEMENT PRACTICE REQUIREMENTS

The City continues to implement and assess the effectiveness of BMPs at all fixed municipal facilities. As mentioned in the City's JURMP, the City uses the CASQA Municipal BMP Handbook to establish appropriate BMPs for fixed municipal facilities. Table 6-2 in the City's JURMP describes the CASQA fact sheets that are used for specific facility types.

The City continues to implement strict minimum BMP requirements for the use and management of pesticides, herbicides, and fertilizers, as described in the City's JURMP. BMP implementation for parks and recreational facilities, as described in the City's JURMP, has not changed during the Reporting Period.

City public works employees, fire station employees, and employees at other fixed facilities in the City continue to implement BMPs appropriate to the facility type, as described in the City's JURMP. City fire response personnel continue to be trained in implementing BMPs for non-emergency fire fighting activities as described in Section 3 of the City's JURMP. There have been no changes in BMP requirements for public works facilities, fire stations, and other fixed facilities.

4.2.4 PROGRAM IMPLEMENTATION

As mentioned above, the City's BMP requirements have not changed during the Reporting Period. Some notable examples of implementation of those BMPs are provided below.

Parks and Recreational Facilities
During 2010/2011, City parks personnel continued to maintain pet waste bag dispensers throughout six City parks, and at other popular dogwalking locations. Additional pet waste dispensers have been installed at Woodglen Vista Park (2), Mast Park (2), Town Center Community Park (3) and West Hills Park (1). A total of 360,000 pet waste bags were used during 2010/2011. Also note that routine treatment control BMP maintenance was completed for Town Center Community Park, the only completed municipal SUSMP project. See Section 2 of this JURMP Annual Report for additional detail on treatment control BMP maintenance tracking.

Public Works Facilities, Fire Stations, Other Fixed Facilities
As previously mentioned, City personnel continued to implement appropriate BMPs for municipal fixed facilities as described in the City's JURMP. BMPs are also implemented during regular maintenance (i.e. landscaping, building maintenance, etc.) as necessary. Parking facilities associated with fixed municipal facilities are maintained as part of the regular sweeping activities and were swept every month during the Reporting Period.

Municipal Inspections
All 12 high TTWQ fixed municipal facilities received an annual routine inspection during the Reporting Period. The City's inspection approach, as described in the JURMP, was implemented for all municipal inspections conducted during the Reporting Period.

A summary of deficiencies noted during inspections and corrective actions taken is provided below:

- During inspection, one deficiency was noted at the Public Works Operations Center, due to the valve for the truck washing area not being set correctly. This was promptly corrected and the catch basin connected to the truck washing area was cleaned. An inquiry was received during late 2010 regarding BMP implementation at the facility. Specifically there were concerns about covering of materials stored in the pervious areas of the site, surrounded by gravel. City staff reinspected the facility to assess BMP implementation and returned two additional times to ensure that BMP implementation was adequate. Stockpiles were covered and contained, litter was removed and discharge points at the site were maintained.
- During inspection a concern was raised at Fire Station 5 where evidence was observed that the truck was not properly placed in the truck washing area. This was corrected through repainting the area delineating where the truck should be parked and by reminding staff of the requirement. In addition, City staff

observed a training session at Fire Station 5 which involved placing used fire hoses on Carlton Oaks and Fanita Parkway (around the facility). City staff observed that water had run out of the pipes and contacted the Fire Chief responsible for the station. Fire Station 5 staff were reminded of the requirement to avoid discharging water, even potable water as in this instance, to the storm drain system.

- A complaint was also received regarding a temporary storage area at the east end of Mast Boulevard. This area was used for staging materials used for or arising from road maintenance work. The stockpiles were covered and City staff inspected to verify that this had been done.

4.3 ROADS, STREETS, HIGHWAYS, AND PARKING FACILITIES

4.3.1 BACKGROUND

Roads, streets, highways, and parking facilities are often one of the first components of the City's MS4 to collect and convey runoff. These areas can collect a variety of pollutants due to routine vehicle use and use of the surrounding areas. The City conducts regular maintenance of roads, streets, highways, and parking facilities in the City to control pollutants such as sediment, metals, and litter and debris that may accumulate and then be discharged with runoff.

4.3.2 SOURCE CHARACTERIZATION

The City maintains roads, streets, and highways in the City; roads, streets, and highways are included as one entity on the City's municipal inventory, which is included in Appendix A.3.

4.3.3 BEST MANAGEMENT PRACTICES

The City's primary BMP for roads, streets, highways, and parking facilities is street sweeping. Other BMPs are chosen as needed based on the CASQA Municipal Handbook. The City's sweeping frequency is outlined in the JURMP, and an updated frequency was presented in the 2007/2008 Annual Report. Parking lot facilities are swept once per month. There were no changes to the BMPs implemented for roads, streets, highways, and parking facilities during the Reporting Period.

4.3.4 PROGRAM IMPLEMENTATION

During the Reporting Period, the City swept a total of 10,212 curb miles, removing approximately 671 tons of debris. Table 4-1, on the following page, describes the areas assigned high, medium, and low sweeping priorities, and the associated sweeping frequency for each. The City met the sweeping frequency requirements of the high, medium, and low priority streets as described in Table 4-1, on the following page.

As a means to address priority pollutants in the San Diego River Watershed, the City conducted additional sweepings of some City streets. The average sweeping frequency across all streets in the City exceeded even the stringent Municipal Permit requirement for high priority streets..

Table 4-1
Street Sweeping Prioritization and Frequency

Category	Description	Route Length (Curb Miles)	Approximate Curb Mileage Swept (Cumulative)	Minimum Sweeping Frequency	Sweeping Frequency July 2010 through June 2011
High	Carlton Hills Boulevard, Carlton Oaks Drive (West of Carlton Hills Boulevard), Riverview Center Drive, Cuyamaca Street, Magnolia Avenue, Mast Boulevard (Between Magnolia Avenue and Carlton Hills Boulevard), Mission Gorge Road, Prospect Avenue (East of Fanita Drive), Town Center Parkway	66	1,716	Twice per month	Twice per month
Medium	Select other streets in the City	292	8,496	Monthly	Twice per month
Fixed Facilities	Parking lots associated with municipal fixed facilities	10 lots	N/A*	Once per month	Once per month

* Mileage data is not available for the swept area of parking facilities associated with municipal facilities. Mileage accrued while sweeping these facilities is included in the total mileage. All 10 lots were swept during the Reporting Period.

4.4 MS4

4.4.1 BACKGROUND

The City's extensive storm water conveyance system is designed to collect and convey surface runoff to receiving waters to prevent flooding during a rain event. The City's MS4 consists of 27 segments of natural or concrete channels, and approximately 839 curb inlets and catch basins.

4.4.2 SOURCE CHARACTERIZATION

The City's MS4 as one complete entity is included on the City's high TTWQ municipal inventory.

4.4.3 BEST MANAGEMENT PRACTICES

The City maintains a strict MS4 maintenance and cleaning schedule. Maintenance and cleaning are conducted to keep the MS4 in good operating condition and remove any trash or debris that may otherwise be carried to receiving waters. As described in the

City's JURMP, BMPs for MS4 maintenance activities are chosen based on the CASQA Municipal Handbook and have not changed during the Reporting Period.

4.4.4 PROGRAM IMPLEMENTATION

During the Reporting Period, the City continued to implement an MS4 inspection and cleaning schedule. Maintenance staff removed 393 tons of material from open channels, 48 tons from pipes and culverts, and 4 tons from catch basins, for an overall total of 445 tons. The actual weight of the material was not recorded, but it was estimated based on the number of cubic yards and the composition of the material removed. The approximate weight of the material removed is based on City maintenance staff's estimate that each cubic yard removed weighed about one ton.

City personnel inspected all 25,620 linear feet of open channels in the City and found that 17,400 feet required some degree of cleaning. Additionally, City personnel inspected all catch basins in the City's MS4. Twenty structures were observed to be full of material at a level of at least 33 percent of capacity during the reporting period; all of these structures were cleaned out in a timely manner. City staff have not identified any specific MS4 facilities as receiving especially high or low volumes of trash and debris relative to the rest of the MS4. The City replaced 412 linear feet of storm drain pipe during 2010/2011, and 60 feet of storm drain were replaced with a box culvert structure.

During the Reporting Period, the City recognized some segments of the City's MS4 in need of replacement. In addition to the replacement of these portions of the MS4, the City has conducted a survey of the portions of the MS4 constructed with CMP. This survey was funded using drainage fees and will be used to prioritize improvements in the MS4.

Also, to prepare for televising pipelines, the City's public services staff conducted aggressive cleaning of pipelines to be televised (in excess of permit requirements) including hiring a contractor to assist with cleaning activities. The data for this activity is included in the summary of cleaning activities.

In addition to this survey, the City has also been exploring ideas to reduce pollutants in concrete channels in a sustainable manner. Although the City has been successful in achieving water quality benefits through several creek restoration projects, there are smaller, more densely-developed drainage areas where concrete channels are installed. It is not feasible to remove these channels without compromising the surrounding property. City staff have been considering how the concrete channels can be re-engineered to mimic the natural hydrologic processes in the channel before development. One idea has been to introduce infiltration areas at the base of the channel using a porous material without eliminating flood control capability.

A pilot study to explore this concept was submitted to the San Diego Integrated Regional Water Management Plan advisory committee for incorporation into the San Diego region's application for Prop 84 funding. The project was accepted and

incorporated into the application submitted during the Reporting Period. The pilot study will be implemented if funding is awarded through Prop 84.

4.5 SANITARY SEWER SYSTEM

4.5.1 BACKGROUND

As described in the City's JURMP, Padre Dam Municipal Water District (MWD) is responsible for wastewater operations within the City. The City and Padre Dam MWD collaboratively respond to sanitary sewer overflows to reduce or eliminate the amount of untreated sewage that reaches the MS4.

4.5.2 SOURCE CHARACTERIZATION

Padre Dam MWD is responsible for the sanitary sewer system within the City of Santee.

4.5.3 BEST MANAGEMENT PRACTICES

As discussed in the City's JURMP, the City coordinates with Padre Dam MWD to implement pollution prevention techniques and BMPs to reduce or eliminate the amount of pollutants generated from sanitary sewer maintenance activities. The City coordinates with Padre Dam MWD to ensure all applicable CASQA BMPs are implemented. There have been no changes to these BMPs during the Reporting Period.

4.5.4 PROGRAM IMPLEMENTATION

Padre Dam MWD continues to clean out or repair the sanitary sewer system as necessary to prevent seepage from the sanitary sewer system to the MS4. City personnel also notified Padre Dam MWD whenever it received information that a certain segment of the sanitary sewer system may need maintenance.

Padre Dam MWD has also worked to develop a Fats, Oils, and Grease (FOG) program that targets grease-producing facilities, such as eating establishments. The goal of the program is to reduce grease buildup in the sanitary sewer system, which can cause or contribute to sanitary sewer overflows (SSOs). In case of an SSO, the City works with Padre Dam MWD to respond appropriately to the overflow. In addition, the City collaborates when appropriate with FOG program staff, to ensure that facilities with grease traps or clarifiers are maintained. The City was notified of one sanitary sewer overflow during the Reporting Period. The overflow reportedly occurred on Atlas View Drive and did not result in a discharge to the storm drain system.

4.6 MOBILE MUNICIPAL ACTIVITIES

4.6.1 BACKGROUND

The City conducts a variety of different mobile municipal activities, typically involving infrastructure maintenance, landscape maintenance, and graffiti removal. The City does not conduct power washing as part of any municipal activities.

4.6.2 SOURCE CHARACTERIZATION

Graffiti removal, infrastructure maintenance, and landscaping are listed on the City's high TTWQ municipal inventory.

4.6.3 BEST MANAGEMENT PRACTICES

The City implements BMPs for mobile activities as described in the City's JURMP and as applicable to the activity. City personnel are trained to implement BMPs for the specific activity in which they are involved. For example, City personnel conducting graffiti removal are trained to store and handle any chemicals properly. A more detailed discussion of BMPs for specific mobile activities is included in the City's JURMP; these BMPs did not change during the Reporting Period.

4.6.4 PROGRAM IMPLEMENTATION

The City hires several contractors to conduct mobile activities in the City. Contractors are frequently reminded of the level of BMP implementation expected by the City. There were no complaints received by the City's storm water hotline or any other indication that City personnel and City contractors conducting any mobile activities were not properly implementing the appropriate BMPs.

4.7 SPECIAL EVENTS

4.7.1 BACKGROUND

As detailed in the City's JURMP, a variety of different special events are hosted within the City. Special events range from summer concerts and the Santreefest to the 4th of July celebration.

4.7.2 SOURCE CHARACTERIZATION

As required by the Municipal Permit, special events are included on the City's high TTWQ municipal inventory.

4.7.3 BEST MANAGEMENT PRACTICES

As detailed in the City's JURMP, the City has selected BMPs for special events hosted in the City. In general, the goal of the City's special event BMPs are to properly manage

trash and litter generated by the event, keep catch basins and other nearby MS4 facilities free of litter/debris from the event, and raise storm water awareness among the vendors and patrons of the event, as applicable.

4.7.4 PROGRAM IMPLEMENTATION

The City hosted a number of special events during the Reporting Period. During each event, the City implemented the following BMPs:

- Trash/recycling bins were used.
- Spill kits were accessible.
- Street sweeping and parking lot sweeping was conducted following the event.

In addition, the Santee Farmers' Market organized by a private citizen, continued on the former Santee Elementary School site; and the Santee Street Fair and the Santee Car Show on Riverview Parkway were organized by the Santee Chamber of Commerce.

All three of these events was subject to a temporary use permit and comprehensive conditions, based on the standard special events conditions and the specific location and activities associated with the event. The operators of these events were required to document that appropriate BMPs were implemented during the events using a City-provided checklist and to inspect after the event to ensure that all corrective action (including removal of trash and debris, and cleaning of storm drain inlets as appropriate). City staff inspected these events as appropriate during the Reporting Period and confirmed that BMPs were being implemented appropriately.

4.8 EDUCATION AND OUTREACH

During the Reporting Period, the City continued to educate municipal personnel regarding proper BMP implementation and other storm water and watershed concepts. A total of 26 municipal personnel were provided formal storm water training during the Reporting Period. A detailed discussion of the City's education and outreach activities is included in Section 8 of this Annual Report.

4.9 SPILL REPORTING, RESPONSE, AND PREVENTION

As detailed in the City's JURMP, the City's sanitary sewer system is managed and maintained by the Padre Dam MWD. Padre Dam MWD has documented procedures for preventing and responding to sanitary SSOs. The City provides assistance during SSO response when necessary. The City responds to all other spills within its jurisdiction as needed.

The City uses the City's storm water hotline as the main mechanism for being notified of spills; spills may also be discovered during routine inspections or other complaint investigations. Individuals in the City are encouraged to report any spills, including SSOs and any spills from private sewer laterals or septic systems, to the City's storm

water hotline. The City notifies Padre Dam MWD regarding any calls made to the hotline regarding SSOs.

During the Reporting Period, there was one SSO, which was described earlier in this section. There were no other spills during the Reporting Period.

4.10 Public Reporting of Illicit Discharges and Connections

Reporting and Response

Public and municipal involvement are crucial to preventing and eliminating illicit connections and illegal discharges (IC/IDs) from the storm water conveyance system. The Storm Water Hotline provides an effective means for individuals in the City to report suspected IC/IDs. The hotline number is provided on the City's website, in distributed storm water educational material, and in storm water articles in *Santee Review.* All complaints received through the hotline are logged for documentation and tracking. Each logged complaint is investigated by City personnel to determine if an IC/ID is present. Responsible parties for any confirmed IC/ID are sought out and educated and/or cited as necessary and required to stop or clean-up any and all illegal discharges.

Complaints received by the City during the Reporting Period and the City's response to each are listed in Appendix B. Sixty-seven complaints were documented and responded to this year.

Enforcement

As previously stated, complaints received via the storm water hotline are included in a table in Appendix B. The table also includes a description of how each complaint was resolved during the Reporting Period. Resolutions to investigated complaints included clean-up, providing educational material and discussing storm water concepts with individuals involved in the complaint. In some cases courtesy notices and and notices of violation (NOV) were issued. The City issued 12 courtesy notices and 3 NOVs in response to complaints received by the City's storm water hotline.

4.11 Municipal Component Effectiveness Assessment

Please refer to Section 11 of this JURMP Annual Report for the assessment of program effectiveness.

4.12 Program Modification and Review

The City's JURMP was updated in March 2008, and the street sweeping and special events requirements were updated as reported in the 2007/2008 Annual Report. Additional facilities (Sky Ranch Park and Mast Park West) were added as the City took responsibility for maintenance. Refinements to the BMPs for herbicide applications and

a change in the frequency of sweeping of municipal parking lots were both identified in the 2009-2010 annual report. During 2010/2011, all of Mission Gorge Road was designated as high priority for street sweeping; previously some segments were high priority and some were medium priority.

5.0 INDUSTRIAL AND COMMERCIAL

5.1 INTRODUCTION

During the Reporting Period, the City continued to implement a program to mitigate urban runoff pollution from the areas and activities of industrial and commercial businesses. The City aims to reduce the amount of pollutants discharged from these industrial and commercial facilities through the implementation of this program component.

5.1.1 SUMMARY OF NOTABLE ACCOMPLISHMENTS

Some notable achievements for the industrial and commercial component during the Reporting Period are presented in the following bulleted list. Additional details about the City's implementation of the industrial and commercial component and of its storm water program during the Reporting Period are provided in the remainder of Section 5. The following subsections of this section provide more details on how the City complied with the Municipal Permit during the reporting period.

- Extensively reviewed and updated the inventory to remove businesses that were no longer operating.
- The City met the Municipal Permit requirement of inspecting at least 25 percent of its stationary industrial and commercial inventory
- The City inspected 100 percent of the inventoried high TTWQ stationary industrial and commercial facilities
- Based on inspection findings and complaints made to the hotline, the City issued four written courtesy notices informing businesses of BMP deficiencies and six Notices of Violation (NOV) to stationary industrial and commercial businesses
- The City sent notices to each business that had not filed Notices of Intent (NOI) or submitted Notice of Non-Applicability/No Exposure Certification (NONA/NEC) paperwork in connection with the State of California General Industrial Permit (Industrial Permit), as appropriate.
- Three courtesy notices and two NOVs were issued to a mobile business within the City

5.2 STATIONARY INDUSTRIAL AND COMMERCIAL SITES / SOURCES ELEMENT

5.2.1 BACKGROUND

The City's industrial and commercial inventory, which can be found in Appendix A, includes all stationary facilities known to be operating in the City that are required to be

included on the City's inventories. Stationary facilities in the City include, but are not limited to, manufacturing facilities, auto repair shops, restaurants, wholesalers, and contractors. As discussed in the following subsections, the City requires industrial and commercial businesses to implement pollution prevention measures and designated minimum BMPs to mitigate the impacts of business activities on water quality.

5.2.2 SOURCE CHARACTERIZATION

As previously mentioned, the City's industrial and commercial inventories are included in Appendix A. The inventories include both stationary and mobile businesses, as required by the Municipal Permit. The inventories were continuously updated throughout the Reporting Period using field observations and information gathered from the City's business licensing process. In addition, the business inventory was carefully reviewed in detail during the summer of 2010 to eliminate businesses that were no longer operating in Santee. Although it is relatively simple to screen and add new businesses through the business licensing process, it is not possible to track and eliminate businesses that are no longer active. This can lead to the inventory showing more active businesses than exist. The business licensing database, site visits and other local knowledge were used to extensively update the inventory.

Information on how the City prioritizes the industrial and commercial inventories based on TTWQ is discussed in detail in the City's JURMP. The City considers factors including those listed below when prioritizing the inventories:

- Coverage under the Industrial Permit
- Consideration of downstream waterbody and whether the business is likely to discharge pollutants for which the waterbody is impaired
- Results from previous inspections and institutional knowledge
- Proximity to the receiving waterbody

The City's updated inventory includes 656 stationary industrial and commercial facilities as of August 2011.

5.2.3 BEST MANAGEMENT PRACTICE REQUIREMENTS

Industrial and commercial businesses in the City are required to implement pollution prevention methods and other BMPs to reduce or potentially eliminate the generation of pollutants from business areas/activities. The City has established a set of minimum BMPs based on the CASQA Industrial and Commercial Handbook. The requirements include BMPs applicable to all facilities as well as activity-specific BMPs. The City's BMP requirements are described in more detail in the City's BMP Manual, which is an attachment to the City's JURMP. BMP requirements for stationary industrial and commercial businesses did not change during the Reporting Period.

5.2.4 PROGRAM IMPLEMENTATION

Industrial and Commercial Inspections

During the Reporting Period, the City conducted storm water compliance inspections at selected stationary industrial and commercial facilities. The purpose of the inspections is to confirm that the City's minimum BMPs are being implemented at stationary industrial and commercial facilities.

Facility inspections were conducted in accordance with the protocol set forth in the City's JURMP. Inspections involved a thorough examination of the facility and all outdoor activities. BMP deficiencies and corrective actions were recorded on the City's industrial and commercial inspection form, and discussed with facility personnel present during the inspection. During the inspection process, the City checked Industrial Permit compliance status, and reviewed storm water pollution prevention plans (SWPPP) and monitoring results, when applicable. Businesses observed to be in violation of the Industrial Permit are included in Table 5-1. A list of facilities visited as part of the City's routine inspection program during the Reporting Period is provided at the end of this section in Table 5-2. Table 5-2 also includes the results of follow-up results, where applicable.

The City selected sites for inspection based on the inventory included in the City's updated JURMP, which included 842 stationary industrial and commercial businesses. Although the inventory was revised later in the year to remove businesses that are no longer active, as described in Section 5.2.2, the number of sites selected for inspection during the Reporting Period was based on this larger original inventory. The City inspected a total of 262 stationary industrial and commercial facilities. Businesses were selected for inspection using the following criteria:

- High priority sites
- New businesses that might have the potential for illicit discharges
- New businesses that may require coverage by the Industrial Permit
- Businesses that had no previous inspection record

Many of the facilities inspected were home-based businesses, which form a large proportion of the business inventory. The main issues that might be associated with home-based businesses are outside storage of materials. Many of the businesses were observed from the perimeter of the property. If the property looked like it was a typical residence, then the observations were noted. If issues, such as the potential exposure of pollutants to rainwater from the operation of the business were noted, then the business owner was contacted to advise them of the necessary BMPs, and followed up as appropriate. If, based on the inspection and available information it was considered appropriate, the inventory was updated to eliminate businesses that do not need to be inventoried. Note that as the inventory is continuously updated, and for practical budgeting reasons, the City will continue to determine the number of inspections necessary based on the inventory it has at the beginning of each fiscal year.

Other non-homebased facility inspections were conducted in accordance with the protocol set in the City's JURMP. Inspections involved a thorough examination of the facility and all outdoor activities. BMP deficiencies and corrective actions were recorded on the City's industrial and commercial inspection form, which is included in the City's JURMP, and discussed with facility personnel present during the inspection. A list of facilities visited during the Reporting Period is provided at the end of this section in Table 5-2.

The City did not rely on third party inspections to satisfy its industrial and commercial inspection requirements during the reporting period. The City does not presently maintain a third party inspection program.

Inspection Findings

Most BMP-related deficiencies observed during the inspection process were minor. Some of the more common issues include uncontained litter, debris, and sediment around the site and in the parking lot and dumpster area. Another common BMP deficiency included open dumpster lids. Many industrial and commercial facilities could not provide any sort of documentation that storm water training had been provided to appropriate personnel. Written notices and other forms of enforcement were used when more significant BMP deficiencies were observed during the inspections; a discussion of industrial and commercial enforcement actions is included later in this subsection.

General Industrial Permit

Industrial Permit compliance status was evaluated during the industrial and commercial inspection process. If the business was new and had not previously been inspected, or if the business had recently changed activities, the inspector gathered information about the business activities that occur on site and assigned or reassigned the business' standard industrial classification (SIC) code(s). The inspector then determined coverage under the Industrial Permit based on SIC code. Violations of any aspect of Industrial Permit requirements were recorded on the standard industrial and commercial inspection form and are presented in Table 5-1. The table also includes facilities that could potentially gain exemption from Industrial Permit requirements by completing notice of non-applicability/no exposure certification (NONA/NEC) paperwork.

Table 5-1
Violations of the Industrial Permit

#	Business Name	Street Address	Action to Correct Violation				
			File NOI	Develop SWPPP	Develop / Implement Storm Water Monitoring	Complete NONA/ NEC	Other/Comments
1	C & M Relocation Systems	11433 Woodside Avenue	✓	✓	✓		A NOI has been filed since the inspection.
2	Rainbow Steel	9484 Mission Park Place	✓	✓	✓		A NOI has been filed since the inspection
3	Specialty Metals	11222 Woodside Avenue	✓	✓	✓		None

Each business was notified of any Industrial Permit-related non-compliance by the inspector and through written correspondence to the business. During the Reporting Period, the City's Stormwater Program Manager maintained correspondence with businesses in violation of any aspect of the Industrial Permit, notifying them of the steps that need to be taken to ensure compliance with Industrial Permit requirements.

In addition, the City coordinated industrial permit compliance with Mr. Dat Quach (and now Ms. Whitney Ghoram) of the RWQCB. Activities included:

- Copying the RWQCB on Industrial Permit-related notices to comply, or notices of violation sent to businesses.
- Providing local knowledge on facilities filing NONA/NEC paperwork.

Education and Outreach

In addition to checking for compliance with the City's requirements and the Industrial Permit, inspections provide a venue to provide site-specific one-on-one education regarding storm water concepts and BMPs. Before industrial and commercial inspections began, the City sent businesses selected for inspection a letter notifying them of the upcoming inspection as well as a fact sheet with BMPs for industrial and commercial businesses. The City has 18 different storm water-related fact sheets, which are included in Attachment 5.1. During the inspections, inspectors used a variety of educational material to provide watershed concepts and activity-specific BMP recommendations, which were provided to industrial and commercial businesses as appropriate. Inspected facilities were also informed of the City's BMP requirements during the Reporting Period, as applicable. Also note that the City completed BMP requirement notification efforts, which the Municipal Permit requires within the first three years of implementing the updated (2008) JURMP, for its entire inventory as reported in the City's 2008/2009 JURMP Annual Report. More information about the types of educational material used by the City is provided in Section 9 of this Annual Report.

The City worked with A & I Services, a carpet and upholstery cleaning business in the City, to distribute carpet cleaning fact sheets to patrons of the business. Similarly, the City worked with Leslie's Pools, a pool and spa supply store, to distribute pool and spa maintenance fact sheets to its customers at the Santee store. These fact sheets are included in Attachment 5.1.

Enforcement

Some industrial and commercial facilities were observed to be out of compliance with the City's municipal storm water ordinance and/or the Industrial Permit during inspections conducted in 2010/2011. The City followed-up with these facilities as necessary through follow-up site visits and mail and telephone correspondence to bring about compliance with applicable requirements. Follow-up inspections, including resolution status, are included in Table 5-2 at the end of this section. As detailed in Table 5-2, a small number of issues are ongoing, but are expected to be resolved through our established enforcement process. Enforcement actions were taken as necessary; numbers of enforcement actions taken are presented in the bulleted list later in this subsection.

During the course of the Reporting Period, the City also received complaints through the City's storm water hotline regarding stationary industrial and commercial facilities. Based on the results of investigations the City took enforcement action as necessary.

Overall, the City issued the following enforcement actions to stationary industrial and commercial businesses during the Reporting Period:

- Four courtesy notices/onsite conversations with discharger
- Six NOVs
- Notices were sent to each business that had not filed to comply with the Industrial Permit

Overall, the City's enforcement actions were effective in bringing about compliance with the City's requirements. The City continues to work on issues relating with Carlton Oaks Golf Course in collaboration with the City of San Diego. As this ongoing work is considered to be a watershed activity, this activity will be reported in the San Diego River WURMP in January 2012.

There were no instances of noncompliance at stationary businesses found to present a significant threat to human health or the environment observed during the Reporting Period, so none were reported to the RWQCB.

5.3 MOBILE SOURCES

5.3.1 BACKGROUND

Due to the nature of activities of most mobile businesses, a major area of concern tends to be illegal discharges. In general, mobile businesses can be hard to identify, as many may not have City business licenses. Additionally, because many mobile businesses

may be home-based and activities do not occur in one fixed location, inspections of such facilities are impractical.

5.3.2 SOURCE CHARACTERIZATION

Known mobile industrial and commercial businesses, as described in the City's JURMP, are included on the City's inventory (Appendix A) and are marked as mobile. As of August 23, 2011, a total of 33 mobile businesses are included on the City's inventory.

5.3.3 BEST MANAGEMENT PRACTICE REQUIREMENTS

BMPs for stationary industrial and commercial facilities, as discussed earlier in this section, are required to be implemented for mobile activities. BMPs for mobile businesses, including key principles, such as proper collection and disposal of any discharge, are discussed in the City's JURMP. There have been no updates to the BMP requirements as described in the JURMP.

5.3.4 PROGRAM IMPLEMENTATION

During the Reporting Period, the City received and responded to three calls to the City's storm water hotline regarding mobile businesses. In each case the City responded to investigate and verify the complaint. Enforcement action was taken and educational material was distributed as applicable. More detail about the complaints made to the City's storm water hotline regarding mobile businesses is included in Section 7 of this Annual Report.

In addition, City staff are aware of mobile business operations (particularly automotive detailing operations in industrial areas), and verify that appropriate BMPs are being implemented when these operations are observed.

Education and Outreach and Enforcement

During the Reporting Period, the City took proactive steps to identify and educate mobile businesses in the City by seeking out such businesses. City personnel drove by areas known to be frequented by mobile businesses, specifically mobile car detailers. If any mobile businesses were observed, City personnel stopped to provide educational material and ensure that no discharges were occurring. Operators who are not implementing BMPs are required to stop, and remove the discharge. Typically a notice is sent to the mobile business owner if such an incident occurs. During the Reporting Period, a total of three Courtesy Notices and two NOVs were issued to mobile businesses. In each instance, City personnel discussed the BMP requirements of mobile businesses with business personnel. Typically the City requires the owner of the business to provide documentation (such as a completed training sign-in sheet) showing that field staff have been trained in the relevant BMP requirements. Also note that the City completed BMP requirement notification efforts, which the Municipal Permit requires within the first three years of implementing the updated (2008) JURMP, for its entire inventory, including mobile businesses, as reported in the City's 2008/2009

JURMP Annual Report. Details about the City's education program for mobile businesses are included in Section 9 of this Annual Report.

There were no instances of noncompliance of mobile businesses that were believed to present potential threats to human health or the environment observed during the Reporting Period, so none were reported to the RWQCB.

5.4 Industrial and Commercial Component Effectiveness Assessment

Please refer to Section 11 of this JURMP Annual Report for the assessment of program effectiveness.

5.5 Program Review and Modification

The City's JURMP was recently updated in March 2008. No changes to the City's industrial and commercial component have been made since that time.

Table 5-2 (Continued)
Industrial and Commercial Sites Visited During the Reporting Period

#	Business Name	Address	Recommended for Follow-Up	Description of Follow-Up Actions	Resolution Status
1	619 (SANTEE) HYDROPONICS	7949 MISSION GORGE ROAD			
2	A & B A/C & HEATING	8701 MESA ROAD*			
3	A & D FIRE PROTECTION	11465 WOODSIDE AVENUE	✓	To be checked during rain.	Ongoing
	A & E MOVING & STORAGE	9263 ABRAHAM			
4	A&I SERVICES	8665 ARGENT ST SUITE A			
5	A-1 STOR-IT	11493 WOODSIDE AVENUE			
6	ACCU-TAP LLC	9625 MISSION GORGE ROAD			
7	ACES ELECTRICAL CONTRACTORS	8616 ATLAS VIEW DRIVE*			
8	ACL ELECTRIC	9315 CADORETTE AVENUE*			
9	ACUHON	8665 MISSION GORGE ROAD			
10	ADVANCED COPYING SYSTEMS	9944 CLEARLY STREET*			
11	ADVANCED ELECTROMAGNETICS*	9311 STEVENS RD			
12	AFFORDABLE AUTO WHOLESALE	10764 2ND STREET			
13	AKENSON ELECTRIC	8843 PROSPECT AVENUE			
14	AL MAX SANITATION (AMS)	10023 PROSPECT AVE.			
15	ALLEN MECHANICAL INC	11030 SUMMIT AVENUE*			
16	ALLIANCE HEATING & AIRCONDITIONING	10281 PEBBLE BEACH DRIVE*			
17	ALMONDIZES GOURMET NUT BRITTLE	10230 PALM GLEN DRIVE*			
18	ALTERNATIVE BATHTUB	9428 LETICIA DRIVE*			
19	AMERICAN FENCE COMPANY	9944 PROSPECT AVENUE			
20	AMOREE DESIGNS INC	9360 LETICIA DRIVE*			
21	AMY'S FINE BURGER	9862 MISSION GORGE ROAD			
22	APOMTEC SERVICES	9214 BIRD STREET*			
23	ART JOURNEYS	10230 JULIO PLACE			
24	ARTISTIC MARBLE AND GRANITE, INC.	9323 STEVENS ROAD			
25	BAGZ 4 GAMEZ	9348 NALINIE COURT*			
26	BAILEY ELECTRIC & SUPPLY	9819 SCOTTSBLUFF COURT*			
27	BARNER ELECTRIC	9435 WHEATLANDS COURT			
28	BEHLMAN ENTERPRISES	110022 LARKRIDGE STREET			

Table 5-2 (Continued)
Industrial and Commercial Sites Visited During the Reporting Period

#	Business Name	Address	Recommended for Follow-Up	Description of Follow-Up Actions	Resolution Status
29	BERT W. SALAS INC	10767 WOODSIDE AVENUE			
30	BJ METAL & REFINISHING	10416 LEN COURT*			
31	BLACK HAWK ELECTRIC COMPANY	8404 MAGNOLIA AVENUE			
32	BLIND INSTALLATIONS BY JOHN IRWIN	365 WHISPERING WILLOWS DRIVE*			
33	BLUE STAR STEEL INC.	11322 WOODSIDE AVENUE			
34	BLUEWATER	10520 KENNEY STREET			
35	BOB'S FIRE EQUIPMENT COMPANY	9366 GOYETTE PLACE*	✓	Recheck for exposures	Resolved
36	BOYCE CORPORATION DBA FREEDOM ELECTRIC	10744 ROCKVILLE STREET			
37	BRADLEY ELECTRIC	10861 EL NOPAL			
38	BRADSHAW ENGINEERING CORP.	8645 ARGENT ST. SUITE B			
39	BRAINARD CONSTRUCTION	113 ROCK GLEN WAY*			
40	BRON DEVELOPMENT COMPANY	10035 PROSPECT AVENUE			
41	BUILDIT CONSTRUCTION	9228 FAIREN LANE*			
42	BUTLER'S WEED ABATEMENT	9430 GALSTON DRIVE			
43	C & L ELECTRIC	9065 INVERNESS ROAD*			
44	C & M RELOCATION SYSTEMS	1143 WOODSIDE AVENUE			
45	C DALTON FLOORING	10811 LEN STREET*			
46	CALIFORNIA ACRYLIC & MIRROR PLATE COMPANY	10658 PROSPECT AVENUE			
47	CARLS JUNIOR #385	10009 MISSION GORGE ROAD			
48	CARLTON OAKS COUNTRY CLUB	9200 INWOOD DRIVE	✓	Reinspection of facility with City of San Diego. Investigation of sewage disposal at remote locations. Research other areas of concern.	Ongoing
49	CARPET INSTALLERS	10208 STRATHMORE DRIVE*			
50	CASCADE DRILLING LP	9331 MISSION GORGE ROAD			
51	CAZADORES MEXICAN FOOD	9333 MISSION GORGE RD.			
52	C C M ENTERPRISES	9366 ABRAHAM WAY			
53	C C M ENTERPRISES	10848 WHEATLANDS AVE.			

Table 5-2 (Continued)
Industrial and Commercial Sites Visited During the Reporting Period

#	Business Name	Address	Recommended for Follow-Up	Description of Follow-Up Actions	Resolution Status
54	CED (CONTOUR TECHNOLOGY)	8406 MAGNOLIA AVENUE.			
55	CHARLES ENGINEERING COMPANY	8733 MAGNOLIA AVENUE			
56	CHOICE LOCKSMITHING & SECURITY INC.	10117 CARRIE ELLEN COURT*			
57	CIN CLEARLY	1910 MONTILLA STREET*			
58	CINDA'S TOFFEE	9320 PRAFUL COURT*			
59	CITY ELECTRIC SUPPLY	10729 WHEATLANDS AVENUE			
60	CLASSIC ELECTRIC	8531 ABLETTE ROAD			
61	COASTAL SUPPLY CO INC	8650 ARGENT STREET			
62	CODE 3 ELECTRIC	10934 GREEN CASTLE STREET*			
63	COLTRANE FIRE PROTECTION	8620 BIG ROCK ROAD*			
64	COMFORT MECHANICAL	10740 KENNEY STREET			
65	COMFORT PLUMBING	9330 GOYETTE PLACE*			
66	COMPETITION BOBCAT	9587 MAVIN DRIVE*			
67	CONTOUR TECHNOLOGY	8406 MAGNOLIA AVENUE			
68	COOPTEC WELD MANUFACTURING	9526 SAINT ANDREWS DRIVE*			
69	COPPER ELECTRIC	10054 PROSPECT AVENUE	✓	Check storage during rain	Ongoing
70	COTIJAS	9121 MISSION GORGE RD			
71	COYOTE SERVICES LLC	8745 MAGNOLIA AVENUE	✓	Check cleaning done.	Ongoing
72	CRAFTER'S FENCE	8606 ARGENT STREET			
73	CREATIVE METALS INDUSTRIES INC	10039 PROSPECT AVENUE			
74	CURRENT WAYS	10221 BUENA VISTA AVENUE*			
75	CURRIER STUCCO	8820 PRESTWICK WAY*			
76	CUSTOM AIR SYSTEMS	9772 CASTAIC COURT*			
77	CUYAMACA CONSTRUCTION INC.	10763 WOODSIDE AVENUE	✓	Check irrigation system adjusted.	Done
78	D & G WINDOW	10114 WEST GLENDON CIRCLE*			
79	DALE'S CUSTOM WOODWORKING	10407 SANTANA STREET*			
80	DAN WHEELER TRUCKING	9437 WILLOWGROVE AVENUE			
81	DAVIC CONSTRUCTION GENERAL CONTRACTOR	10925 WHEATLANDS AVENUE*			
82	DECRESENTE'S LANDSCAPING	8748 WAHL STREET*			

Table 5-2 (Continued)
Industrial and Commercial Sites Visited During the Reporting Period

#	Business Name	Address	Recommended for Follow-Up	Description of Follow-Up Actions	Resolution Status
83	DESIGNERS TOUCH BUILDERS	9953 LOS RANCHITOS ROAD			
84	DKA3 INDUSTRIES	9435 LAKE CANYON ROAD*			
85	DLOUHY DOORS	8813 ELLSWORTH COURT*			
86	DLS CYCLES	10176 SWANTON DRIVE*			
87	DON LINCOLN LATH & PLASTER	9235 BIRCHCREST BOULEVARD*			
88	DRAGON MACHINE SHOP	9435 WHEATLANDS COURT, SUITE G			
89	EASY AUTO GLASS	10739 WOODSIDE AVENUE, SUITE B	✔	Check on trash bins	Resolved
90	ECOGREEN RECYCLING	9540 PATHWAY STREET, SUITE 105			
91	EDM BUSINESS	9539 MAUREEN COURT*			
92	EL CAJON NAMEPLATE	10054 PROSPECT AVENUE, SUITE K			
93	ELLIOTT'S WOODS	9576 RAWLINS WAY*			
94	ENTERPRISE RENT-A-CAR	10330 MISSION GORGE ROAD			
95	ESSENTIAL GROOMING	9225 CARLTON HILLS BOULEVARD			
96	ESTRADA'S	8528 MAGNOLIA AVE. SUITE 107			
97	ESTRADA'S MEXICAN FOOD	9292 CARLTON HILLS BOULEVARD, SUITE B			
98	ESTRADA'S MEXICAN FOOD	9630 CARLTON HILLS BOULEVARD			
99	EUROPEAN COMPANY	10051 PROSPECT AVE.			
100	EXTRA SPACE STORAGE	10115 MISSION GORGE ROAD			
101	FARRIS CONSTRUCTION COMPANY	8758 BUSHY HILL DRIVE*			
102	FINEST CITY WINDOW CLEANING	10032 MEADOW TERRACE*			
103	FLEXABLE CABLE	10314 PARK AVENUE*			
104	FLEXDEX SKATEBOARDS	8534 HUBBLES LANE*			
105	FRED PERRY	9211 BELLAGIO ROAD*			
106	FREEDOM VENDING	9554 DOMER ROAD*			
107	FUEL ATV	8858 PASEO DE LOS CASTILLOS*			
108	GA ELECTRIC CORPORATION	10520 KENNEY STREET			
109	GG LANDSCAPING	9737 JEREMY STREET*			
110	GIAMANCO & SONS	8742 ATLAS VIEW DRIVE*			
111	GIANT PAINTBALL	11125 WOODSIDE AVENUE, SUITE B			

Table 5-2 (Continued)
Industrial and Commercial Sites Visited During the Reporting Period

#	Business Name	Address	Recommended for Follow-Up	Description of Follow-Up Actions	Resolution Status
112	GOLDSTEIN ELECTRICAL	8502 ORGANDY LANE*			
113	GORDON-PRILL SAN DIEGO INC	8400 MAGNOLIA AVENUE, SUITE F			
114	HARRISON TRUCKING INC.	8801 OLIVE LANE.	✓	Check monitoring reports	Resolved
115	HILBERTOS MEXICAN FOOD	9805 PROSPECT AVE SUITE F			
116	HOWLAND ENTERPRISES	10112 MAST BOULEVARD*			
117	HP WIRING	7341 PARK VIEW COURT*			
118	HUSTED RACING FABRICATION	9011 WILLOWGROVE PLACE*			
119	HYDRAULIC ELECTRIC	9938 PROSPECT AVENUE, SUITE 145			
120	INFUSED	9215 HOLMBY WAY*			
121	INTEGRITY COMMERCIAL FLOORING INC	9885 PROSPECT AVENUE, SUITE A			
122	INTERNATIONAL AUTOREPAIR	10031 PROSPECT AVENUE, SUITE D			
123	JACK IN THE BOX #20	9337 MAST BOULEVARD*			
124	JACK IN THE BOX #3007	10330 MAST BOULEVARD*			
125	JAG CONSTRUCTION COMPANY	9602 WEST HARTLAND CIRCLE*			
126	JAMES A MILLER GARDENING	8515 ELLSWORTH LANE*			
127	JAMES A. ZIEGLER	9055 VALLE DE VERDE*			
128	JAW INDUSTRIES	9410 PIKE ROAD*			
129	JEFF'S SUPERIOR RESTORATION	9321 CADORETTE AVENUE*			
130	JENSEN ELECTRIC	9101 HEATHERDALE STREET*			
131	JIM THOMAS WELDING	11005 HILLCREEK*			
132	JOHN BARWIG GRAPHICS	8618 CARLTON OAKS DRIVE			
133	JOYCE'S EQUIPMENT SERVICE	10143 MARCELLA COURT*			
134	JP'S PERSONAL CHEF SERVICE	445 WHISPERING WILLOWS DRIVE, SUITE F*			
135	JR ELECTRONICS	10744 ROCKVILLE STREET, SUITE 102			
136	JWG CONSTRUCTION COMPANY	10925 HARTLEY ROAD, SUITE H			
137	KACK PLUMBING	10368 KERRIGAN*			
138	KANGEROO VIDEO PRODUCTS	10845 WHEATLANDS AVENUE SUITE C			
139	KC'S TRUCK & TRAILER PARTS	10441 CADWELL ROAD*			
140	KE BURGMANN	8575 ROLAND ACRES DRIVE,			

Table 5-2 (Continued)
Industrial and Commercial Sites Visited During the Reporting Period

#	Business Name	Address	Recommended for Follow-Up	Description of Follow-Up Actions	Resolution Status
141	KELLY'S CONCRETE PUMPING	10025 PINEWOOD VIEW*			
142	KITTYHAWK ENERGY	9484 MISSION PARK PLACE	✓	Follow up on biofuel storage	Ongoing
143	K-KAR CENTER	8931 MAGNOLIA AVENUE	✓	Verify water does not discharge from property	Resolved
144	LR KNIGHT PAINTING	9744 VOMAC ROAD*			
145	L SEVEN 'N' COMPANY INC	8775 RAILROAD AVENUE*			
146	LE CARAMEL LLC	11220 WOODSIDE AVENUE			
147	LLOYD'S COLLISION CARE	9936 BUENA VISTA AVENUE	✓	Check on storage	Resolved
148	LOCK'S LAWN CARE	10775 TAMAR TERRACE, SUITE C*			
149	LOTTA HARDWOOD FLOORS & CONSTRUCTION	10436 CADWELL ROAD*			
150	MADRIDS AUTO BODY REPAIRS	10559 PROSPECT AVENUE			
151	MANUEL & SON	10342 PARK AVENUE*			
152	MARIETAS #4	8915 CARLTON HILLS BOULEVARD			
153	MARINE LIFE AQUATICS	11061 LEA TERRACE DRIVE*			
154	MARJAN STONE	9746 PROSPECT AVENUE			
155	MARTEL ELECTRIC INC	9932 PROSPECT AVENUE, SUITE 140			
156	MARY'S DONUTS	9031 MISSION GORGE RD.			
157	MAYAN TRADE INC	9437 WHEATLANDS AVENUE, SUITE H			
158	MAYHEM MOTOCYCLE SHOP	8733 MAGNOLIA AVENUE, SUITE 113			
159	MCCOY M1 MACH CONDITIONING	9632 RYDER COURT*			
160	MCGUIRE ELECTRIC	9330 STEVENS ROAD, SUITE A			
161	METRO STEEL	10520 KENNEY STREET, SUITE A			
162	MICHAGO'S BUILDING MAINTENANCE	8512 PASEO LADERA*			
163	MOM'S SIGN SHOP	7945 MISSION GORGE ROAD, SUITE 106			
164	MONTOYA HEATING & AIRCONDITIOING	8581 ATLAS VIEW DRIVE*			
165	MORELY & SONS SIGNS	10735 GREENCASTLE STREET*			
166	MOST TRUCK SALES	8017 MISSION GORGE ROAD			
167	MT INSULATION INC	10612 PROSPECT AVENUE, SUITE 105			
168	MURL BRUTON RACING ENGINES	10728 KENNEY STREET			

Table 5-2 (Continued)
Industrial and Commercial Sites Visited During the Reporting Period

#	Business Name	Address	Recommended for Follow-Up	Description of Follow-Up Actions	Resolution Status
169	NEW CREATION FLOORING COMPANY	8543 ELLSWORTH LANE*			
170	NICHOLS CONCRETE	9506 DOMER ROAD*			
171	NORTHWEST DEVELOPMENT COMPANY	10765 WOODSIDE AVENUE, SUITE A			
172	OCEAN SUPPLY AND MANAUFACTURING	10850 HARTLEY ROAD			
173	ORIGINAL ROADHOUSE GRILL	9816 MISSION GORGE ROAD			
174	OSSO MILLER PACIFIC	8400 MAGNOLIA AVENUE, SUITE G			
175	OZZIE'S KUSTOM WORKS	10658 PROSPECT AVENUE, SUITE B			
176	PACIFIC COAST BUILDING ERECTION	9962 PROSPECT AVENUE, SUITE B			
177	PACIFI SPORTS WAREHOUSE	10746 KENNEY STREET, SUITE 303	✓	Check to see if sand was cleaned up	Ongoing
178	PACIFICA GLASS COMPANY	10731 WOODSIDE AVENUE			
179	PADRE DAM WATER RECYCLING FACILITY & SANTEE LAKES	12001 N. FANITA PKY.		Padre Dam requested a follow-up inspection to confirm that corrections were acceptable.	Resolved
180	PAMUS CONSTRUCTION	9915 BECK DRIVE*			
181	PAPA JIMS'BBQ	8595 MESA ROAD, SUITE 21*			
182	PAPERCRAFT INC	9225 ISAAC STREET			
183	PAT MARTIN CONSTRUCTION	9743 PEBBLE BEACH DRIVE			
184	PENGUIN YOGURT FACTORY	9621 MISSION GORGE ROAD			
185	PHENNYS PRINTING & MAILING SE	8402 MAGNOLIA AVENUE, SUITE F			
186	PHO SANTEE	8790 CUYAMACA STREET, SUITE K			
187	POOL DOG AND SPA SERVICES	10800 WOODSIDE AVENUE			
188	POPP CONSTRUCTION	9425 MANDEVILLE ROAD*			
189	PROFORMANCE ENGINEERING	10744 ROCKVILLE STREET			
190	PROVOST IN DBA TRAFFIC TECH	11366 WOODSIDE AVENUE, SUITE B	✓	Check during rain conditions	Ongoing
191	QUALITY CONTROLLED MANUFACTURING	9429 ABRAHAM WAY	✓	Check up on SWPPP progress	Pending
192	R & D ENGINEERING	10704 PROSPECT AVENUE, SUITE C			
193	R.E.S. ENTERPRISES	10965 HARTLEY ROAD, SUITE U			
194	RACEWAY ELECTRIC	10027 GEM TREE WAY*			
195	RAFA'S MOBILE AUTO ELECTRIC	10658 LEN			

Table 5-2 (Continued)
Industrial and Commercial Sites Visited During the Reporting Period

#	Business Name	Address	Recommended for Follow-Up	Description of Follow-Up Actions	Resolution Status
196	RAINBOW STEEL INC	9484 MISSION PARK PLACE	✓	Sent information on filing for State Industrial Permit.	Ongoing
197	RCP BLOCK & BRICK INC.	9631 MAGNOLIA AVE.			
198	REDLINE	10845 WHEATLANDS AVENUE, SUITE B			
199	RICHARD'S CHEM DRY	9764 SAN REMO COURT*			
200	RICKS MACHINE SHOP	11448 WOODSIDE AVENUE	✓	Needs to improve outside storage and use BMPs in cleaning area. Reinspected during rain.	Resolved
201	RJA MASONRY	10057 PEBBLE BEACH DRIVE			
202	RJM DELIVERY SERVICES	10720 IRONWOOD			
203	RLB STABILIZERS	8616 MATTERHORN DRIVE*			
204	RL ROBLES	8625 RUMSON*			
205	RL FICK & SON PLUMPING INC	10740 KENNEY STREET, SUITE 405			
206	ROGERS DANIELS ALIGNMENT	8625 RUMSON DRIVE *			
207	ROGER'S BIOMEDICAL SOLUTIONS LLC	8517 ABLETTE ROAD, SUITE F			
208	RONS PLUMBING	9962 PROSPECT AVENUE, SUITE D			
209	ROSNER PUBLICATIONS	10329 PRINCESS MARCIE DRIVE			
210	S&J BUILDERS & RESTORATION	10815 WHEATLANDS AVENUE			
211	SAB-E-LEE	9159 MISSION GORGE ROAD			
212	SAN DIEGO CLASSIC RESTORATION	9440 WHEATLANDS AVENUE, SUITE 14	✓	Check to make sure cleaning is being done correctly	Ongoing
213	SAN DIEGO CUSTOM IRON	8733 MAGNOLIA AVENUE, SUITE 134			
214	SAN DIEGO ELECTRIC WORKS	9135 CANYON PARK TERRACE*			
215	SANDIA ENTERPRISES	10046 WOODGLEN VISTA DRIVE*			
216	SANTEE BUILDERS	9230 WETHERSFIELD BOULEVARD*			
217	SANTEE CEILING SPECIALTIES	9221 FENWAY			
218	SANTEE ROOFING COMPANY	8035 SMOKEWOOD DRIVE*			
219	SANTEE SMOKIN' JOE'S BBQ	9414 KASCHUBE WAY*			
220	SCANTIBODIES CLINICAL	9336 ABRAHAM WAY			
221	SCHILLING CORPORATION	8634 HACIENDA ROAD, SUITE 518*			

Table 5-2 (Continued)
Industrial and Commercial Sites Visited During the Reporting Period

#	Business Name	Address	Recommended for Follow-Up	Description of Follow-Up Actions	Resolution Status
222	SDXRAY & LAB INC	8772 CUYAMACA STREET			
223	SEAL ELECTRIC INC	9216 ABRAHAM WAY, SUITE C			
224	SEVILLE CLEANERS	9225 CARLTON HILLS BOULEVARD			
225	SHOT BLASTERS INC	9962 PROSPECT AVENUE, SUITE B			
226	SIGN AGE IDENTITY SYSTEMS	9962 PROSPECT AVE SUITE M	✓	Recheck shared dumpster area	Resolved
227	SIMUNEC CONSTRUCTION INC	10208 PROSPECT AVENUE			
228	SMITH YARD REMOVAL	10355 LAIRWOOD DRIVE*			
229	SNOKE AIR CONDITIONING	9783 MEDINA*			
230	SNOW CONSTRUCTION	10107 PROSPECT AVENUE, SUITE A			
231	SOCAL CONCRETE PUMPING	10216 PEACEFUL COURT*			
232	SOCAL ELECTRIC	10965 HARTLEY ROAD, SUITE N			
233	SOLID SURFACE SOLUTIONS	10704 PROSPECT AVENUE			
234	SONIC CAR WASH	9015 MISSION GORGE ROAD			
235	SOUTHRIDGE BUILDERS INC.	9540 PATHWAY STREET			
236	SPECIALTY METALS FABRICATION	11222 WOODSIDE AVENUE	✓	Confirm NOI filed.	Ongoing
237	SPEICHER DEVELOPMENT INC	8742 GRANITE HOUSE LANE*			
238	STANDARD ELECTRONICS	9340 STEVENS ROAD			
239	STAR ELECTRIC	9559 HINTON DRIVE*			
240	STAT PHARMACEUTICALS	9545 PATHWAY STREET			
241	STONE HEAD COUNTER TOP	9851 MISSION GORGE RD			
242	STONEWORK TECHNOLOGIES	8754 GLEN VISTA WAY*			
243	SUPERIOR CONTRACTING	9529 HARTLAND CIRCLE*			
244	SYNERGY ELECTRIC INC	10740 KENNEY STREET, SUITE 401			
245	T C CONSTRUCTION CO INC*	10510 PROSPECT AVE			
246	TD CONSTRUCTION	319 RIVER TRAIL PLACE*			
247	TEDDERS METAL PRODUCTS	9937 PROSPECT AVENUE			
248	TEMPERATURE CONTROL	9486 DOHENY ROAD			
249	THE RED LOTUS	9888 MAGNOLIA AVENUE			
250	TINASSY'S K-9 SPLASH-R-CISE INC	10925 HARTLEY ROAD, SUITE E			
251	TLC ELECTRIC	9227 BIRD STREET*			

Table 5-2 (Continued)
Industrial and Commercial Sites Visited During the Reporting Period

#	Business Name	Address	Recommended for Follow-Up	Description of Follow-Up Actions	Resolution Status
252	TORRES CONSTRUCTION	9484 MISSION PARK PLACE			
253	TOTAL ELECTRONIC ASSEMBLY	9005 INVERNESS ROAD*			
254	TRIPLE S ELECTRIC	8851 PROSPECT AVENUE			
255	TSUNAMI CABLES	9942 HALBERN BOULEVARD*			
256	UNIFIED ELECTRIC	8434 ANGILA DRIVE*			
257	VALLEY BOX CO INC.	10611 PROSPECT AVE.			
258	VALLEY TRACTOR & EQUIPMENT	11478 WOODSIDE AVENUE			
259	WALTER STRAUSS ROOFING	8510 RHONE ROAD			
260	WEBB DESIGNS INC	9920 PROSPECT AVENUE, SUITE 102			
261	WILLIAM CAPEHART-GIDNEY PLUMBING	9824 SHIRLEY GARDENS DRIVE*			
262	ZARICK, ROB A	8520 ABLETTE ROAD			

* Home based business

** A follow up inspection was also conducted at Rubios at the beginning of July 2010 in response to previous observations made at this restaurant.

6.0 RESIDENTIAL

6.1 INTRODUCTION

Residential land use comprises a significant portion of the City, so residential activities can have a considerable effect on the water quality of receiving waters. The City has developed an extensive program that aims to reduce pollutant runoff from residential areas and activities to the MEP.

6.1.1 SUMMARY OF NOTABLE ACCOMPLISHMENTS

Some notable achievements for the residential component during the Reporting Period are presented in the following bulleted list. The following subsections of this section provide more details on how the City complied with the Municipal Permit during the reporting period.

- On 3/1/2011 Santreefest was held at Town Center Community Park and attended by 500 volunteers. Participants removed trash around the park, planted trees and were provided with educational material covering storm water concepts.
- On 4/30/2011 the City of Santee provided a Site Captain for the Forester Creek site of the annual California Creek to Bay Clean-Up, attended by over 70 volunteers who removed trash from the channel.

6.2 SOURCE CHARACTERIZATION

The City has designated one high TTWQ residential area within the City. The area around Woodglen Vista Channel has been designated as a high TTWQ area due to dry weather monitoring findings in the channel. Outreach and related activities were conducted for the area previously listed as high priority in 2009/2010, surrounding Cecilwood Drive east of Halberns Boulevard, and because incidences of IC/IDs and other indications of pollutant discharge potential were not frequent during 2010/2011, the area is no longer listed as high threat to water quality. The City has also designated a number of high TTWQ residential activities.

High TTWQ residential activities include:

- Home and Garden Care Activities and Product Use; Including Disposal
- Disposal of Trash and Pet Waste
- Automobile Repair, Maintenance, Washing and Parking

6.3 BEST MANAGEMENT PRACTICE REQUIREMENTS

The City continues to encourage the implementation of pollution prevention measures and encourage or require the implementation of BMPs for residential areas and activities, whether or not the residential area or activity has been designated as being

high TTWQ. If particular BMPs are not feasible for any specific site or source, the City requires implementation of other equivalent BMPs. Designated BMPs or their equivalent were implemented or were required to be implemented for residential areas and activities.

Education and outreach aimed at residents helps to facilitate the implementation of BMPs, including pollution prevention methods. Residents are encouraged, and in some cases required, to implement BMPs and pollution prevention techniques when performing the high TTWQ activities listed in the previous subsection. Residential BMPs are also listed in the BMP Manual, Appendix C of the JURMP. These BMPs did not change during 2010/2011.

6.4 PROGRAM IMPLEMENTATION

The residential program is implemented through outreach and education, operation of a complaint hotline, and complaint investigation and enforcement procedures as discussed in the following subsections.

6.4.1 OUTREACH AND EDUCATION

Outreach was implemented through the preparation and dissemination of outreach materials including the fact sheet series discussed in Section 8 of this Annual Report. A summary of specific Outreach and Education events for residents is presented in the following table:

Table 6-1
Summary of Outreach and Education Activities

Date	Activity Description	Description of Outreach and Education Component
7/12/10	Response to observations during dry weather monitoring activity	A residential factsheet was sent to each of 71 residences within the sub-drainage area on Mesa Road.
8/25/10	Presentation to members of City of Santee's Senior Center	Presentation using a model of the storm drain system and San Diego River to demonstrate the impact of various types of pollutants. Answered questions from the Seniors on water quality issues.
9/20/10	Response to observations during dry weather monitoring activity	Mailed 22 residential factsheets to addresses on Ironwood where dog waste appeared to have been thrown over the fence into Woodglen Vista Creek at several locations (10451 to 10643).
9/25/10	California Coastal Clean Up Day	Residents participated in trash removal activities in Forester Creek. Factsheets on residential activities and volunteer information was available.

Table 6-1
Summary of Outreach and Education Activities

Date	Activity Description	Description of Outreach and Education Component
9/25/10	Lakeside Fire Station Event	City staff participated in a watershed activity. Outreach at a community event educating pet owners on appropriate pet waste management.
10/14/10	Factsheet on response to sewer lateral spills.	Provided copies of factsheet to Padre Dam to provide to residents (and other property owners) when responding to sewer lateral spills. The factsheet explains that discharges cannot be allowed to drain to the storm drain and provides advice on how to remove the discharge.
2/28/11	Outreach at High Tech Fair, San Diego County Fairgrounds	Approximately 2,500 attendees. City staff participated in outreach with other Copermittees, specifically demonstrating the watershed model and the impact of storm drains on rivers.
2/28/11	Factsheet on swimming pool and spa maintenance.	Approximately 50 factsheets were provided to Leslie Pools to provide to residential customers as they purchased supplies to maintain their swimming pools.
3/5/11	Santreefest	City event at Town Center Community Park. Event incorporated tree planting, trash removal and environmental education. Santreefest was attended by approximately 500 volunteers.
3/15/11	Factsheet on residential activities and pet licensing flyers.	Twenty copies of each item were provided to a mobile home park on Mesa Road after complaints were received regarding the accumulation of pet waste. Mobile home park management to use materials in educating residents about appropriate pet waste management.
3/15/11	A pet licensing flyer, a portion of the watershed pet waste presentation, and factsheet 1 were provided to a resident at Santana Ranch Estates.	A resident had complained about pet waste accumulation at the development where he lived. City staff provided him with information to help him educate his neighbors to pick up after their pets.
4/27/11	Factsheets on residential activities	Provided factsheets to addresses on Strathmore Drive where a resident had reported stormwater issues.
4/30/11	Creek to Bay Clean-Up	City staff captained a clean-up at Forester Creek, attending a pre-event training and helping to raise awareness of the event. Approximately 70 volunteers removed approximately 300 pounds of trash.

Table 6-1
Summary of Outreach and Education Activities

Date	Activity Description	Description of Outreach and Education Component
5/11/11	Factsheet on residential activities and pet licensing flyers	Provided information to addresses on Stanley Court after a resident complained about residents allowing their pets to roam about the street and not picking up after them.
5/13/11	Mission Trails Day	Provided outreach on stormwater (factsheets on residential use, swimming pools and spas) at community event.
5/26/11	Santee Patch	City staff observed a question on the Santee Patch (a local news website) on whether residents could wash their cars on their driveways. City staff responded, quoting the code, explaining that water drains directly to the river untreated, and advising the resident to redirect the water onto landscaping. This was a prompt and public response to a resident's question that others can observe.
5/28/11	Santee Street Fair	Provided outreach on stormwater (factsheets on residential use, swimming pools and spas, yard and landscaping). Conducted residential survey and discussed survey with residents.

The City continues to use opportunities to educate residents (or facilitate residents to assist others), on how their actions can help prevent the discharge of pollutants to the storm drain system. If residents understand the consequences of their actions, they can choose to find an alternative means to conduct their activities.

6.4.2 USED OIL AND WASTE COLLECTION SERVICES

The City provides free used oil disposal facilities to residents. Approximately 36 gallons of waste oil were disposed of through City-provided facilities. The City also contracts with two HHW facilities for the disposal of other HHW (leftover paints, automobile fluids, drain opener and any unused products containing toxic chemicals for home or automobile maintenance). Based on the available data, approximately 1150 pounds of paint, 349 pounds of batteries, and 51 pounds of fluorescent tubes were collected through City-provided facilities.

6.4.3 HOTLINES AND WEBSITES

The City continues to operate its stormwater hotline in accordance with the requirements of the Municipal Permit. The stormwater pages of the City of Santee's website were redesigned to make them more user-friendly and separate pages are available for each type of user group (for example, resident, business, etc.). Reference

documents and links to other sources of information are provided on the different pages.

6.4.4 COMPLAINT INVESTIGATION

As previously mentioned, complaints are received by the City's stormwater hotline regarding discharges in various areas of the City, including residential properties. During the Reporting Period, the City received a total of 24 complaints regarding residential areas and activities in the City. A summary of all complaint investigations, including residential complaint investigations, is included as Appendix B to this Annual Report.

A storm water fact sheet, which is included in Attachment 5.1, relating to construction activities has been prepared and is distributed whenever any request for building permit application information is made. In addition it is provided online and in the storm water information center at the City. Disseminating information on the controls for the most basic of projects should make project proponents aware of and plan for the storm water controls needed for any construction activity. Other avenues for outreach (such as the *Santee Review Newsletter*) will continue to be used to educate homeowners about their responsibilities when undertaking minor construction work at their properties.

During the Reporting Period, City staff working on the Abandoned Vehicle Abatement Program (AVA) opened 207 cases, which relate to at least one car each, and issued 4 administrative citations. The activities of this program reduce the likelihood of these vehicles generating stormwater violations in the future.

The major topics of complaints are provided below. Based on this summary, outreach and education efforts should continue to focus on the following topics:

- Power washing or hosing down (including automotive detailing)
- Construction material management
- Maintenance of swimming pools and spas
- BMPs for landscaping, including sediment control
- Pet waste management

6.4.5 ENFORCEMENT

The residential complaints and violations data were reviewed to assess what enforcement methods were used for residential properties. Enforcement can be summarized as follows:

- Twenty one courtesy notices/onsite conversations with discharger
- Two notices of violation
- One administrative citation

One notable incident involved a property on Columbus Street, a residential street in Santee, at a location where complaints had been received during 2006. It was evident during both periods that there was some friction between the neighbors. Specifically, one neighbor would complain about sediment tracking from the adjoining property; the neighbor on the adjoining property would complain about the drainage on the complainant's property.

The City took appropriate action as necessary and made suggestions to the property owners on how to resolve the issue. However, the property on Columbus was the subject of several complaints during the fall of 2010.

During the winter of 2011 complaints were received from other residents located on Columbus Street. On inspection, the property that had been the subject of earlier complaints was observed to be undergoing grading without a permit. Violations of the stormwater ordinance, grading ordinance and other ordinances were observed. A stop work order was issued, and a deadline was given for the resident to correct the most pressing issues and to apply for a grading permit.

The incident resulted in a collaborative response by stormwater staff, engineering, code compliance, public works and the sheriff. This collaboration was effective in getting the code compliance issues resolved and in assisting the resident to achieve his goals. The resident was able to eliminate this source of friction with his neighbor by regrading portions of his property. The resident did receive an administrative citation and fine for not fully complying with the City's requirements after receiving their first notice.

6.4.6 REGIONAL RESIDENTIAL EDUCATION PROGRAM

The City continues to contribute to the Regional Residential Education Program. For example, the City provided personnel to assist with a joint regional event at the High Tech Fair.

6.4.7 METHODS EVALUATION

As described in our JURMP, the City uses a number of methods to maintain oversight for residential activities and areas, including the following:

- Complaint referrals
- Observations of all City staff during routine activities
- Dry weather monitoring and upstream investigations

These methods provide effective oversight of residential activities within the City. The City promptly responds to complaint referrals, and any discharges observed during routine or monitoring activities using an escalating enforcement mechanism. These incidents are monitored, and if a pattern of behavior is observed in a certain area of the City or associated with a particular type of activity, then additional education efforts will be made to reduce the likelihood of this reoccurring within the community.

Repeated violations associated with an address or person result in a higher level of enforcement response, as it is expected that they are already aware of storm water requirements.

Padre Dam MWD passed a drought ordinance on June 24, 2008 prohibiting certain activities that are consistent with the objectives of the storm water program. In particular, over-irrigation and hosing down of driveways, except when required by sanitary or safety conditions, have been prohibited. City staff report incidences of over-irrigation and similar circumstances to Padre Dam MWD when noted.

6.5 EFFECTIVENESS ASSESSMENT

The effectiveness of the residential component is assessed in Section 11 of this Annual Report.

6.6 PROGRAM REVIEW AND MODIFICATION

The City's JURMP was recently updated in March 2008. With the exception of the reassignment of the high TTWQ residential area for the 2010/2011 Reporting Period, no changes to the City's residential component have been made since that time.

7.0 ILLICIT DISCHARGE DETECTION AND ELIMINATION

7.1 INTRODUCTION

In accordance with the September 10, 2008 RWQCB adoption of Addendum No. 2 to Order No. R9-2007-0001, the City will submit the 2010/2011 illicit discharge detection and elimination section and attachments to the RWQCB no later than December 15, 2011.

8.0 EDUCATION COMPONENT

8.1 INTRODUCTION

During the Reporting Period, the City continued to provide education and outreach to a variety of audiences within the City. The City's education program targets municipal personnel, industrial and commercial businesses, construction site owners and operators, residents, and audiences that may generally be underserved. The City aims to reduce storm water pollution by increasing awareness about storm water and promoting the implementation of pollution prevention measures and BMPs. Through education and outreach, the City works to foster change in both the attitude and behaviors of the regulated community.

8.1.1 SUMMARY OF NOTABLE ACCOMPLISHMENTS

Some notable achievements for the education component during the Reporting Period are presented in the following bulleted list. The following subsections of this section provide more details on how the City complied with the new Municipal Permit during the Reporting Period.

- During the Reporting Period, the City's community newsletter, the *Santee Review*, featured several articles highlighting storm water topics aimed at City businesses and residents.
- Various educational materials were made available to project proponents, industrial and commercial facility personnel, and City staff through the City's storm water information center, interactions and training with Stormwater Program Staff, the City Website, facility inspections and project reviews.
- The City used its website to cover issues relating to stormwater, for example educating the public about storm drain and creek maintenance.
- The City provided educational materials in English and Spanish to provide outreach to a more extensive audience.
- City staff presented information at the CASQA conference, a Qualified SWPPP Developer/Qualified SWPPP Practioner (QSD/QSP) training and at a League of California Cities Conference.

8.2 STAFF TRAINING ELEMENT

The City has provided extensive training and educational outreach to its municipal personnel. Many municipal personnel are out in the field on a daily basis, so it is important that they understand the importance of implementing BMPs. Municipal personnel are encouraged to report any IC/IDs observed to the appropriate City staff and to educate other municipal personnel and the general public about storm water

pollution prevention. During the Reporting Period, the City provided the following training/educational outreach events aimed at municipal personnel:

- Twelve public works staff were trained on how their work directly affects water quality using data obtained through a watershed source investigation.
- City Development Services staff attended two BMP Sizing Calculator Training events (four people attended one, two people attended the other). This training will assist in ensuring development projects comply with the Hydromodification Plan (HMP).
- Five City Development Services staff have attended QSP training; three have attended QSD training.
- Two City staff attended the BMP Inspection and Maintenance Workshop hosted by the City of San Diego, which was focused on LID measures.
- A City staff member attended the CASQA conference and presented a paper on the benefits of the Forester Creek Restoration Project.
- Two City staff have taken QSD/QSP or QSP qualifying exams. One City staff member attended a Certified Professional in Stormwater Quality (CPSWQ) exam review and completed the examination for CPSWQ.

In addition to the formal training sessions conducted for City personnel presented above; the JURMP reporting process and interactions with colleagues during daily activities provided the City's Stormwater Program Manager with a forum to discuss the City's storm water program with various City personnel involved in implementing the City's JURMP.

8.3 EDUCATIONAL OUTREACH ELEMENT

In addition to municipal staff, the City has continued to provide education and outreach to industrial and commercial businesses, construction site owners and developers, residential areas, and underserved audiences. These efforts promote storm water awareness and BMP implementation.

8.3.1 INDUSTRIAL AND COMMERCIAL BUSINESSES

As required by the Municipal Permit, the City inspects its inventoried businesses to evaluate compliance with the City's BMP requirements and provides site-specific education outreach to business owners and operators. Violations of the City's BMP requirements are corrected through enforcement actions as necessary. Facility inspectors provided site-specific information on necessary BMPs at all inspected facilities. This information helps facility personnel gain a better understanding of the storm drain system and activities that pose a high threat to water quality.

In addition to site-specific discussions, industrial and commercial facility owners and operators were provided a variety of fact sheets and other educational materials. The

City distributed the following general and activity-specific fact sheets during industrial and commercial inspections and during complaint investigations, as applicable. The fact sheets are included in Attachment 5.1.

- Fact Sheet 1: What is Stormwater?
- Fact Sheet 2: Water Quality Impacts
- Fact Sheet 3: Wet Weather Checklist
- Fact Sheet 4: Restaurants
- Fact Sheet 5: Automotive
- Fact Sheet 6: Mobile Auto Detailing
- Fact Sheet 7: Power Washing
- Fact Sheet 8: Industrial/Commercial
- Fact Sheet 9: Pool Maintenance
- Fact Sheet 10: Residents
- Fact Sheet 11: Demolition/Construction
- Fact Sheet 12: Special Events
- Fact Sheet 13: Carpet Cleaning
- Fact Sheet 14: Community Organizations
- Fact Sheet 15: Site Design LID BMPs
- Fact Sheet 16: Yard and Garden Maintenance
- Fact Sheet 17: Fire Prevention & Erosion
- Fact Sheet 18: Responding to Sewage Spills

A letter and Fact Sheet 8, the Industrial/Commercial fact sheet, was mailed to businesses selected for inspections during the Reporting Period. During the inspection process, the City also distributed the "Green Wrench Guide" and the "What's Cookin'" brochure, both in English and Spanish, to auto shops and restaurants, as applicable.

In addition to educational materials provided during inspections and complaint investigations, the City's newsletter, the *Santee Review*, is available by email to industrial and commercial addresses in the City. The newsletter often contains storm water articles and relevant information on public participation opportunities. The stormwater-related articles published during the Reporting Period are included as Attachment 8.1. Note that the *Santee Review* was not issued on a quarterly basis. Instead an issue was prepared during Fall 2010 only.

8.3.1.1 MOBILE BUSINESSES

Mobile businesses, specifically mobile car detailers or power washers, are considered a high threat to water quality due to the nature of the business activities and the likelihood of prohibited non-storm water discharges. Mobile businesses are not confined to a single area, and many do not have City business licenses, making them difficult to identify. Individuals applying for businesses licenses for mobile car washing activities meet with the City's Stormwater Program Manager to discuss BMPs before a business license is issued. In addition, businesses applying for licenses to operate carpet cleaning, landscaping, or pool maintenance services received factsheets on these subjects. The City took proactive steps in identifying and educating mobile businesses in the City during the Reporting Period, namely conducting drive-by investigations of areas known to be frequented by mobile businesses and providing applicable educational material and/or enforcement actions.

Additionally, the City continues to provide copies of the carpet cleaning factsheet to a facility that maintains machinery used for carpet cleaning (A & I). The facility owner distributes these factsheets to their clients.

8.3.2 CONSTRUCTION SITE OWNERS AND DEVELOPERS

Construction sites have the potential to discharge sediment and other pollutants to receiving waters if not managed properly. Construction site owners, contractors, and developers visit the City's Engineering Division to apply for necessary permits. The review process raises storm water awareness through the grading permit approval, development review, environmental review, SUSMP review, and/or other meetings prior to the issue of permits. In addition to these interactions with City staff, information on the General Construction Stormwater Permit (where applicable), the City's Website, brochures, and construction-specific materials are provided for all construction affiliates. Anyone applying for a building permit is provided Fact Sheet 11, which includes BMPs for construction and demolition activities. Education is also provided after permits have been obtained during the City's site inspections.

The City has also continued its requirement for project proponents to watch "Hold Onto Your Dirt," an informational video on construction BMPs, at meetings prior to obtaining grading permits.

8.3.3 RESIDENTIAL AREAS

Due to the threat to water quality posed by residential activities, the City understands the importance of reaching this particular audience through educational outreach programs. The City continued to send the *Santee Review* Community Newsletter (Attachment 8.1) to residents in the City, mainly via email. The following is an outline of storm water related articles and announcements published in the newsletter during the Reporting Period:

- "Protecting Your Property from Fire and Erosion", which provided residents with information on how to protect their properties from fire without exposing it to erosion. For example, residents are encouraged to cut vegetation so that it is a few inches high, rather than removing the plants and exposing the underlying soil to erosion. This article was prepared in response to incidents that occurred during the previous winter's rains.
- "Friends of Santee's River Park Day of Community Service" described how a volunteer group improved the area between the river and Town Center Community Park. Trash, debris and invasive species were removed. The article also informed readers how trash along the coast and in the ocean largely originates from a land source, and is transported via rivers and creeks to the ocean.
- "Community Native Planting Event" described collaboration between the Friends of Santee's River Park and the Historical Society at the Polo Barn.

Two of the articles were prepared in collaboration with the San Diego River Park Foundation to raise awareness of its local chapter (Friends of Santee's River Park). Many stormwater public participation activities in Santee are hosted by this organization, so this was a mutually beneficial collaboration.

The City website, www.ci.santee.ca.us, is another way in which City residents can become familiar with the design and intended use of the storm drain system, household hazardous waste (HHW) disposal, information regarding volunteer opportunities, information on how to report pollution, stormwater factsheets for various activities, Stormwater Program documents and applicable City contact information.

8.3.4 UNDERSERVED COMMUNITIES

As discussed in the JURMP, the City has defined underserved communities, as listed in the Permit, as residents who engage in certain high-risk to water quality behaviors. This behavior is not restricted to any particular demographic group within the City. High-risk to water quality behaviors include incorrect use and disposal of home and garden care products, incorrect disposal of vehicle fluids, use and maintenance of off-road recreational vehicles, incorrect disposal of pet waste, over-application of chemicals, over-irrigation, trash accumulation, oil spills, and home improvement projects. To generate educational outreach to those who may engage in high risk to water quality behaviors, the City has continued to maintain a HHW and used oil collection program as well as educational material regarding HHW and used oil. Pet waste bags are available in City parks and at popular dog walking areas in the City. The City website also includes information on BMPs for chemical management and vehicle washing. The City plans to continue outreach to those who may engage in high risk to water quality behaviors through this educational program.

If high-risk behaviors are observed to be prevalent in any particular demographic group, then the education program will be adjusted to provide more focused outreach to the

group. A recent study conducted on behalf of the City of Santee identified that middle-aged males were the least likely to pick up after their pets. Therefore opportunities will be sought to conduct outreach on pet waste management to this group.

8.3.5 COMPLAINT INVESTIGATIONS

To further aid the process of identifying illicit discharges, the City encourages the public and City staff to report IC/IDs. If a representative for the business, residential area, or construction site is present, the inspector will provide site-specific information regarding storm water issues including applicable educational materials. Educational material was distributed as necessary during complaint investigations. In addition to the City's storm water hotline, Public Works also receives complaints regarding issues with MS4 maintenance . These complaints are followed up by Public Works personnel and mainly involve drainage system maintenance, but storm water staff are notified when necessary.

8.3.6 EDUCATIONAL MATERIAL DISTRIBUTED

Table 8-1, below, describes the approximate number of educational materials distributed during the Reporting Period.

Table 8-1
Educational Material Distributed

Educational Material	Approximate Number Distributed
Ind/Com Inspection Notification Letter	245
Fact sheet 1: What is Stormwater?	53
Fact sheet 2: Water Quality Impacts	3
Fact sheet 3: Carpet Cleaning	4
Fact sheet 4: Restaurants	18
Fact sheet 5: Automotive	15
Fact sheet 6: Mobile Auto Detailing	17
Fact sheet 7: Power Washing	154
Fact sheet 8: Industrial/Commercial	248
Fact sheet 9: Pool Maintenance	86
Fact sheet 10: Residences	526
Fact sheet 11: Construction	31
Fact sheet 12: Special Events	15
Fact sheet 13: Carpet Cleaning	17
Fact sheet 14: Community Organizations	1
Fact sheet 15: Site Design LID BMPs	0
Fact sheet 16: Yard and Garden Maintenance	75
Fact sheet 17: Fire Prevention and Erosion	4
Fact sheet 18: Responding Sewage Spills	20

Table 8-1
Educational Material Distributed

Educational Material	Approximate Number Distributed
IPM Cards: English	16
IPM Cards: Spanish	0
Pet Waste Cards	41
Business Flyer (WURMP activity)	32
Knowledge Assessment Surveys	40
What's Cookin' - English	5
What's Cookin' - Spanish	6
Green Wrench Guide - English	14
Green Wrench Guide - Spanish	3

8.4 OUTREACH COMPONENT EFFECTIVENESS ASSESSMENT

Please refer to Section 11 of this JURMP Annual Report for the effectiveness assessment for this program component.

8.5 PROGRAM REVIEW AND MODIFICATION

The City's JURMP was recently updated in March 2008. No changes to the City's education component have been made since that time.

9.0 PUBLIC PARTICIPATION

9.1 INTRODUCTION

The City continues to explore ways to encourage public participation in the City's storm water program. Collaboration between the City and the community should help foster a sense of shared responsibility in protecting water quality both locally and regionally.

9.1.1 SUMMARY OF NOTABLE ACCOMPLISHMENTS

Some notable achievements for the public participation component during the Reporting Period are presented in the following bulleted list. The following subsections of this section provide more details on how the City complied with the Municipal Permit during the reporting period.

- Collected over 11 tons of trash and debris during seven cleanup events held for the San Diego River, Forester Creek, and Town Center Community Park.
- Worked with the Environmental Trust, the River Conservancy and the San Diego River Park Foundation to acquire a stretch of land along the river and construct a trail (Mast Park West) to open up additional areas along the San Diego River for public enjoyment.
- Collaboration with Lakeside River Conservancy to apply for a grant to purchase land adjacent to the San Diego River east of Magnolia Avenue (Walker Hanlin Property). This land is also intended to provide public access to the river.

9.2 EVENTS AND PROGRAMS

Santreefest

The City hosted the Santree Fest at the newly-developed Town Center Park. This was attended by approximately 500 volunteers who participated in a number of activities to enhance Town Center Community Park including the removal of 1 cubic yards of trash and debris, as described in Table 9-1. In addition to the trash removal activities, trees were planted in the area. The event provided an opportunity for educational outreach to the participants of the event. Various educational outreach materials, including IPM cards in both English and Spanish, storm water fact sheets, residential fact sheets, and waste management information were provided. City personnel discussed pollution prevention techniques with event attendees who visited the City Booth.

Creek and Waterway Cleanups

The City provided a Site Captain and set-up a clean-up site (Forester Creek) for the California Creek to Bay Cleanup on April 30, 2011. Educational information on residential activities was provided during the event. Approximately 73 volunteers removed approximately 300 pounds of trash during the event. One hundred eighty two

volunteers also picked up approximately 1,000 pounds of trash from Forester Creek on September 25, 2010 as part of California Coastal Cleanup Day.

Table 9-1
Summary of Cleanup Events

Date	Amount of Trash Removed (lbs)	Description
9/25/10	1,000	182 volunteers collected 1,000 pounds of trash and two tires from Forester Creek.
4/23/11	4,000	50 volunteers collected 4,000 lbs of trash in an area close to the San Diego River north of Big Rock Road.
4/23/11	7,200* (18 cubic yards)	One hundred and thirty five people picked up trash, weeded and spread mulch at the former Santee Elementary School site.
4/30/11	300	The City captained a Creek to Bay Clean-up at Forester Creek attended by 73 volunteers.
5/5/11	400* (1 cubic yard)	500 volunteers attended this event which incorporated the planting of 54 trees, trash removal, and environmental education.
5/5/11	200* (0.5 cubic yards)	A Rotarian group picked up trash, removed weeds and spread mulch at West Hills Park.
5/12/11	8,000* (20 cubic yards)	Approximately 50 volunteers from the San Diego River Park Foundation conducted a clean-up event just east of West Hills Parkway.
5/28/11	2,000	Thirty-seven collected trash from the area around Cottonwood Avenue/Chubb Lane.

* Based on conversion factor of 400 pounds per cubic yard for trash.

Regional Events

The City participated in the Copermittee outreach activities at the High Tech Fair at the San Diego County Fairgrounds. City staff helped to present the watershed model and talked to students about the connection between storm drain system and water quality.

Storm Drain Stenciling

This ongoing program provides opportunities for members of the community to stencil storm drains to remind the public not to discharge materials to the storm drain system. No stenciling projects were conducted during the Reporting Period; however, the City

continues to offer this program to youth groups and other volunteer organizations as a way to participate in improving water quality.

Roadside Pride
This ongoing program, where community youth separate recyclable materials from collected debris, has been previously promoted in the *Santee Review*.

Hazardous Waste Collection and Used Oil Recycling
Citizens are required to properly dispose of household hazardous waste, used oil, bulk items and electronic waste. Residents are informed of the services available to them through outreach at community events, information provided through the storm water program (such as the Residential Fact Sheet), information at various City departments, and the City's website. The amount of used oil and other HHW collected during 2010/2011 is reported in Section 6.4.2 of this Annual Report.

Encourage Responsible Cleanup
Citizens using municipal facilities are encouraged to keep their community clean by properly disposing of all waste. Trash and recycling bins are provided at City parks. Pet waste bags are available at City parks and along popular dog-walking routes. Additional pet waste bag dispensers are to be installed as part of an on-going program.

Responsible cleanup procedures are encouraged at special events within the City. A Special Event fact sheet is provided to applicants for relevant permits which require specific BMPs at all special events. Detailed conditions are used for special events in Santee.

In addition to the activities listed above, the City continues to encourage public participation through Project Clean Water and related activities.

Eagle Scout Project
The San Diego River Park Foundation donated 20 new San Diego River Trail markers for Mast Park West, constructed during the fiscal year. A group of scouts installed these trail markers as part of an Eagle Scout Project. Installing these markers will heighten awareness of the public, including the scouts, of the river and the value of constructing a park adjacent to the river.

9.3 PUBLIC PARTICIPATION COMPONENT EFFECTIVENESS ASSESSMENT

Please refer to Section 11 of this JURMP Annual Report for the assessment of program effectiveness.

9.4 PROGRAM REVIEW AND MODIFICATION

No changes to the public participation component of the JURMP are proposed at this time.

10.0 FISCAL ANALYSIS

10.1 INTRODUCTION

During 2009/2010, a fiscal analysis reporting template was developed collectively by the Copermittees. Fiscal information for 2010/2011 is reported in the tables below, which follow the standard format adopted by the Copermittees.

Table 10-1
Expenditure Summary

JURISDICTIONAL COMPONENTS	
Administration	$97,155
Development Planning	$11,010
Construction	$10,696
Municipal	$483,424
Industrial and Commercial	$23,519
Residential	$7,978
IDDE	$55,736
Education	$18,539
Public Participation	$2,027
Special Investigations	$32,573
Non-Emergency Firefighting (incorporated into routine fire safety costs)	$0
Jurisdictional Total	**$742,657**

WATERSHED	
San Diego River	$224,440
Watershed Total	**$224,440**

REGIONAL	**$94,276**

TOTAL COSTS	**$1,061,373**

Table 10-2
Fund Summary

FUNDING BY SOURCE	
General Fund	$772,486
Storm Water Fee	$0
Developer Deposits and Fees	$15,142
Registration and Inspection Fees	$0
Grant Funds	$4,915
Zone 2 Flood Control	$268,830
Total	**$1,061,373**

Table 10-3
Watershed Urban Runoff Management Program (WURMP) Expenses

	San Diego River
Administration (1)	$4,298
Cost Share Contribution	$2,536
Watershed Activities	$205,606
Other	$12,000
TOTAL	**$224,440**

(1) Administration – includes Watershed strategic planning, management, mapping, assessment, and reporting.

Table 10-4
Regional Urban Runoff Management Program (RURMP) Expenses

Regional Programs	Jurisdictional Cost
Administration (1)	$39,737
Cost Share Contribution	$54,539
Other (2)	$0
TOTAL	**$94,276**

(1) Administration – includes assessment, reporting, management, etc.
(2) Other – examples include regional and special studies.

11.0 EFFECTIVENESS ASSESSMENT

11.1 INTRODUCTION

The City regularly evaluates its storm water program to make it as effective as possible at reducing discharges of urban runoff related pollution to the MEP. The overall structure of the City's storm water program is composed of three primary components:

- Program Planning
- Program Implementation
- Effectiveness Assessment

The process typically proceeds from planning to implementation to assessment, although in practice all three may be in progress at the same time. The initial step is program planning, which requires identifying potential pollutant sources, establishing BMP requirements, and establishing targeted outcomes and ways to measure those outcomes. Next, the program developed during the planning step is implemented. Program implementation is assessed each year using the methods developed in the program planning stage and reported in JURMP annual reports. The conclusions from these assessments are used during the next round of program planning to incorporate improvements to the program and refine the assessment technique.

Based on participation in regional efforts and its experience implementing its JURMP, the City has identified a variety of metrics to assess progress toward targeted outcomes. At the end of each reporting year, the City uses selected metrics to assess the effectiveness of its program implementation. Example metrics were provided in Section 13 of the City's 2008 JURMP, and the City has refined those metrics in the reporting periods since then.

The effectiveness assessment approach developed by the Copermittees during the last permit cycle includes six different levels of targeted outcomes. Each successive level represents a step up from more easily measured, activity-based outcomes to more difficult to measure, quality-based outcomes. The levels are listed below.

Level 1: Compliance with Activity-Based Permit Requirements
Level 2: Changes in Knowledge/Awareness
Level 3: Behavioral Change/BMP Implementation
Level 4: Load Reductions
Level 5: Changes in Discharge Quality
Level 6: Changes in Receiving Water Quality

11.2 EFFECTIVENESS ASSESSMENT RESULTS

The Municipal Permit requires the City to assess the effectiveness of each significant activity for each program component, for each program component as a whole, and for the storm water program as a whole. Level 1, Level 5, and Level 6 outcomes are

discussed in Section 11.2.1. At this time the City is not able to assess Level 5 or Level 6 outcomes for individual program activities or individual programs. As has been noted in CASQA effectiveness assessment guidance, methods for integrated assessment—assessment that combines both monitoring data and programmatic data—are still under development at regional and statewide levels (CASQA, 2007).

11.2.1 OUTCOME LEVEL ASSESSMENTS

Level 1

Level 1 outcomes essentially are measures of Municipal Permit compliance. The component-specific sections in this JURMP Annual Report provide details of programmatic actions taken to comply with the applicable Municipal Permit requirements. Appendix C of this JURMP Annual Report also includes a checklist that matches the Municipal Permit's annual reporting requirements with the section(s) or appendix of this report that addresses each requirement.

Levels 2 and 3

See the tables 11-1 through 11-8 at the end of this section for discussions of Level 2 and Level 3 outcomes for significant activities within each program component. Please note that only a Level 1 assessment applies to fiscal analysis, so no table for fiscal analysis is included.

Level 4

The tables at the end of this section provide information for Level 4 assessments where feasible. Assessment of Level 4 outcomes is feasible for some programs that directly measure the amounts of pollutant removal, such as MS4 cleaning. For most other programs reliable load estimation methods have not yet been developed.

Level 5

One of the City's primary mechanisms for measuring the quality of discharges is the Dry Weather Monitoring Program. Graphs presenting the historical Dry Weather Monitoring Program exceedances are provided at the end of this section as figures 11-1 and 11-2.

Nitrate-nitrogen exceedances have been common over the years and have been attributed to groundwater seepage into the MS4. Exceedances for other constituents measured by field tests have been relatively rare. Laboratory data, collected from 25 percent of the City's sites per Municipal Permit requirements, have shown some exceedances in bacterial indicators. No bacteria exceedances were recorded in 2011, and the exceedance rates have generally decreased in recent years compared to the earlier years of the program. Exceedances for other constituents measured via laboratory analysis, such as diazinon, chlorpyrifos, oil and grease, and heavy metals, have rarely been observed.

In addition to dry weather monitoring, the City continues to conduct the MS4 Outfall Monitoring Program implemented in 2009. This program examines water quality at targeted MS4 outfalls in order to characterize pollutant discharges to receiving waters.

The data is used to assess whether these discharges contribute to the overall receiving water quality on a regional basis; the analysis is presented in the regional Copermittee annual monitoring report, which is submitted to the RWQCB each January.

Level 6

The Copermittees' regional monitoring program sited and monitored two Temporary Watershed Assessment Stations (TWAS) in the San Diego River in 2009/2010, with data provided in January 2011 as part of the regional annual monitoring report. One station was at the eastern side of the City (SDR-TWAS-3), close to the City's jurisdictional boundary with the County of San Diego, and one farther to the west, close to the boundary between the City of Santee and the City of San Diego (SDR-TWAS-2).

Dry weather data from these sites both showed nutrients (nitrogen and phosphorus), bacteria (Enterococci), and TDS as high or medium priority constituents. Synthetic pyrethroids were detected in the sediment at the upstream site (SDR-TWAS-3), but not at the downstream site (SDR-TWAS-2). Wet weather data identified synthetic pyrethroid pesticides (Bifenthrin at both sites, and Permethrin at TWAS-2), sediment (both TSS and turbidity at TWAS-2, but only turbidity at TWAS-3), and bacteria (fecal coliform) as high priority constituents. Dry weather toxicity to *S. capricornitum*, often associated with high TDS, was observed at TWAS-3, and wet weather toxicity to *H. azteca*, often associated with synthetic pyrethroids, was observed at TWAS-2. These results are generally consistent with watershed assessments previously conducted in the San Diego River Watershed and presented in the San Diego River WURMP.

Since 2002, the City has performed an additional study of water quality at five receiving water body locations: upstream and downstream sites in the San Diego River, upstream and downstream sites in Forester Creek, and one site in Sycamore Creek. Samples have been collected under ambient conditions twice per year at each site. Although a portion of Forester Creek outside the City of Santee has been listed as impaired for pH, none of the samples in any water body in Santee's additional study have exceeded the Basin Plan water quality objectives (WQO) for pH at any point during the program's history (Figure 11-3). Figures 11-4, 11-5, and 11-6 show fecal coliform levels measured in upstream and downstream receiving water locations, with downstream measurements typically being lower. In general, fecal coliform levels in recent years are lower than the levels recorded in the earlier years of the program.

Fecal coliform counts are typically lower at the downstream Forester Creek site than the upstream site, and samples collected in 2010 and 2011 from Site J30d1, located downstream of a restored portion of Woodglen Vista Channel, have had relatively low bacteria counts. Assessment data from Forester Creek after project completion presented at the 2010 CASQA Conference showed an 87 percent reduction in fecal coliform bacteria from the upstream to downstream end of the project area. These data are evidence that the City's work to revegetate and improve open channels such as Forester Creek and Woodglen Vista Creek results in improved water quality.

11.2.2 OVERALL COMPONENT ASSESSMENTS

Development Planning

The City's review process for development projects effectively requires higher removal efficiency BMPs. City interaction with responsible parties during the reporting period has resulted in BMP installation and a greater level of awareness of the need for regular treatment control BMP maintenance within the City. City staff have been educated on updated hydromodification management requirements, and information about the new requirements is easily accessible via the City's website. The City has implemented a strong system to verify proper installation of maintenance at the conclusion of construction and notify property owners of the need to implement a maintenance program.

Construction

The City inspected many sites more frequently than required by the Municipal Permit and sent construction BMP reminders prior to the beginning of the wet season. The pre-rainy season notices detailed site specific recommendations from each project, increasing their effectiveness over a standard letter sent out to all projects. The City required grading permit applicants to view the "Hold on to Your Dirt" educational video, and City staff helped educate the development community by presenting at a QSD training. These practices appear to have improved BMP implementation both in general and during rain events, which is when construction activities have the highest potential to discharge pollutants.

Municipal

The City's municipal activities effectively implement BMPs and reduce pollutant loading. The City's municipal staff are regularly trained on storm water issues. The City's Stormwater Program Manager surveyed municipal maintenance staff before and after a training event. Maintenance staff scored highly on both the pre- and post-tests, with slightly higher scores on the post-test. The City sweeps its streets more often than Municipal Permit requirements to aid in WURMP efforts, and the City regularly inspects and cleans out its MS4. The City coordinates with Padre Dam MWD to prevent and respond to any SSOs in the City. The City also distributes pet waste bags through dispensers in its parks; over 120,000 more bags were dispensed in 2010/2011 than during the 2009/2010 Reporting Period.

Industrial and Commercial

A major data management project to update the inventory, involving records research and physical site visits, was completed during the Reporting Period. This effort resulted in removing many businesses that are no longer operating in the City and adding newly discovered businesses. Most inspected businesses did not require follow-up inspections. The City's Stormwater Program Manager followed up with those that did to resolve the deficiencies, and most were resolved by the end of the Reporting Period. Although the Municipal Permit does not require the City to go beyond reporting Industrial Permit

deficiencies to the RWQCB, the City also followed up with businesses observed to be out of compliance with the Industrial Permit.

Additionally, the City has taken proactive steps to identify and educate mobile businesses in the City by identifying them via business licenses and providing education. City staff also regularly drove by areas known to be frequented by mobile businesses, particularly mobile car detailers, during the Reporting Period. Whenever mobile businesses were observed, City personnel stopped to provide educational material and ensure that no discharges were occurring.

Residential

Education, compliant receipt and response via the stormwater hotline, and routine monitoring to detect IC/IDs are the main components of the City's residential stormwater program. The City also encourages residential participation in clean up and other events to help foster a sense of shared responsibility in keeping the community clean. Several cleanup events were held during the Reporting Period. Additionally, several *Santee Review* articles provided stormwater education to City residents. City staff surveyed residents at the Santee Street Fair in May 2011, and the results indicated the respondents were well-educated on storm water issues. Over 93 percent of those surveyed knew that water flowing through the storm drain system is not treated, and the same percentage knew that landscape irrigation runoff from their yard could affect water quality in the San Diego River. Over 96 percent knew that hosing or sweeping trash and debris into a curb and gutter or storm drain is illegal.

IDDE

The City's IDDE program has effectively responded to hotline calls and quickly responded to address any identified IC/IDs. A total of 67 reports to the hotline were received during the Reporting Period, which is not significantly different from the 68 received during the previous reporting period. Actions were also taken in response to the recommendations from the 2010 Dry Weather Monitoring Program Report.

Education

The City continued to make education materials for a variety of audiences, including residents, businesses, developers, and contractors, available on its website. The City also proactively worked to identify carpet cleaners, pool maintenance businesses, and landscapers during the business license application process; such businesses were provided activity-specific educational materials. The City continued its innovative methods of distributing educational material to hard-to-reach audiences in the City; for example, the City's Stormwater Program Manager worked with a local carpet cleaning equipment rental business to distribute activity specific fact sheets for carpet cleaning.

Public Participation

The City has held several clean up events, typically in partnership with community organizations such as the San Diego River Park Foundation. Creek cleanups were held in the City as part of Coastal Cleanup Day and the Creek to Bay Cleanup. These events

helped remove trash and debris and also increased public involvement in protecting the City's waterways.

11.3 PROGRAM REVIEW AND MODIFICATION

No significant changes to the effectiveness assessment approach presented in the City's March 2008 JURMP have been made since the submittal of that document.

Table 11-1
Development Planning Component Assessment Measures

Significant Activity	Level 2	Level 3		Level 4
Review and approve project plans	External Based on meetings with applicants and BMPs proposed, it appears that the level of knowledge is increasing. Internal The City's Stormwater Program Manager and Project Engineers work closely to ensure SUSMP requirements are met.	Overall WQTR approval rate during reporting period	33%	N/A, addressed through other significant activities for this component
		Number of projects requiring three or more reviews prior to WQTR approval	1	
		Percent of approved projects implementing BMPs with high or medium removal efficiencies for key pollutants of concern	100%	
Verify proposed BMPs are implemented	External N/A, knowledge is evaluated by appropriate implementation of BMPs as shown in Level 3 Internal The City's Stormwater Program Manager provides training to staff responsible for verifying BMPs are installed prior to occupancy.	Percent of projects implementing proposed BMPs	100%	Installation of BMPs likely contributed to pollutant load reductions.
		Resolution status of enforcement actions	See Section 2	
Verify BMPs are properly maintained	External Owners notified of requirement to maintain treatment control BMPs Internal The City's Stormwater Program Manager is familiar with BMP maintenance requirements.	Percent of sites certifying BMPs properly maintained before October 1	93%	Proper maintenance of BMPs likely contributed to pollutant load reductions.
		Resolution status of enforcement actions	See Section 2.4.4.2	
		Percent of sites submitting verification forms	100%	
Maintain an accurate inventory	N/A, data management only	N/A, data management only		N/A, data management only

Notes: Level 2 - Changes in Knowledge/Awareness; Level 3 - Behavioral Change/BMP Implementation; Level 4 - Load Reductions; N/A – Not Applicable

Table 11-2
Construction Component Assessment Measures

Significant Activity	Level 2	Level 3		Level 4
Review proposed plans and BMPs	External Projects submit plans for construction BMP implementation for their projects; the level of awareness of construction BMP requirements is fairly high. Internal Training for City staff is described in Section 8. City staff are familiar with relevant construction BMPs.	BMPs proposed for construction projects generally meet requirements; no significant problems have been noted.		Proper pre-project planning is likely to have reduced pollutant loading.
Verify proposed BMPs are implemented	External Grading projects implement BMPs as required by their permits, and contractors are familiar with the City's requirements. Construction projects are notified through inspection notices and letters of requirements. Internal Training for City staff is described in Section 8. City inspectors are familiar with relevant construction BMPs.	Percent of inspections requiring written notices, NOVs, citations, or stop work orders	14%	Proper BMP implementation is likely to have reduced pollutant loading.
		Resolution status of enforcement actions	See Section 3	
		Number of dry weather monitoring exceedances traced to construction sources	0	
Maintain an accurate inventory	N/A, data management only	N/A, data management only		N/A, data management only

Notes: Level 2 - Changes in Knowledge/Awareness; Level 3 - Behavioral Change/BMP Implementation; Level 4 - Load Reductions; N/A – Not Applicable

Table 11-3
Municipal Component Assessment Measures

Significant Activity	Level 2	Level 3		Level 4	
Verify proposed BMPs are implemented at facilities	City staff are regularly trained on BMP implementation; see sections 4 and 8.	Percent of inspected facilities/activities in compliance with BMP requirements	83%	Proper BMP implementation is likely to have reduced pollutant loading.	
		Resolution status of sites requiring follow-up inspections	See Section 4	Amount of pet waste collected	36 tons*
		Number of dry weather monitoring exceedances traced to municipal sites	0		
Sweep streets and parking facilities		N/A, streets and parking facilities are swept as often as directed by management and Municipal Permit requirements.		Amount of sediment and debris removed (weight or volume)	671 tons
				Amount of sediment and debris removed per length of street swept (weight or volume per curb mile)	0.066 tons/ curb mile
Maintain and clean out MS4		N/A, MS4 structures are maintained as often as directed by management and in compliance with permit requirements.		Amount of sediment and debris removed (weight or volume)	445 tons
Maintain sanitary sewer system		N/A, the sanitary sewer system is maintained by Padre Dam MWD.		Total volume of SSO discharge to MS4 (gallons)	0
Maintain municipal treatment control BMPs		N/A, treatment control BMPs are maintained as often as directed by management.		BMP effectiveness studies	N/A
Maintain an accurate inventory	N/A, data management only	N/A, data management only		N/A, data management only	

***** Amount of pet waste collected is based on an estimate of 0.2 pounds of pet waste per bag. This conversion rate was developed by the County of San Diego based on the results of a 2004 study and included in the 2006/2007 WURMP Annual Report. A total of 360,000 pet waste bags were distributed in 2009/2010.

Notes: Level 2 - Changes in Knowledge/Awareness; Level 3 - Behavioral Change/BMP Implementation; Level 4 - Load Reductions; N/A – Not Applicable

Table 11-4
Industrial and Commercial Component Assessment Measures

Significant Activity	Level 2	Level 3		Level 4	
Require BMP implementation	Business owners and operators were educated in variety of ways during the Reporting Period; see sections 5 and 8 for details.	Percent of inspected sites in compliance with discharge prohibitions	99%	Proper BMP implementation is likely to have reduced pollutant loading.	
		Percent of sites not requiring a follow-up	93%		
		Resolution status of enforcement actions	See Section 5		
		Number of dry weather monitoring exceedances traced to industrial or commercial sources	2	Number of IC/IDs eliminated (inspections and complaint investigations)	12
Maintain an accurate inventory	N/A, data management only	N/A, data management only		N/A, data management only	

Notes: Level 2 - Changes in Knowledge/Awareness; Level 3 - Behavioral Change/BMP Implementation; Level 4 - Load Reductions; N/A – Not Applicable

Table 11-5
Residential Component Assessment Measures

Significant Activity	Level 2	Level 3		Level 4
Require BMP implementation	External Residents were educated through articles in the *Santee Review*, targeted mailers, and in variety of other ways during the Reporting Period; see sections 6 and 8 for details. Internal The City's Stormwater Program Manager is heavily involved in the implementation of the residential component and works closely with code compliance in addressing residential stormwater issues. Other City staff involved in the program also have a good understanding of the goals of the storm water program.	Number of residential incidents reported to storm water hotline	44	Resolution of residential incidents reported to the hotline likely resulted in a decrease in pollutant loading through improved BMP implementation.
		Resolution of enforcement actions	See Section 6	
		Number of dry weather monitoring exceedances traced to residential sources	0	
Maintain an accurate inventory	N/A, data management only	N/A, data management only		N/A, data management only

Notes: Level 2 - Changes in Knowledge/Awareness; Level 3 - Behavioral Change/BMP Implementation; Level 4 - Load Reductions; N/A – Not Applicable

Table 11-6
Illicit Discharge Detection and Elimination Component Assessment Measures

Significant Activity	Level 2	Level 3	Level 4
Conduct Dry Weather Monitoring Program	The City contracts with a qualified consultant to perform its Dry Weather Monitoring Program.	N/A, personnel conduct monitoring as directed by management.	No significant, long term IC/IDs were eliminated, so a reliable estimate of load reduction cannot be made.
Respond to incidents reported to storm water hotline	The City's Stormwater Program Manager trains City staff as needed. See sections 4 and 8. City staff were responsible for many of the reports made to the hotline, as shown in Section 4.	N/A, personnel respond to incidents as directed by management. Note that some non-stormwater staff have chosen to respond to observed incidents in their private lives. This is indicative of staff awareness and sense of responsibility.	Resolution of the incidents reported to the hotline and listed in Section 4 are likely to have resulted a pollutant loading reduction.
Respond to and clean up SSOs	City staff are thoroughly trained on how to respond to SSOs.	N/A, the sanitary sewer system is maintained by Padre Dam MWD.	There was one SSO during the reporting period, but it did not result in discharge to the MS4

Notes: Level 2 - Changes in Knowledge/Awareness; Level 3 - Behavioral Change/BMP Implementation; Level 4 - Load Reductions; N/A – Not Applicable

Table 11-7
Education Component Assessment Measures

Significant Activity	Level 2	Level 3	Level 4
Provide storm water education to the public	External The City actively educates the various audiences in its jurisdiction. See Section 8 for details.	See Level 3 outcomes for other program components for information about behavior change.	Sufficient data to estimate load reductions due to educational efforts is not available for the Reporting Period.

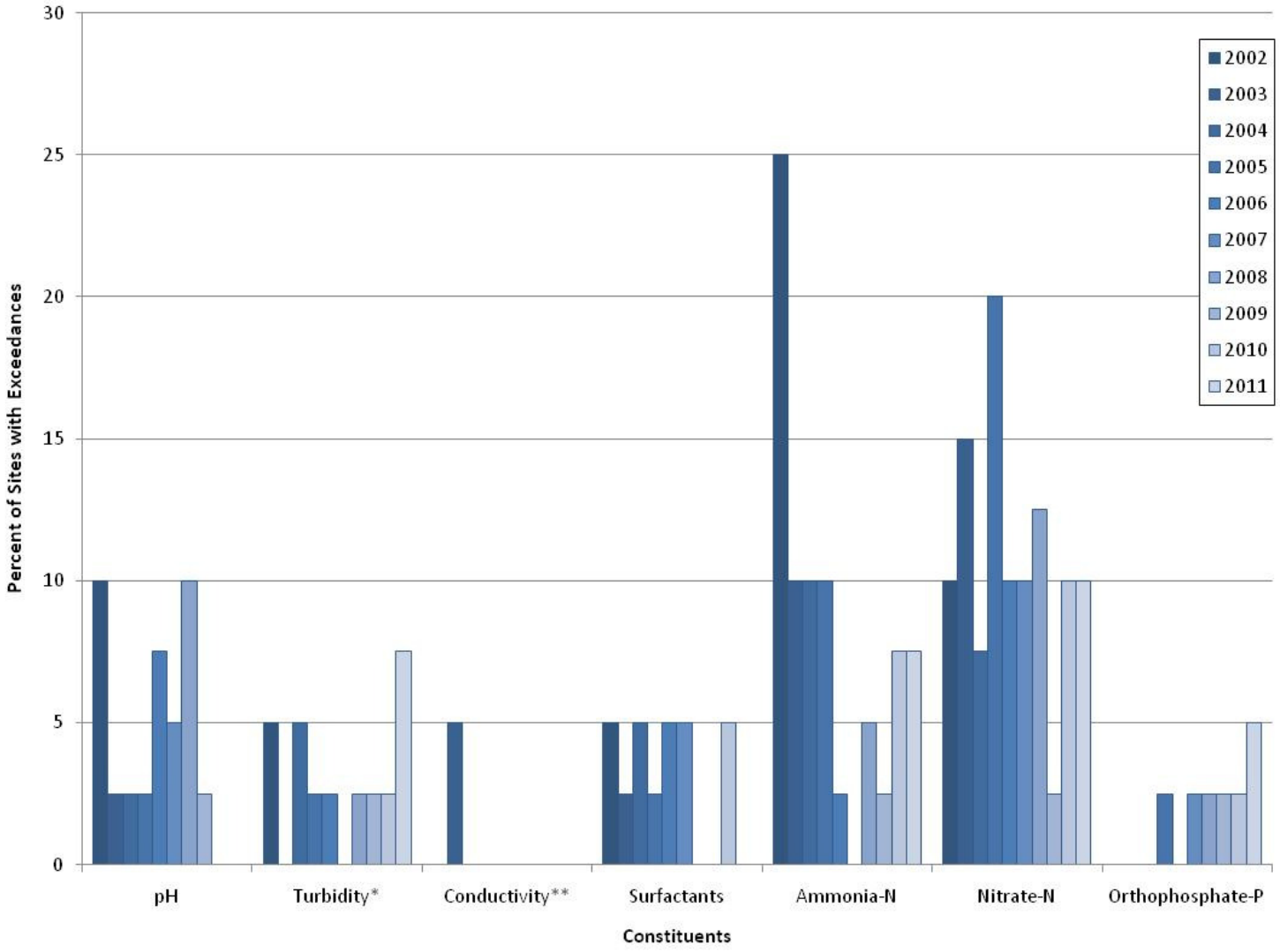
Notes
Level 2 - Changes in Knowledge/Awareness; Level 3 - Behavioral Change/BMP Implementation; Level 4 - Load Reductions; N/A – Not Applicable

Table 11-8
Public Participation Component Assessment Measures

Significant Activity	Level 2	Level 3		Level 4	
Involve the public in activities that relate to storm water protection	External The City and City partners put on a number of opportunities for the public to participate. See Section 9 for details. There were roughly the same number of complaints/ referrals during 2010/2011 (67) as during 2009/2010 (68).	Number of attendees at events	1,027	Amount of trash and debris collected at cleanup events	11 tons
		Number of stormwater complaints received	67	Amount of HHW collected	1150 pounds of HHW, 36 gallons of used oil

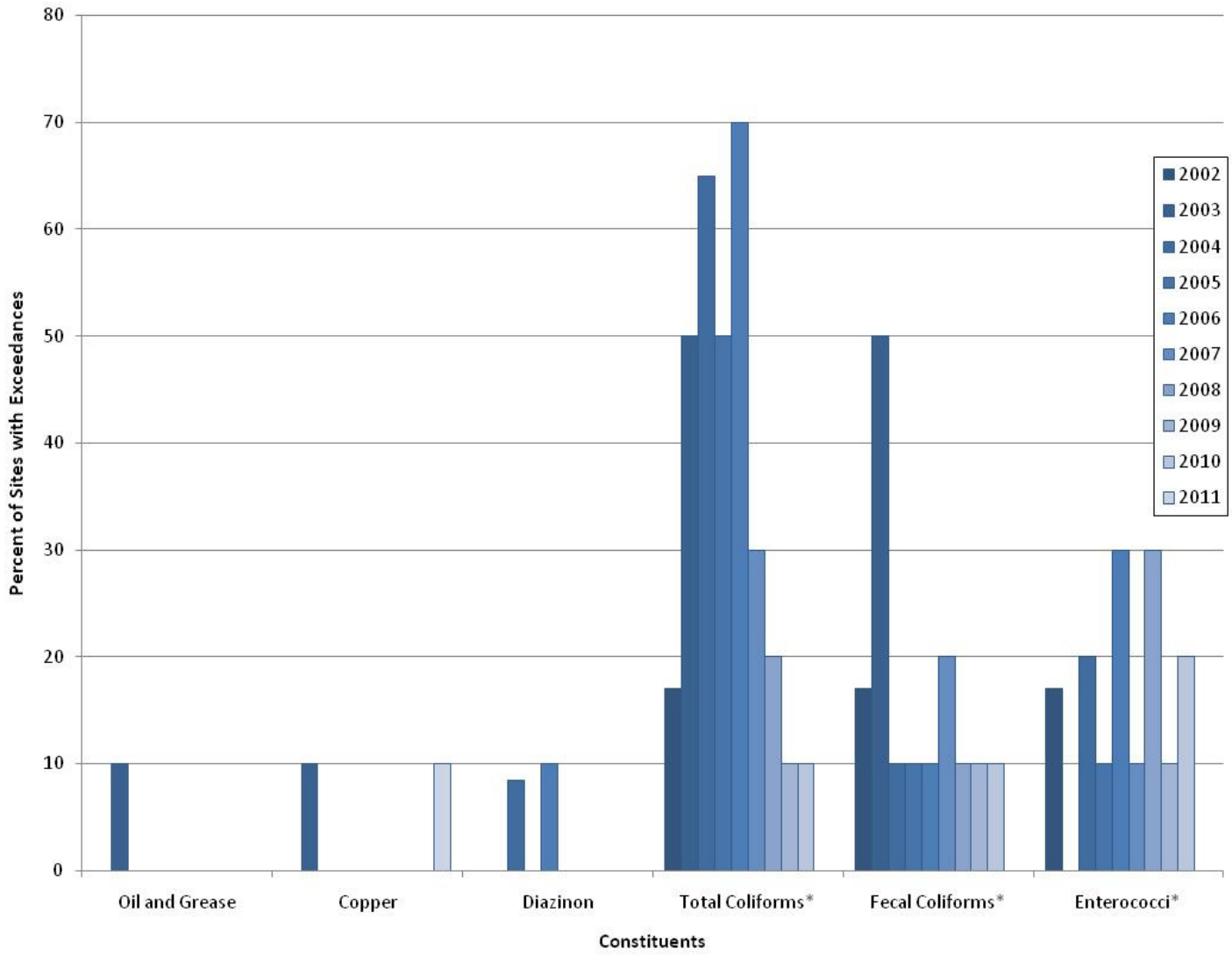
Notes: Level 2 - Changes in Knowledge/Awareness; Level 3 - Behavioral Change/BMP Implementation; Level 4 - Load Reductions; N/A – Not Applicable

Figure 11-1
Dry Weather Monitoring Historical Exceedance Summary: Field Screening Tests



Notes:
* Turbidity action level is based on best professional judgment.
** Conductivity action levels were numeric in the past and transitioned to best professional judgment in recent years.

Figure 11-2
Dry Weather Monitoring Historical Exceedance Summary: Laboratory Analytical Tests



Notes:

*Action levels for bacteria were updated in 2010. Data from 2002-2009 has been compared to action levels in effect at that time. 2010 data has been compared to the updated action levels.

Cadmium, lead, zinc, surfactants, and chlorpyrifos have never exceeded the action level and are therefore not included on the above graph.

Figure 11-3
Additional Study Data: pH

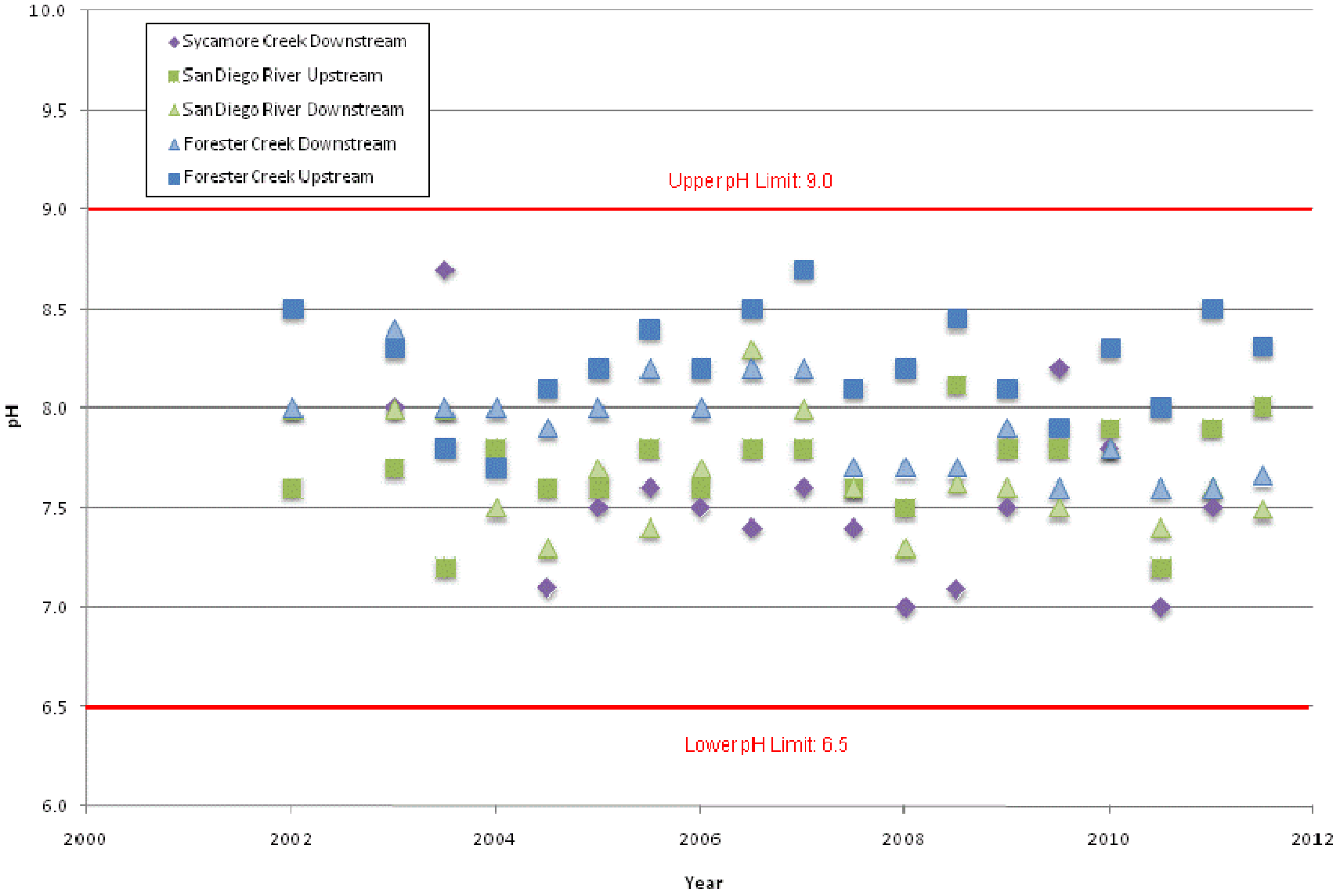


Figure 11-4
Additional Study Data: Fecal Coliform, Forester Creek

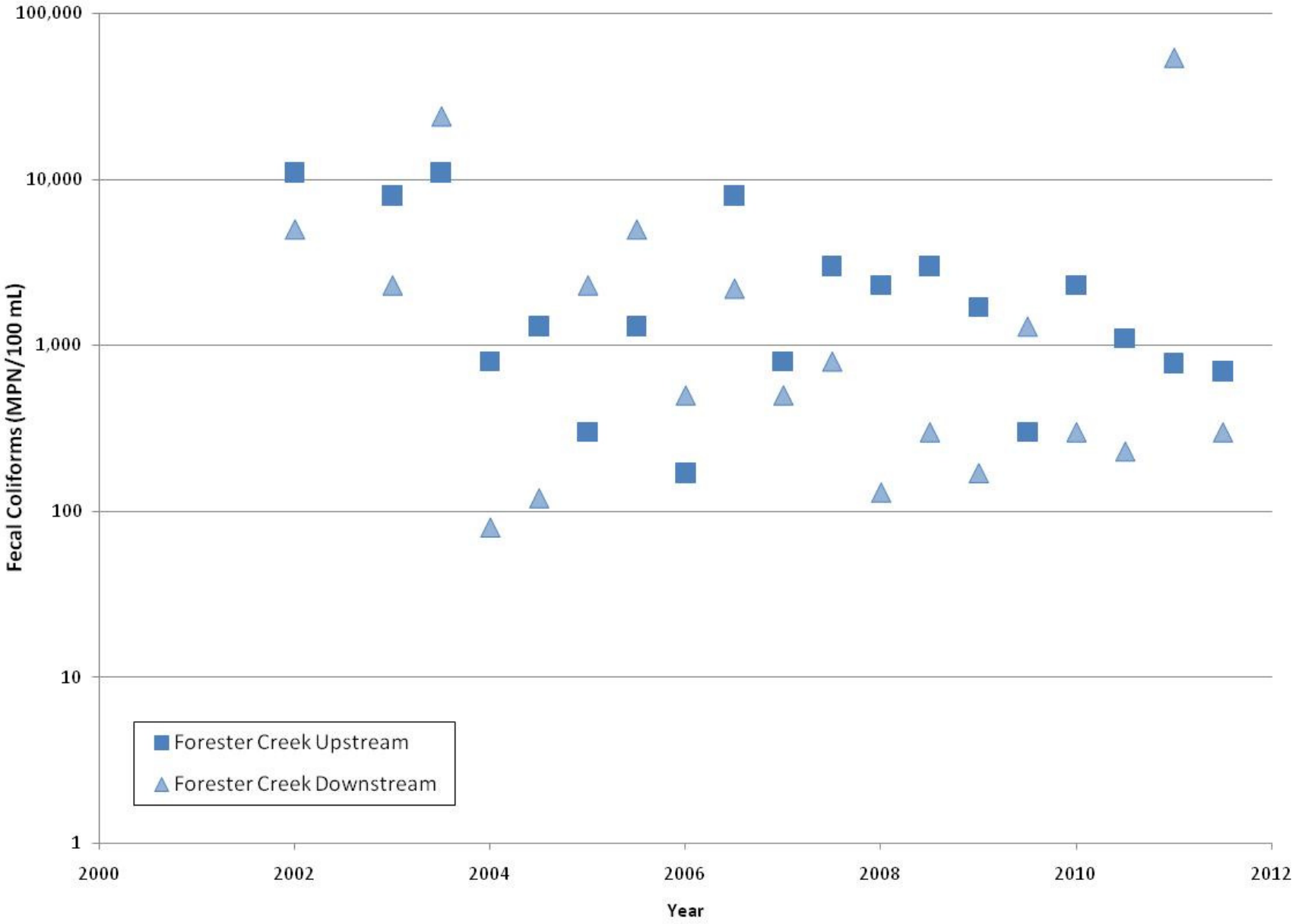


Figure 11-5
Additional Study Data: Fecal Coliform, San Diego River

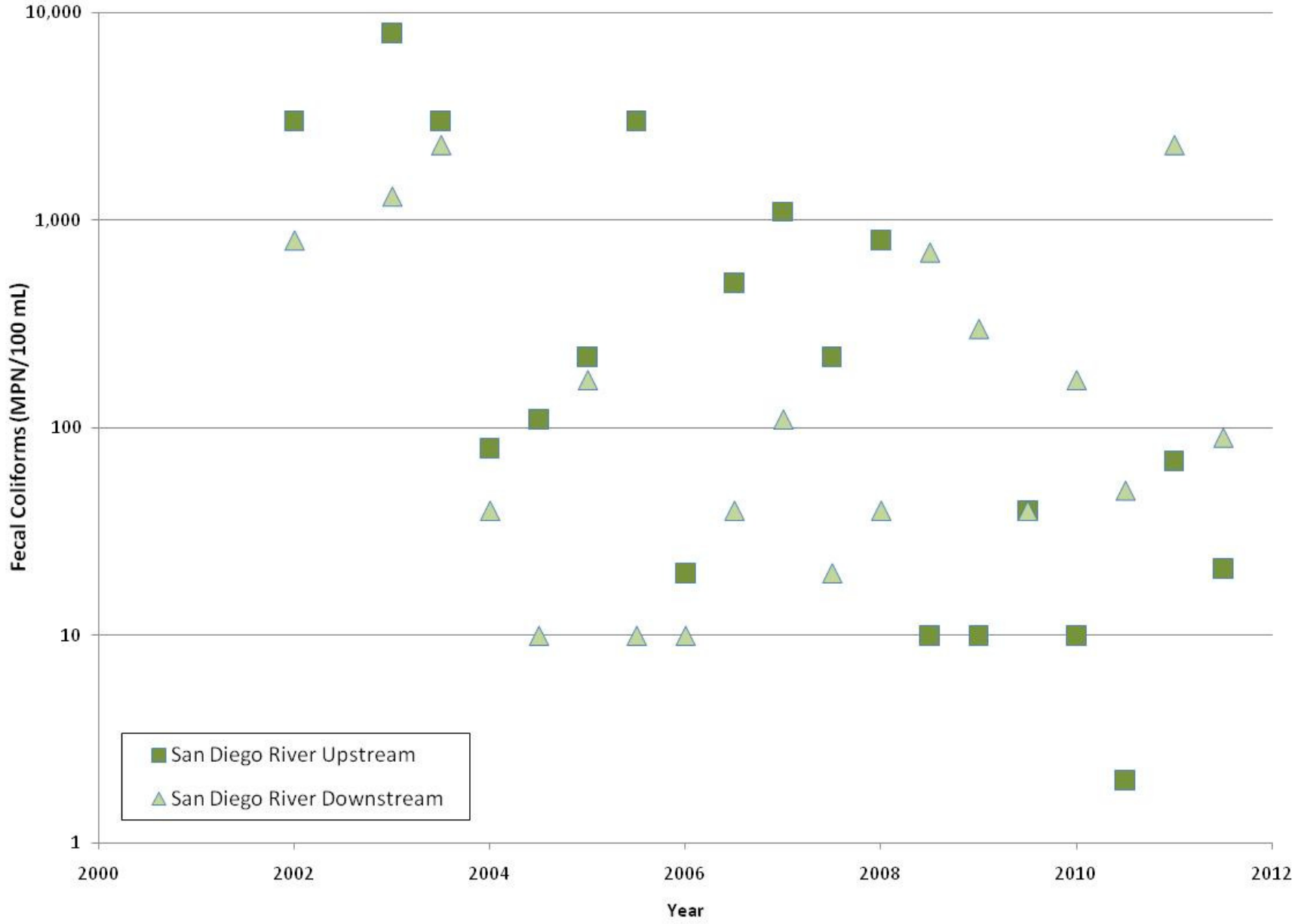
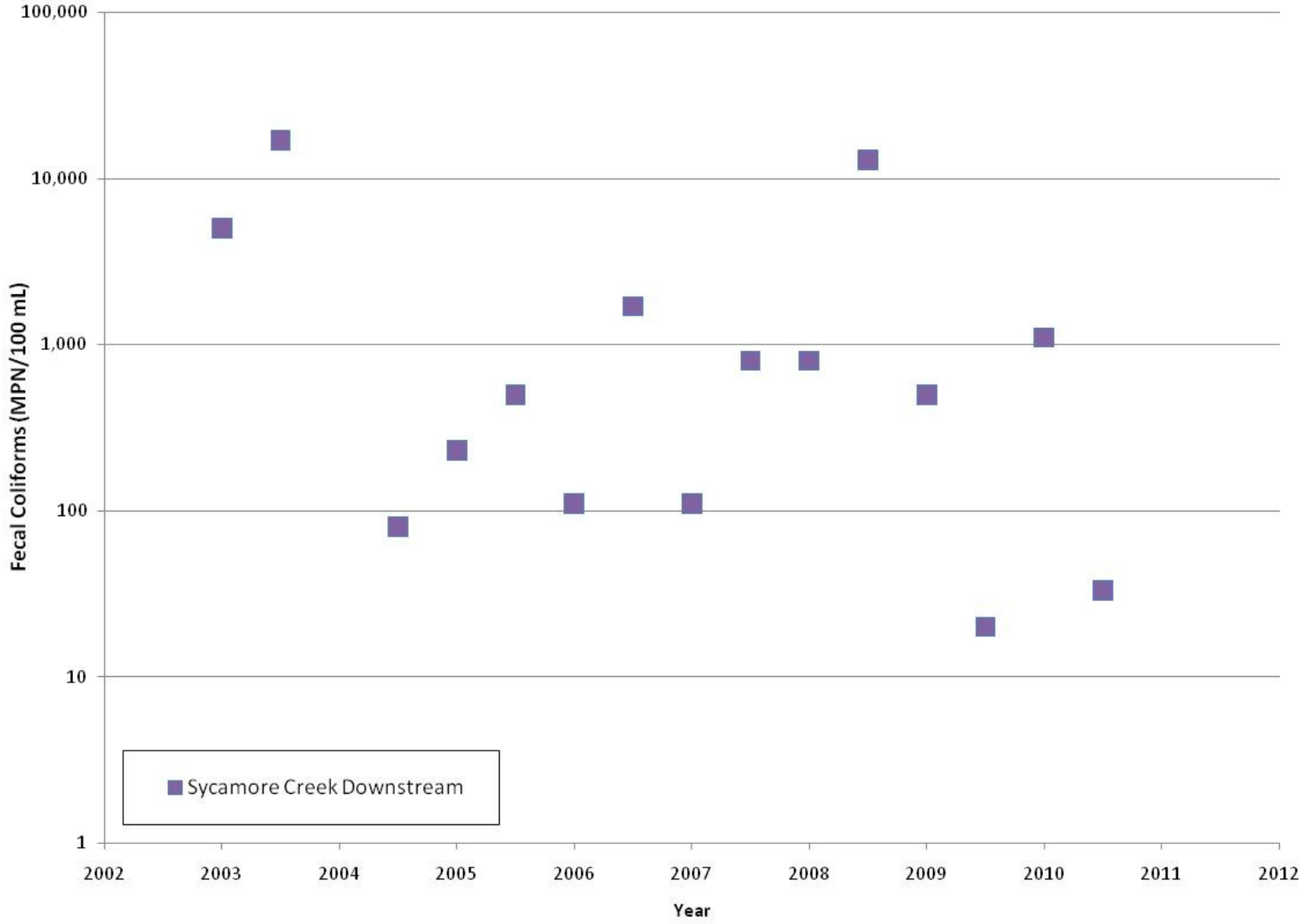


Figure 11-6
Additional Study Data: Fecal Coliform, Sycamore Creek



Note: Sycamore Creek was dry during Round One and Round Two visits in the summer of 2011. Because no testing could be done, results are not shown on the graph, but the bacteria level was effectively zero since the creek was dry.

12.0 SPECIAL INVESTIGATIONS

12.1 SURFACE WATER QUALITY MONITORING

The City has completed a study that includes sampling and analysis under ambient conditions at five sites in receiving water bodies in the City since 2002. The study includes two sites in the San Diego River, two sites in Forester Creek, and one site in Sycamore Creek. These sites are sampled twice per year, concurrently with the two rounds of the City's Dry Weather Monitoring Program. The findings of the additional study can be found in Attachment 12.1.

Notable findings from the two rounds of monitoring in 2010 included the following:

- Total dissolved solids (TDS) exceeded the WQO at both Forester Creek sites and at the San Diego River Downstream site during the both rounds of sampling. Sycamore Creek Downstream also had a TDS exceedance during Round Two.
- *Enterococcus* and fecal coliform bacteria were above the single sample WQOs at Forester Creek Upstream during both rounds of sampling, but below the WQOs at Forester Creek Downstream during Round One. During Round Two, fecal coliform was again below the WQO at the downstream site, but *Enterococcus* was above the WQO. Bacteria levels typically decrease in Forester Creek after traveling through the City of Santee.
- Consistent with historical findings, no pH values exceeded WQOs at any of the water bodies assessed.
- Bacteria levels have generally shown decreasing trends over time at all sites monitored.

12.2 ENVIRONMENTAL PROTECTION AGENCY QUESTIONNAIRE

The City completed a comprehensive questionnaire prepared by the Environmental Protection Agency during August and September 2010. The questions covered a range of topics including development design, construction, illicit discharges, retrofitting BMPs and post construction BMPs. The questions related to the period between 2005 and 2009. The objective of this survey was to collect data to inform new rulemaking by the EPA.

13.0 NON-EMERGENCY FIRE FIGHTING

Please reference Section 4.2.3 of this JURMP Annual Report for information about BMPs and procedures associated with non-emergency fire fighting activities.

14.0 JURMP REVISIONS

The City's JURMP was rewritten in the spring of 2008 in response to new Municipal Permit requirements. Section 14 of the updated JURMP document includes a list of the changes made to the JURMP at that time. Any other changes to the JURMP made since the overall JURMP update in the spring of 2008 are discussed in the individual "Program Review and Modification" subsections in the preceding sections in this JURMP Annual Report.

15.0 CONCLUSIONS AND RECOMMENDATIONS

During the Reporting Period, the City continued to implement the programs in its updated Jurisdictional Urban Runoff Management Plan (JURMP). A checklist matching the JURMP annual reporting requirements in the Municipal Permit with the portion(s) of this JURMP Annual Report and showing where those requirements are addressed is provided as Appendix C. The checklist demonstrates the City's compliance with applicable Municipal Permit regulations during the Reporting Period. Some notable achievements during the Reporting Period are listed below.

- The City completed 142 construction inspections. Pre-rain inspections were regularly completed at construction sites, and overall the construction inspection frequencies met and in some cases exceeded the required frequencies.
- The City conducted 262 business inspections, which is more than 25 percent of its inventory.
- Responsible parties for newly-completed priority projects are notified shortly after project completion of the requirements relating to treatment control BMP maintenance and certification.
- The City spent $203,424 to establish vegetation in the recently improved Forester Creek and Woodglen Vista Creek.
- The City implemented an extensive CMP storm drain survey to asses the condition of the pipes and to prioritize replacement.
- The City responded to 67 complaints made to its storm water hotline, to the City website, or by City staff members.
- Over 11 tons of trash and debris were collected and removed during seven community clean-up events. Over 840 individuals participated in these events.
- The City removed 671 tons of debris from City streets and parking lots and 462 tons from the storm drain system.
- The City adopted a revised SUSMP, based on the Model Standard Urban Stormwater Mitigation Plan (SUSMP) that incorporated the requirements of the final Hydromodification Managmenet Plan (HMP).
- The City had a proactive role in the development of the Model SUSMP and the HMP.
- The City posted the revised SUSMP and HMP on the website.
- One development project was determined to be subject to and was conditioned to comply with SUSMP requirements.
- The City provided a presentation at a qualified SWPPP practitioner training and has provided formalized training for contractors during pre-grading meetings.

- City streets were swept more frequently than required by the Municipal Permit.
- Residents and businesses were educated through the City's updated stormwater pages and articles including storm water pollution prevention information in the *Santee Review*.
- The City completed two rounds of additional monitoring at five locations in receiving waters in the City.

The City will continue to implement its JURMP in future reporting periods. Key components of City's plans for future program implementation include the following.

- Continue to train inspectors and contractors on BMP implementation and maintenance during construction activities.
- Continue to complete inspections before rain events, including inspections immediately preceding the rainy season, for active construction sites.
- Meet the inspection frequency requirements as stated in the Municipal Permit for the development planning (treatment control BMP), construction, municipal, and industrial and commercial components.
- Continue prompt and thorough follow-up for sites at which BMP implementation deficiencies are noted as a means to bring about improved compliance.
- Develop new methods of outreach for the residential, industrial and commercial, development planning, and construction communities.
- Continue to document and respond to complaints reported to the City's storm water hotline.
- Continue to complete the City's Dry Weather Monitoring Program and to investigate any exceedances noted during routine testing.
- Continue to complete additional studies of receiving water quality in the City and to participate in assessments within the San Diego River watershed, as appropriate.
- Increase the number of opportunities for public participation and facilitate participation in such events.

The Copermittees have created several regional workgroups to facilitate sharing of information about how best to run stormwater programs and to provide regional guidance on standardized implementation where applicable. Additionally, in response to the bacteria TMDL adopted in 2010/2011, the City and other jurisdictions within the San Diego River Watershed have begun developing a TMDL implementation plan. The City will continue to work collaboratively with the other jurisdictions on both the standard Municipal Permit requirements and TMDL requirements and continue to refine its program implementation as needed to improve its ability to reduce or eliminate the potential for pollutant discharges and meet regulatory requirements.

16.0 REFERENCES

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APPENDIX A.1

PERMANENT TREATMENT CONTROL BMP INVENTORY

APPENDIX A.1

INVENTORY OF DEVELOPMENT PROJECTS WITH APPROVED TREATMENT CONTROL BMPS

#	Project Name	Address or APN	Watershed	Project Number	Date Completed	BMP Description	Responsible Party	Responsible Party Mailing Address	TTWQ Priority
1	Altair	384-120-40	907.12	G963	12/22/09	Hydrodynamic separator, inlet filters (7)	Altair HOA	c/o Adriana Machuca, 3944 Murphy Canyon Rd, San Diego, CA 92123	High
2	American Sheet Metal	8674 Railroad Avenue	907.12	G-1003	4/4/08	Grassy swale	Ron Burner Jr.	8674 Railroad Avenue, Santee, CA 92071	Low
3	AT&T Fleet Storage**	10111 Prospect Avenue	097.13	G-1124	9/23/10	Grassy swale	Perry and Shaw Inc.	475 West Bradley, El Cajon CA 92020	Medium
4	Aubrey Glen	Hiser Road and Mission Gorge Road	907.12	G-942	06/20/08	Hydrodynamic Separator System	Aubrey Glen HOA	c/o N. N. Jaeskchay 9610 Waples Street San Diego, CA 92121	Medium
5	Autowerks	383-112-53	907.12	DR-02-10 / G818	12/15/04	Drainage inserts and grass swales	Philip H. Thearle II	8890 Mission Gorge Road, Santee CA 92071-3718	Medium
6	Autumnwood II	381-681-20	907.12	TM02-03	11/15/05	Hydrodynamic Separator System (2)	Kingsman LLC	11459 Woodside Avenue, Santee CA 92071-4729	Medium
7	Black Horse Estates*	385-010-34, -35	907.12	TM 2000-02	12/13/06	Filter inserts (5), detention basin.	City of Santee	NA	Medium
8	Boys and Girls Club	8820 Tamberley Way	907.12	G-907	06/16/08	Grassy swale, drainage inserts.	Boys and Girls Club	8820 Tamberley Way, Santee, CA 92071	Medium
9	Cabins at Lake 7**	378 020 49, 376 010 07	907.12	G-1126	02/16/11	Wet pond	Padre Dam Municipal Water District	9300 Fanita Parkway, Santee, CA 92071	Low

APPENDIX A.1
INVENTORY OF DEVELOPMENT PROJECTS WITH APPROVED TREATMENT CONTROL BMPS

#	Project Name	Address or APN	Watershed	Project Number	Date Completed	BMP Description	Responsible Party	Responsible Party Mailing Address	TTWQ Priority
10	Cameron II	10580 Prospect	907.13	G-947	1/23/08	Grassy swale, drainage insert (1)	Cameron Brothers Construction	10580 Prospect Avenue, Santee, CA 92071	Medium
11	Chapparel (Mission View Estates)**	West of Mesa Road.	907.12	G-1043	10/11/10	Bioswales (2) and media filter.	PHOAC	8181 Mission Gorge Road, Suite E, San Diego 92120	Medium
12	Ciraolo Industrial Building	381-540-10 and 11	907.12	G-905/DR04-09	1/5/06	Inlet filters, grass swale, downspout filters	Ciraolo Family Partners	9327 Wheatlands Road, Santee, CA 92071-2860	Medium
13	Cuyamaca Town Common	APN 381-051-01	907.12	G-873	09/05	Drainage inserts	Property Owner	c/o Treitler and Hager LLP, 3737 Camino Del Rio South, Suite 109, San Diego CA 92108-4007	Medium
14	Express Performance	APN 384-141-03	907.12	G1021	5/29/08	Media filter and drainage inserts (2)	Scott and Barbara Young	8711 Magnolia Avenue, Santee, CA 92071	Medium
15	Farrington Court	Farrington Drive, west of Fanita	907.12	G-910	8/16/07	Drainage insert	Brian Snow	LUCA Inc., 8534 Hubbles Lane, Santee, CA 92071	High
16	Fred's Fences	384-250-24	907.13	G-951	10/28/07	Swale and drainage inserts	Fadi Khouri	Fred's Fencing, 10546-60 Kenney Street, Santee, CA 92071	Medium
17	Hartford Insurance*	381-050-59	907.12	DR 2002-04	12/17/03	Vegetated swale, rocky swale, and drainage inserts (3).	Hartford	101 Civic Center Dr, Santee CA 92071	Medium

APPENDIX A.1
INVENTORY OF DEVELOPMENT PROJECTS WITH APPROVED TREATMENT CONTROL BMPS

#	Project Name	Address or APN	Watershed	Project Number	Date Completed	BMP Description	Responsible Party	Responsible Party Mailing Address	TTWQ Priority
18	Lunar Lane Industrial Building**	384-091-38, -39	907.12	G-1118	05/16/11	Bioretention area and cobble swale	Sunset Glazing	8834 La Mesa Boulevard, La Mesa, CA 91942	Low
19	Marketplace	Hazeldon Drive and Mission Gorge Road	907.13	G-1052	12/12/08	Grassy swale, infiltration trench, water quality inlets (4), drainage inserts (2).	Tony Gentry	Sudberry Properties Inc., 5465 Morehouse Drive, Suite 260, San Diego, CA 92121	High
20	Michael Stoff Property	9242 Abraham Way	907.12	G-1003	7/28/08	Grass swale	9424 AW LLC	6749 Top Gun Street Suite 104 San Diego, CA 92121-4151	Medium
21	Morningside	384-081-16	907.12	G-851	12/14/05	Hydrodynamic Separator System	Property Owner	Walters Management, 9665 Chesapeake Drive, Suite 300, San Diego, CA 92123	Medium
22	Padre Dam Service Center*	9300 Fanita Parkway	907.12	G-704	1/5/06	Drainage inserts (6)	Padre Dam Municipal Water District	John Dedonato PO Box 719003, Santee, CA 92072-9003	High
23	Prospect Glen*	Northwest corner of Fanita and Prospect	907.12	G-739	11/19/07	Drainage inserts (3)	Prospect Glen HOA	c/o Harland Associates, 8580 La Mesa Boulevard, Suite 105, La Mesa CA 91941	High
24	Rayo Wholesale*, Rayo II***	11495 Woodside Avenue (382-310-16, -17, -18)	907.12	IP 2001-04, G-1041	12/30/02, 06/24/08	Grass swale, Grassy detention basin with sand cone filter	Kingsmen LLC	11495 Woodside Avenue, Santee CA 92071	Medium

APPENDIX A.1

INVENTORY OF DEVELOPMENT PROJECTS WITH APPROVED TREATMENT CONTROL BMPS

#	Project Name	Address or APN	Watershed	Project Number	Date Completed	BMP Description	Responsible Party	Responsible Party Mailing Address	TTWQ Priority
25	Santee Affordable (Cedar Creek Apartments)**	386-192-39	907.12	G-1114	09/24/10	Bioretention facility	Fanita 48 L.P. c/o Chelsea Development Incorporated	Mr. Bob Haskins, 5993 Avenida Encinas, Suite 100, Carlsbad, CA 92056	Low
26	Santee Trolley Square*	381-052-02	907.12	P2001-06	12/17/03	Inlet filters (12)	Vestar Property Management	Ms. Dana Duncan, 2907 Shelter Island Drive, San Diego, CA 92106	High
27	Sky Business Park	384-091-45	907.12	G-1062	03/23/09	Grass swale, media filter, drainage insert.	Sky Investments Ltd Partnership	Mr. Charles P. Sampson Jr., 8779 Cottonwood Avenue, Santee, CA 92071	Medium
28	Sonic Car Wash	383-121-44	907.12	G-974	8/29/07	Vegetated swale and drainage insert (3)	Kalasho Inc.	Ghazwan Kalasho, 9312 Mission Gorge Road, Santee, CA 92071	Medium
29	Sonic Restaurant	384-091-65, -07	907.12	G-1088	04/02/09	Grass swale	Sonic Restaurant	Ms. Laura Hamelin Sonic Restaurant, 10515 Mission Gorge Road, Santee, CA 92071	Medium
30	Town Center Community Park	381-050-51, 52, and 381-051-06, 07	907.12	2005185	6/29/2010	Media Filter, bioswales (5), buffer strips (2), inlet filters (5)	Sportsplex USA – Santee (media filter only), City of Santee	Mr. Eddie Vandiver, PO Box 711900, Santee, CA 92072	High

APPENDIX A.1

INVENTORY OF DEVELOPMENT PROJECTS WITH APPROVED TREATMENT CONTROL BMPS

#	Project Name	Address or APN	Watershed	Project Number	Date Completed	BMP Description	Responsible Party	Responsible Party Mailing Address	TTWQ Priority
31	Toyota	383-124-11	907.12	G1067	10/14/09	Extended detention basin, bioretention, inlet filters (8)	Toyota of Santee	Mr. Jeremy Cadwell, 965 Arnele Avenue, El Cajon CA 92020	Medium
32	Treviso	Northeast corner Mission Gorge Road and Westhills Parkway	907.12	G-857	10/8/08	Hydrodynamic separator and drainage inserts (2)	Treviso HOA	c/o Melanie Hudson, 3944 Murphy Canyon Road, Suite C205, San Diego CA 92123	High
33	Vista Este*	386-192-18	907.12	G-736/ TM200-03	9/20/06	Inlet filters (2)	Vista Este HOA	c/o The Daniels Company Mr. Jim Daniels, 843 Jamacha Road, El Cajon CA 92019	High
34	Walgreens 1	9305 Mission Gorge Road	907.13	G987	6/3/09	Media filter	Walgreens	Chris Mylek 12298 Pipeline Avenue Chino, CA 91710	High
35	Walgreens 2	10512 Mission Gorge Road	907.12	G1066	12/31/09	Vegetated swale, media filter	Walgreens	Chris Mylek 12298 Pipeline Avenue Chino, CA 91710	Low

Notes

* Project approved prior to development of the City's SUSMP requirements

** Priority Projects that were completed during the 2010/2011 fiscal year

*** These two projects were combined into one listing on the inventory since they are located on the same property and share the same responsible party.

APPENDIX A.2

CONSTRUCTION INVENTORY

APPENDIX A.2
CONSTRUCTION INVENTORY AND INSPECTION SUMMARY

#	Project Name	Watershed	TTWQ	Weeks Active (Wet Season)	#of Insp. (Wet Season)	# of Insp. (Dry Season)	Follow Up Insp.	Complaint Investigation Insp.	Total Insp.
1	AT&T Fleet Storage	907.13	Medium	0	0	0	2	0	2
2	Cabins at Lake 7	907.12	Low	20	5	1	3	0	9
3	Chaparrel/Mission View Estates*	907.12	High	0	0	3	0	0	3
4	Ladera/Morning View	907.12	High	30	19	5	16	0	40
5	Lunar Lane Industrial Building	907.12	Low	28	7	0	4	0	11
6	Mast Park West	907.12	Medium	19	5	0	0	0	5
7	Mission Trail Villas	907.12	Low	16	4	2	4	0	10
8	Prospect Avenue/Fanita	907.12	Low	0	0	1	0	0	1
9	Riverwalk	907.12	Low	30	7	4	3	0	14
10	Santee Affordable (Cedar Creek Apartments)	907.12	Low	0	1**	3	5	0	9
11	Shadow Hill Estates	907.12	Low	0	0	1	1	0	2

APPENDIX A.2
CONSTRUCTION INVENTORY AND INSPECTION SUMMARY

#	Project Name	Watershed	TTWQ	Weeks Active (Wet Season)	#of Insp. (Wet Season)	# of Insp. (Dry Season)	Follow Up Insp.	Complaint Investigation Insp.	Total Insp.
12	Sky Ranch	907.12	High	30	15	5	4	0	25
13	Sunset Trails (Lanterncrest III)	907.12	High	10	5	2	4	0	11

* This project filed an NOT on July 1, 2010. However, minor punchlist type items were completed in early 2010/2011, so the City continued to monitor the site to ensure proper BMPs were in place during that time.

** This project had completed construction prior to the start of the 2010/2011 wet season. City staff visited it during the wet season to verify that construction was in fact complete and no further construction storm water threat existed.

APPENDIX A.3

MUNICIPAL INVENTORY

APPENDIX A.3
MUNICIPAL INVENTORY

#	Facility Name	Facility Address	TTWQ	Watershed	Facility Category
1	Big Rock Park	8125 Arlette Street	High	San Diego River	Parks, Recreational Facilities, and Other Landscaped Areas
2	Fire Station No. 4	8950 Cottonwood Avenue	High	San Diego River	Fire Stations
3	Fire Station No. 5	9130 Carlton Oaks Drive	High	San Diego River/Forester Creek	Fire Stations
4	Graffiti Removal	Throughout City	High	All	Mobile Municipal Activities
5	Infrastructure Maintenance	Throughout City	High	All	Mobile Municipal Activities
6	Landscaping	Throughout City	High	All	Mobile Municipal Activities
7	Mast Park including Mast Park West	9125 Carlton Hills Boulevard and west of 9125 Carlton Hills Boulevard	High	San Diego River	Parks, Recreational Facilities, and Other Landscaped Areas
8	Municipal Separate Storm Sewer	Throughout City	High	All	MS4
9	Public Services Operations Center	9534 Via Zapador	High	San Diego River/Forester Creek	Public Works Facilities
10	Roads, Streets, Highways	Throughout City	High	All	Roads, Streets, Highways, and Parking Facilities
11	Santee Mini Park	10446 Mission Gorge Road	High	San Diego River	Parks, Recreational Facilities, and Other Landscaped Areas
12	Shadow Hill Park	9161 Shadow Hill Road	High	San Diego River	Parks, Recreational Facilities, and Other Landscaped Areas
13	Sky Ranch Park	Southeast corner of Sevilla Street and Cala Lilly Street	High	All	Parks, Recreational Facilities, and Other Landscaped Areas
14	Special Events	Throughout City	High	All	Special Events
15	Town Center Community Park	9545 Cuyamaca Street	High	San Diego River	Parks, Recreational Facilities, and Other Landscaped Areas

APPENDIX A.3
MUNICIPAL INVENTORY

#	Facility Name	Facility Address	TTWQ	Watershed	Facility Category
16	Vehicle Maintenance Facility	8950 Cottonwood Avenue	High	San Diego River	Public Works Facilities
17	West Hills Park	8751 Mast Boulevard	High	San Diego River	Parks, Recreational Facilities, and Other Landscaped Areas
18	Woodglen Vista Park	10250 Woodglen Vista Drive	High	San Diego River	Parks, Recreational Facilities, and Other Landscaped Areas
19	City Activity Building #1	8115 Arlette Street	Low	San Diego River	Other Fixed Facilities
20	City Activity Building #2	10335 Mission Gorge Road	Low	San Diego River	Other Fixed Facilities
21	Santee City Hall and Civic Center	10601 Magnolia Avenue	Low	San Diego River/Woodglen Vista Channel	Other Fixed Facilities
22	Santee Teen Center	9310 Fanita Parkway	Low	San Diego River	Other Fixed Facilities

APPENDIX A.4

INDUSTRIAL/COMMERCIAL INVENTORY

Appendix A.4
Santee Stormwater Industrial/Commercial Inventory, September 2011

Agency	Facility Name	Address Number	Suite Number	Street Name	City	Zip Code	Watershed	SIC Code	Principal Products / Services	Potential Pollutants									Tributary to 303(d) Listed	Threat to Water Quality	Threat Confirmed?
										Potential pollutants that may be generated by the facility.											
Jurisdiction responsible for inspection of facility (Copermittee)	Name used to identify facility in database	Street number of facility, this is the numeric street address	Suite or unit number or letter, if needed.	Name of street facility is located on	City where facility is located	Zip code where facility is located	Hydrologic sub-area in which facility located (all San Diego River Watershed)	Standard Industrial Classification code of facility determined by US Department of Labor - OSHA.	A narrative description which best reflects the principle products or services provided by the facility.	Bacteria	Gross Pollutants	Metals	Nutrients	Oil & Grease	Organics	Pesticides	Sediment	Trash	Is facility a tributary to 303(d) listed receiving water and generating pollutants for which the water body is impaired?	Does the facility those a high threat to water quality?	Has the threat to water quality been confirmed through inspection or other means of verification?
SA	LA COSTA LANDSCAPE MAINT CO	10320		PROSPECT AVENUE	Santee	92071	907.13	0181	Floriculture production, no outside storage observed during inspection.	No	No	No	No	No	No	No	No	No	No	Medium	No
SA	PAX WEST IMPORTS	7735	59	MISSION GORGE ROAD	Santee	92071	907.12	0181	Nursery and tree production, homebased, may just be an office.	No	No	No	No	No	No	No	No	No	No	Medium	No
SA	SANTEE PET HOSPITAL	8936		CARLTON HILLS BOULEVARD	Santee	92071	907.12	0742	Animal hospital services all indoors.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	Cuyamaca Animal Hospital	8802	B	Cuyamaca Street	Santee	92071	907.12	0742	Indoor services for domestic pets, outside gravel area for walking area.	No	No	No	No	No	No	No	No	No	No	Medium	No
SA	MAST BOULEVARD BLVD PET CARE CENTER	9740		MAST AVENUE	Santee	92071	907.12	0742	Indoor services for domestic pets.	No	No	No	No	No	No	No	No	No	No	Medium	No
SA	Furry Friends Resort	8802	A	Cuyamaca Street	Santee	92071	907.12	0752	Dog and cat grooming services conducted indoors.	No	No	No	No	No	No	No	No	No	No	Medium	No
SA	Doggie Station	8951		CARLTON HILLS BOULEVARD	Santee	92071	907.12	0752	Dog and cat grooming services conducted indoors.	No	No	No	No	No	No	No	No	No	No	Medium	No
SA	Essential Grooming	9225	7	CARLTON HILLS BOULEVARD	Santee	92071	907.12	0752	Pet grooming services conducted indoors.	No	No	No	No	No	No	No	No	No	No	Medium	No
SA	Aloha Pet Grooming	8011	G	MISSION GORGE ROAD	Santee	92071	907.12	0752	Pet grooming services conducted indoors.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	Meet Me At The Park Grooming	8011	G	MISSION GORGE ROAD	Santee	92071	907.12	0752	Pet grooming services conducted indoors.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	CURTIS LAND PATROL	8652	16	MAST AVENUE	Santee	92071	907.12	0781	Landscape architectural company, possible outside storage of landscaping materials and waste.	No	No	No	No	No	No	No	No	No	No	Medium	No
SA	Tony's Landscaping*	9941		Lake Canyon	Santee	92071	907.12	0781	Homebased gardening and landscaping company, outdoor storage of materials, equipment and waste a possibility.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	JCMS Landscape*	10638		PROSPECT AVENUE	Santee	92071	907.13	0781	Base for landscape contracting business, verified that all materials are stored under cover.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	BOURGEOIS INC*	9406		VIA ZAPADOR	Santee	92071	907.13	0782	Base for landscaping company. No outside storage or c	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	CROSSMAN LANDSCAPE*	8617		CUYAMACA STREET	Santee	92071	907.13	0782	Base for landscaping company (residential and commercial sites). Some outside storage of landscaping materials and wastes on gravel or asphalt-covered areas. Drains to sump that pumps to street.	Yes	Yes	No	Yes	No	Yes	Yes	Yes	Yes	Yes	Medium	Yes
SA	BUTLER'S WEED ABATEMENT*	9430		GALSTON DRIVE	Santee	92071	907.12	0782	Homebased business of tree, shrub and weed abatement. Potential for outside storage of materials and waste.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	DeCrescente's Landscaping*	8748		WAHL STREET	Santee	92071		0782	Home-based lawncare maintenance service. Any materials stored outside observed to be covered.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	Four Season Gardening & Landscaping*	9328	DRIVE	ST ANDREWS DRIVE	Santee	92071	907.12	0782	Homebased gardening business where work is conducted offsite.	No	No	No	No	No	No	No	No	No	No	Medium	No
SA	GENSCHAW'S TREE SERVICE*	10744		SAYERS COURT	Santee	92071	907.12	0782	Homebased business of tree and shrubery trimming. Potential for outdoor storage, could be reprioritized to low.	No	No	No	No	No	No	No	No	No	No	Medium	No
SA	PERPETUAL TREE CARE*	9376		STARCREST DRIVE	Santee	92071	907.13	0782	Tree maintenance (trimming, removals, stump grinding) residen & comm	No	No	No	No	No	No	No	No	No	No	Medium	No
SA	PROSCAPE*	9440		Leticia Drive	Santee	92071	907.12	0782	Homebased company providing offsite landscaping services, potential for outside storage of materials and waste.	No	No	No	No	No	No	No	No	No	No	Medium	No
SA	Rafael Gardening*	8843		COTTONWOOD AVENUE	Santee	92071	907.12	0782	Homebased company providing offsite landscaping services, gravel yard onsite, any storage indoors.	No	No	No	No	No	No	No	No	No	No	Low	Yes

Appendix A.4
Santee Stormwater Industrial/Commercial Inventory, September 2011

Agency	Facility Name	Address Number	Suite Number	Street Name	City	Zip Code	Watershed	SIC Code	Principal Products / Services	Potential Pollutants									Tributary to 303(d) Listed	Threat to Water Quality	Threat Confirmed?
										Potential pollutants that may be generated by the facility.											
Jurisdiction responsible for inspection of facility (Copermittee)	Name used to identify facility in database	Street number of facility, this is the numeric street address	Suite or unit number or letter, if needed.	Name of street facility is located on	City where facility is located	Zip code where facility is located	Hydrologic sub-area in which facility located (all San Diego River Watershed)	Standard Industrial Classification code of facility determined by US Department of Labor - OSHA.	A narrative description which best reflects the principle products or services provided by the facility.	Bacteria	Gross Pollutants	Metals	Nutrients	Oil & Grease	Organics	Pesticides	Sediment	Trash	Is facility a tributary to 303(d) listed receiving water and generating pollutants for which the water body is impaired?	Does the facility those a high threat to water quality?	Has the threat to water quality been confirmed through inspection or other means of verification?
SA	THE HAY GUY*	10932		Grand Fork Drive	Santee	92071	907.12	0782	Homebased company providing offsite landscaping services, potential for outside storage of materials and waste.	No	No	No	No	No	No	No	No	No	No	Medium	No
SA	Johnny's Lawn Service*	10062		Woodpark Drive	Santee	92071	907.12	0782	Homebased company providing offsite landscaping services, potential for outside storage of materials and waste.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	Santee Landscape*	9327		Whispering Leaves Lane	Santee	92071		0782	Homebased company providing offsite landscaping services, potential for outside storage of materials and waste.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	Royal Handyman & Landscaping Services*	9233		RUFFIN ROAD	Santee	92071		0782	Homebased company providing offsite landscaping services, potential for outside storage of materials and waste.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	JAFCO BUILDING SERVICES INC	10728	109	PROSPECT AVENUE	Santee	92071	907.13	1511	Base for construction contractor, office, potential for outside storage of equipment, materials and waste.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	GILES CONSTRUCTION CO	10131		ASHDALE LANE	Santee	92071	907.12	1511	Homebased office for construction contractor, potential for outside storage of equipment, materials and waste.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	BOND CONSTRUCTION	7819	F	RANCHO FANITA DRIVE	Santee	92071	907.12	1521	Homebased office for construction contractor, potential for outside storage of equipment, materials and waste.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	CARL'S TRIM & REMODELING SUPPLY	9524		GALSTON DRIVE	Santee	92071	907.12	1521	Homebased office for construction contractor, potential for outside storage of equipment, materials and waste.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	Chuck Wilson Construction	9731		ABBEYFIELD ROAD	Santee	92071	907.12	1521	Homebased office for construction contractor, no outside exposures observed during inspection.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	CORONADO CONTRACTORS	10101		GEM TREE WAY	Santee	92071	907.12	1521	Homebased office for construction contractor, potential for outside storage of equipment, materials and waste.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	CUSTOM CRAFT CONSTRUCTION	8546	18	GRAHAM TERRACE	Santee	92071	907.12	1521	Homebased office for construction contractor, potential for outside storage of equipment, materials and waste.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	D C R CONSTRUCTION SERVICES	9440	4	WHEATLANDS	Santee	92071	907.12	1521	Base for construction contractor. No outdoor exposures. Some indoor storage, minimal work done onsite, as space mostly used for administrative purposes.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	DESIGNER'S TOUCH BUILDERS	9953		LOS RANCHITOS ROAD	Santee	92071	907.12	1521	Homebased office for construction contractor, no outside exposures (i.e., storage) observed during inspection	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	FARRIS CONSTRUCTION COMPANY	8758		BUSHY HILL DRIVE	Santee	92071	907.12	1521	Homebased office for construction contractor, no outside exposures (i.e., storage) observed during inspection	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	FRED PERRY	9211		BELLAGIO DRIVE	Santee	92071	907.12	1521	Homebased office for construction contractor, no outside exposures (i.e., storage) observed during inspection	No	No	No	No	No	No	No	No	No	No	Low	Yes

Appendix A.4
Santee Stormwater Industrial/Commercial Inventory, September 2011

Agency	Facility Name	Address Number	Suite Number	Street Name	City	Zip Code	Watershed	SIC Code	Principal Products / Services	Potential Pollutants									Tributary to 303(d) Listed	Threat to Water Quality	Threat Confirmed?
										Potential pollutants that may be generated by the facility.											
Jurisdiction responsible for inspection of facility (Copermittee)	Name used to identify facility in database	Street number of facility, this is the numeric street address	Suite or unit number or letter, if needed.	Name of street facility is located on	City where facility is located	Zip code where facility is located	Hydrologic sub-area in which facility located (all San Diego River Watershed)	Standard Industrial Classification code of facility determined by US Department of Labor - OSHA.	A narrative description which best reflects the principle products or services provided by the facility.	Bacteria	Gross Pollutants	Metals	Nutrients	Oil & Grease	Organics	Pesticides	Sediment	Trash	Is facility a tributary to 303(d) listed receiving water and generating pollutants for which the water body is impaired?	Does the facility those a high threat to water quality?	Has the threat to water quality been confirmed through inspection or other means of verification?
SA	FREDDIE CASTLEMAN CONSTRUCTION	9312		CARITA	Santee	92071	907.12	1521	Homebased office for construction contractor, potential	No	No	No	No	No	No	No	No	No	No	Low	No
SA	FRY SPECIALTY COMPANY	11316	G	WOODSIDE AVENUE	Santee	92071	907.12	1521	Used for administrative purposes for construction contr	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	GORDON-PRILL SAN DIEGO INC.	8400	F	MAGNOLIA AVENUE	Santee	92071		1521	Base for construction contractor, office, potential for outside storage of equipment, materials and waste.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	HACIENDA BUILDERS	10648		TRIGAL WAY	Santee	92071	907.12	1521	Homebased office for construction contractor, potential	No	No	No	No	No	No	No	No	No	No	Medium	No
SA	HARPER CONSTRUCTION	7819	C	RANCHO FANITA DRIVE	Santee	92071	907.12	1521	Base for construction contractor, office, potential for outside storage of equipment, materials and waste.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	JACOR CONSTRUCTION	8614		SIESTA ROAD	Santee	92071	907.13	1521	Base for construction contractor, office, potential for outside storage of equipment, materials and waste.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	JWG CONSTRUCTION COMPANY	10910		COLLINWOOD DRIVE	Santee	92071	907.12	1521	Homebased office for construction contractor, potential for outside storage of equipment, materials and waste.	No	No	No	No	No	No	No	No	No	No	Medium	No
SA	K C M CONSTRUCTION	10749		LEN	Santee	92071	907.12	1521	Homebased office for construction contractor, potential for outside storage of equipment, materials and waste.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	MB CUSTOMS	11115		SUMMIT CREST DRIVE	Santee	92071	907.12	1521	Homebased office for construction contractor, potential for outside storage of equipment, materials and waste.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	R M B CONSTRUCTION	9902		VIA NINA	Santee	92071	907.12	1521	Homebased office for construction contractor, potential for outside storage of equipment, materials and waste.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	ROCK SOLID BRICK TILE AND MASONRY	9358		BURNING TREE WAY	Santee	92071	907.12	1521	Homebased office for construction contractor, potential for outside storage of equipment, materials and waste.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	SNOW CONSTRUCTION (also R.E. SNOW)	10107	A	PROSPECT AVENUE	Santee	92071	907.13	1521	Base for construction contractor, office, potential for outside storage of equipment, materials and waste.	No	Yes	Yes	No	Yes	No	No	No	Yes	Yes	Low	No
SA	T S C RESTORATION	8402	C	MAGNOLIA AVENUE	Santee	92071	907.13	1521	Base for construction contractor, office, potential for outside storage of equipment, materials and waste.	No	Yes	Yes	No	Yes	No	No	No	Yes	Yes	Low	No
SA	TIMBER RIDGE FRAMING INC	10744	109	ROCKVILL STREET	Santee	92071	907.12	1521	Base for construction contractor, office, potential for outside storage of equipment, materials and waste.	No	Yes	Yes	No	Yes	No	No	No	Yes	Yes	Low	No
SA	G COLE LABORING	9345		CADORETTE STREET	Santee	92071	907.12	1521	Base for construction contractor, office, potential for outside storage of equipment, materials and waste.	No	Yes	Yes	No	Yes	No	No	No	Yes	Yes	Medium	No
SA	PAT MARTIN CONSTRUCTION	9743		PEBBLE BEACH DRIVE	Santee	92071	907.12	1521	Homebased office for construction contractor, no outside exposures (i.e., storage) observed during inspection	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	PETE HURTUBISE CONSTRUCTION	9464		PIKE ROAD	Santee	92071	907.12	1521	Homebased office for construction contractor, potential for outside storage of equipment, materials and waste.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	R J A MASONRY	10057		PEBBLE BEACH DRIVE	Santee	92071	907.12	1521	Homebased office for construction contractor, no outside exposures (i.e., storage) observed during inspection	No	No	No	No	No	No	No	No	No	No	Low	Yes

Appendix A.4
Santee Stormwater Industrial/Commercial Inventory, September 2011

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SA	MICHAEL WAYNE FARRIL CONSTRUCTION CO	8758		BUSHY HILL DRIVE	Santee	92071	907.12	1521	Homebased office for construction contractor, potential for outside storage of equipment, materials and waste.	No	No	No	No	No	No	No	No	No	No	Medium	No
SA	Day & Night Restoration Inc.	10728	G	PROSPECT AVENUE	Santee	92071	907.13	1521	Used for administrative purposes for construction contractor. No outdoor exposures (i.e., storage) observed during inspection.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	A Revitalized Bath And Kitchen	9435	D	Wheatlands	Santee	92071	907.12	1521	Base for construction contractor, office, potential for outside storage of equipment, materials and waste.	No	Yes	Yes	No	Yes	No	No	No	Yes	Yes	Medium	No
SA	AUSTIN CONSTRUCTION, JAMES F	9540	103	PATHWAY STREET	Santee	92071	907.13	1522	Base for construction contractor, office, potential for outside storage of equipment, materials and waste.	No	Yes	Yes	No	Yes	No	No	No	Yes	Yes	Low	No
SA	Decker's Custom Carpentry	9244		Bird Street	Santee	92071	907.12	1522	Home base for contractor working on landscape carpentry, decks and patio covers.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	DIMOND CONSTRUCTION	10112		GEM TREE WAY	Santee	92071	907.12	1522	Homebased office for construction contractor, potential for outside storage of equipment, materials and waste.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	OLD SWEDE REPAIRS	8500		ABLETTE ROAD	Santee	92071	907.13	1522	Base for construction contractor, office, potential for outside storage of equipment, materials and waste.	No	Yes	Yes	No	Yes	No	No	No	Yes	Yes	Low	No
SA	JV STEEL BUILDING	9619		MAST BOULEVARD	Santee	92071	907.12	1541	Homebased office for construction contractor, potential for outside storage of equipment, materials and waste.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	FORDYCE CONSTRUCTION	9926	122	PROSPECT AVENUE	Santee	92071	907.13	1542	Base for construction contractor, office, potential for outside storage of equipment, materials and waste.	No	Yes	Yes	No	Yes	No	No	No	Yes	Yes	Low	No
SA	KALIN ENTERPRISES INC	9540	201	PATHWAY STREET	Santee	92071	907.13	1542	Base for construction contractor, office, potential for outside storage of equipment, materials and waste.	No	Yes	Yes	No	Yes	No	No	No	Yes	Yes	Medium	No
SA	COUVRETTE BUILDING SYSTEMS	8665	D	ARGENT STREET	Santee	92071	907.13	1542	Base for contractor installing ATM kiosks, some outside storage of equipment observed.	No	Yes	Yes	No	Yes	No	No	No	Yes	No	Low	Yes
SA	Interstate Striping of California	8511	#B	ABLETTE ROAD	Santee	92071	907.13	1611	Base for contractor installing road striping, some outside storage of equipment observed.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	Yes
SA	SUPERIOR ASPHALT	9211		SECURITY WAY	Santee	92071	907.12	1611	Base for contractor installing streets and roads, office, outside storage of equipment and materials.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Medium	Yes
SA	Provost Inc Dba Traffic Tech	11366	B	WOODSIDE AVENUE	Santee	92071	907.12	1611	Base for street and parking lot contractor, potential for outdoor storage.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	High	No
SA	T C CONSTRUCTION CO INC	10540		PROSPECT AVENUE	Santee	92071	907.13	1623	Base for contractor installing sewer and water infrastructure. Outside storage of materials, wastes and equipment. Largely gravel or soil surface. Indoor equipment washing facility.	No	Yes	Yes	No	Yes	Yes	No	Yes	No	No	Medium	Yes
SA	BOCK COMPANY	8510		RAILROAD AVENUE	Santee	92071	907.12	1623	Base for underground Utility contractor. Outside storage of equipment. Yard permeable (soil or gravel).	No	No	Yes	No	Yes	No	No	No	No	No	Low	No
SA	TAYLOR INC DBA:, K.	8614	D	ARGENT STREET	Santee	92071	907.13	1623	Base for contractor installing sewer and water infrastructure. Potential for outside storage of materials, wastes and equipment.	No	No	Yes	No	Yes	No	No	No	No	No	Low	Yes

Appendix A.4
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SA	Woodruffs Trenching Inc	9735		PROSPECT AVENUE	Santee	92071	907.13	1623	Base for trenching contractor used for storage of excavation equipment. Yard permeable (soil or gravel).	No	No	Yes	No	Yes	No	No	No	No	No	Medium	Yes
SA	PRECISION EXCAVATION	9713		MAST BOULEVARD	Santee	92071	907.12	1629	Base for contractor in heavy construction. Potential for outside storage of materials, wastes and equipment.	No	No	Yes	No	Yes	No	No	No	No	No	Low	No
SA	Bluewater Marine & Dock Specialties	10520		KENNEY STREET	Santee	92071	907.13	1629	Base for contractor for marine dock fabrication.	No	Yes	Yes	No	Yes	No	No	No	Yes	No	Medium	Yes
SA	ALLEN MECHANICAL Inc.	11030		SUMMIT AVENUE	Santee	92071	907.12	1711	Homebase for commercial air conditioning and heating contractor, potential for outside storage	No	No	No	No	No	No	No	No	No	No	Low	No
SA	ALLIANCE HEATING AND AIR CONDITIONING	10281		PEBBLE BEACH DRIVE	Santee	92071	907.12	1711	Homebase for residential air conditioning and repair contractor, no outside exposures observed during inspection	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	ARROW AUTOMATIC FIRE SPRINKLER	9520		PATHWAY STREET	Santee	92071	907.13	1711	Base for contractor who designs, fabricate and install automatic fire sprinklers.	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	Coltrane Fire Protection	8620		BIG ROCK ROAD	Santee	92071	907.12	1711	Homebased sales and service fire sprinklers fire extinguishers and kitchen systems. No outside exposures (i.e., storage) observed.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	COMFORT MECHANICAL INC	10740	404	KENNEY STREET	Santee	92071	907.13	1711	Base for contractor working in plumbing, heating and air conditioning, potential for outside storage.	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	COUNTY HEATING AND AIR CONDITIONING	10020		PROSPECT AVENUE	Santee	92071	907.13	1711	Base for contractor working in heating and air conditioning, potential for outside storage.	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	CURTIS AIR CONDITIONING AND HEATING	10290		PEBBLE BEACH DRIVE	Santee	92071	907.12	1711	Home base for contractor working on air conditioning and heating, potential for outside storage.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	FICK & SON PLUMBING INC, R L	10740	405	KENNEY STREET	Santee	92071	907.13	1711	Base for contractor working in plumbing, heating and air conditioning, potential for outside storage.	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	HALE & SONS INC	8626		SIESTA ROAD	Santee	92071	907.13	1711	Base for contractor working in plumbing, heating and air conditioning, potential for outside storage.	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	IDEAL MECHANICAL	8524		ABLETTE ROAD	Santee	92071	907.13	1711	Base for contractor working in plumbing, heating and air conditioning, potential for outside storage.	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	JERRY'S HEATING AND AIR CONDITIONING	9717		AIRPORT VISTA WAY	Santee	92071	907.13	1711	Contractor installing and service heaters and airconditioners, potential for outside storage.	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	PARADISE MECHANICAL, Inc. DBA PMI HEATING & AIR	9260		ISAAC STREET	Santee	92071	907.12	1711	Contractor installing heating and airconditioning systems, potential for outside storage.	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	PRECISION PROJECTS KITCHEN & BATH	10235		PRINCE JED COURT	Santee	92071	907.12	1711	Homebase for air conditioning and heating contractor, potential for outside storage	No	No	No	No	No	No	No	No	No	No	Low	No
SA	R H J HI-TECH AIR CONDITIONING	10107	B	PROSPECT AVENUE	Santee	92071	907.13	1711	Homebase for air conditioning and heating contractor, potential for outside storage	No	No	No	No	No	No	No	No	No	No	Low	No
SA	R L FICK & SON PLUMBING INC	10740	405	KENNEY STREET	Santee	92071	907.13	1711	Contractor installing heating and airconditioning systems, potential for outside storage.	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	RONS PLUMBING	8521		RUMSON ROAD	Santee	92071	907.13	1711	Home base for contractor working on plumbing, air conditioning and heating, potential for outside storage.	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	SAN DIEGO PLUMBING AND HEATING	8775		RAILROAD AVENUE	Santee	92071	907.12	1711	Contractor installing plumbing, heating and airconditioning systems, potential for outside storage.	No	No	Yes	No	No	No	No	No	No	No	Low	No

Appendix A.4
Santee Stormwater Industrial/Commercial Inventory, September 2011

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SA	SANTEE HEATING & AIR	8523		CHERUB COURT	Santee	92071	907.12	1711	Home base for contractor working on plumbing, air conditioning and heating, potential for outside storage.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	SCHOONMAKER HEATING & AIR CONDITIONER	8733	121	MAGNOLIA AVENUE	Santee	92071	907.12	1711	Base for contractor working on plumbing, air conditioning and heating, potential for outside storage.	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	SOCAL PLUMBING HEATING DRAINS	10027	F	PROSPECT AVENUE	Santee	92071	907.13	1711	Base for contractor working on plumbing, air conditioning and heating, potential for outside storage.	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	SWAIN ENTERPRISES	10017		PROSPECT AVENUE	Santee	92071	907.13	1711	Base for contractor working on plumbing, air conditioning and heating, potential for outside storage.	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	Under Pressure Testing	10786	C	JEANNE TERRACE	Santee	92071	907.12	1711	Home base for contractor working on plumbing, air conditioning and heating, potential for outside storage.	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	Westwind Mechanical	10439	M	PROSPECT AVENUE	Santee	92071	907.13	1711	Base for contractor working on plumbing, air conditioning and heating, potential for outside storage.	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	L Seven 'n' Company, Inc.	8775		RAILROAD AVENUE	Santee	92071	907.13	1711	Base for contractor who services hoods and ducts, potential for outside storage	No	No	Yes	No	No	No	No	No	No	No	Medium	No
SA	Snoke Air Conditioning	9783		MEDINA DRIVE	Santee	92071	907.12	1711	Home base for contractor working on plumbing, air conditioning and heating, potential for outside storage.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	Kack Plumbing	10368		Kerrigan	Santee	92071	907.12	1711	Home base for contractor working on plumbing, air conditioning and heating, no outside storage observed.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	Hurn Mechanical Heating & Cooling	8711	200	MAGNOLIA AVENUE	Santee	92071	907.12	1711	Contractor installing heating and airconditioning systems, potential for outside storage.	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	Interpipe Contracting Inc	10870		HARTLEY ROAD	Santee	92071	907.12	1711	Contractor installing plumbing, heating and airconditioning systems, potential for outside storage.	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	DIAMOND PAINTING	8301	52	MISSION GORGE ROAD	Santee	92071	907.12	1721	Painting contractor, possible homebase, potential for outside storage	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	L.R. KNIGHT PAINTING	9744		VOMAC ROAD	Santee	92071	907.12	1721	Home-base for painting contractor, all materials held in trailer, no outside exposures observed.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	NEW IMAGE PAINTING DESIGN	10744	105	ROCKVILL STREET	Santee	92071	907.12	1721	Painting and paper hanging contractor, potential for outside storage	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	Top Notch Painting	9371		STARCREST DRIVE	Santee	92071	907.13	1721	Home-base for painting contractor, some storage in garage, no outside exposures observed.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	A-Advanced Electrical & Communications Cabling Company	8710		RUOCCO ROAD	Santee	92071	907.12	1731	Home-base for electrical contractor, potential for outside storage	No	No	No	No	No	No	No	No	No	No	Low	No
SA	American Automatic Fire	9510	B	PATHWAY STREET	Santee	92071	907.13	1731	Base for electrical contractor, potential for outside storage	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	ARC LIGHTING AND ELECTRIC	10054	I	PROSPECT AVENUE	Santee	92071	907.13	1731	Base for electrical contractor, potential for outside storage	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	AUDIO VIDEO INSTALLS	10171		SWANTON ROAD	Santee	92071	907.12	1731	Base for installer of audiovisual equipment at offsite locations, potential for outside storage	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	BABCOCK ELECTRICAL SERVICE	8521		MASSERY LANE	Santee	92071	907.13	1731	Base for electrical contractor, potential for outside storage	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	BARNER ELECTRIC	9435	K	WHEATLANDS	Santee	92071	907.12	1731	Base for electrical contractor, potential for outside storage	No	No	Yes	No	No	No	No	No	No	No	Low	No

Appendix A.4
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SA	BLACK HAWK ELECTRIC COMPANY	8404	I	MAGNOLIA AVENUE	Santee	92071	907.13	1731	Base for electrical contractor, potential for outside storage	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	BLACK WIRE	9711		HUBER COURT	Santee	92071	907.12	1731	Base for electrical contractor, potential for outside storage	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	CLASSIC ELECTRIC	8531		ABLETTE ROAD	Santee	92071	907.13	1731	Base for electrical contractor, potential for outside storage	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	CODE 3 ELECTRICAL	10934		GREENCASTLE STREET	Santee	92071	907.12	1731	Base for electrical contractor, potential for outside storage	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	COPPER ELECTRIC	10054	T	PROSPECT AVENUE	Santee	92071	907.13	1731	Base for electrical contractor, potential for outside storage	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	G A ELECTRIC CORP	10520		KENNEY STREET	Santee	92071	907.13	1731	Base for electrical contractor, potential for outside storage	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	GIAMANCO & SONS	8742		ATLAS VIEW	Santee	92071	907.13	1731	Home base for electrical maintenance and repairs of residential and industrial buildings, no outside storage observed.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	JAMAR ELECTRIC	9830	D	PROSPECT AVENUE	Santee	92071	907.13	1731	Base (possibly home) for electrical contractor, potential for outside storage	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	MCGUIRE ELECTRIC	9330	A	STEVENS ROAD	Santee	92071	907.12	1731	Base for electrical contractor, potential for outside storage	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	NOVA SECURITY	10744	104	ROCKVILL STREET	Santee	92071	907.12	1731	Base for fire alarm and security system installation contractor, potential for outside storage	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	SAN DIEGO ELECTRIC COMPANY	7906		LINEN DRIVE	Santee	92071	907.12	1731	Home-base for electrical contractor, potential for outside storage	No	No	No	No	No	No	No	No	No	No	Low	No
SA	SEAL ELECTRIC INC	9216	C	ABRAHAM WAY	Santee	92071	907.12	1731	Base for electrical contractor, potential for outside storage	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	STANDARD ELECTRONICS	9340		STEVENS ROAD	Santee	92071	907.12	1731	Base for electrical contractor, potential for outside storage	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	T R E COMPANY	8733	140	MAGNOLIA AVENUE	Santee	92071	907.12	1731	Base for electrical contractor, potential for outside storage	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	EcoGreen Recycling	9540	105	PATHWAY STREET	Santee	92071	907.13	1731	Electronic recycling and shipping facility. Electronics collected and packed onto pallets prior to shipping. No outside exposures.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	GOULD MASONRY, THOMAS	8633		HACIENDA DRIVE	Santee	92071	907.13	1741	Home base for stone and masonry contractor working offsite. Potential for outside storage.	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	Paving Stone Of San Diego	9440	6	Wheatlands	Santee	92071	907.12	1741	Base for paving contractor, likely working offsite, potential for outside storage.	No	No	Yes	No	No	No	No	No	No	No	Medium	No
SA	Don Lincoln Lath and Plaster	9235		BIRCHCREST BOULEVARD	Santee	92071	907.12	1742	Home base for contractor working offsite in plastering, drywall, acoustical, and insulation work. No outside exposures observed at this address.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	MT INSULATION, Inc.	10612	105	PROSPECT AVENUE	Santee	92071	907.13	1742	Base for subcontractor working offsite in insulation, materials & equipment. No outside exposures observed.	No	No	No	No	No	No	No	No	No	No	Low	Yes

Appendix A.4
Santee Stormwater Industrial/Commercial Inventory, September 2011

Agency	Facility Name	Address Number	Suite Number	Street Name	City	Zip Code	Watershed	SIC Code	Principal Products / Services	Potential Pollutants										Tributary to 303(d) Listed	Threat to Water Quality	Threat Confirmed?
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SA	SANTEE CEILING SPECIALTIES	9221		FENWAY ROAD	Santee	92071	907.12	1742	Base for subcontractor working offsite in insulation, materials & equipment. No outside exposures observed.	No	No	No	No	No	No	No	No	No		No	Low	Yes
SA	DeCrescente's Drywall & Texture	8748		WAHL STREET	Santee	92071	907.12	1742	Home base for contractor working offiste in drywall patch & repair (residential). All outside storage is contained under cover.	No	No	No	No	No	No	No	No	No		No	Low	Yes
SA	Precision Interiors	10612	102	PROSPECT AVENUE	Santee	92071	907.13	1742	Base for subcontractor working offsite in drywall, t-bar celings and demolition. Potential for outside storage.	No	No	Yes	No	No	No	No	No	No		No	Medium	No
SA	East County Tile & Marble	9855		PROSPECT AVENUE	Santee	92071	907.13	1743	Base for commercial subcontractor working in ceramic tile & marble installation. Office and indoor storage of materials.	No	No	No	No	No	No	No	No	No		No	Low	Yes
SA	ASHWOOD CABINETS	8733	137	MAGNOLIA AVENUE	Santee	92071	907.12	1751	Base for carpentry contractor. Some woodworking and spray booth onsite. No outdoor exposures observed.	No	No	No	No	No	No	No	No	No		No	Low	Yes
SA	COMMERCIAL OPENINGS	8630	A	ARGENT STREET	Santee	92071	907.13	1751	Base for contractor who supplies and installs doors, frames and hardware for commercial use. Potential for outside storage.	No	No	Yes	No	No	No	No	No	No		No	Low	No
SA	E.C. CABINETS	8402	H	MAGNOLIA AVENUE	Santee	92071	907.13	1751	Base for carpentry work (garage, closets and kitchen cabinets), all work done indoors, no outdoor exposures.	No	No	No	No	No	No	No	No	No		No	Low	Yes
SA	GT DOOR, Inc.	10728	E	PROSPECT AVENUE	Santee	92071	907.13	1751	Base for commercial door, frank & hardware supplier. Potential for outside storage.	No	No	Yes	No	No	No	No	No	No		No	Low	No
SA	K C ARCHITECTURAL RESTORATIONS	8507		ABLETTE ROAD	Santee	92071	907.13	1751	Base for construction contractor, potential for outside storage.	No	No	Yes	No	No	No	No	No	No		No	Low	No
SA	FREEMAN'S CARPETS AND BINDING	10205		PROSPECT AVENUE	Santee	92071	907.13	1752	Base for floor laying and other floor work, potential for outside storage.	No	Yes	No	No	Yes	No	No	No	Yes		No	Low	No
SA	PRO LINE FLOORING	11110		MEADOW TERRACE	Santee	92071	907.12	1752	Home base for carpet installation, potential for outside storage.												Low	No
SA	Valley Floor Covering	9945		PROSPECT AVENUE	Santee	92071	907.13	1752	Sales and installation of carpet, sheet vinyl, ceramic tile. Potential for outside storage.	No	Yes	No	No	Yes	No	No	No	Yes		No	Low	No
SA	Burness Flooring	10018		THREE OAKS WAY	Santee	92071	907.12	1752	Home base for contractor working in floor laying and other floor work, potential for outside storage.	No	No	No	No	No	No	No	No	No		No	Low	No
SA	Quality Floors Inc.	9206		BIRCHCREST BOULEVARD	Santee	92071	907.12	1752	Home base for contractor working in floor laying and other floor work, potential for outside storage.	No	No	No	No	No	No	No	No	No		No	Low	No
SA	Lotta Hardwood Floors & Const	10436		CADWELL ROAD	Santee	92071	907.12	1752	Home base for contractor working in floor laying and other floor work, large metal bin observed in driveway.	No	No	No	No	No	No	No	No	No		No	Low	Yes
SA	DAVIS ROOFING	10027		BECK DRIVE	Santee	92071	907.12	1761	Home base for contractor working in roofing, siding, and sheet metal work.	No	No	N	No	No	No	No	No	No		No	Low	No
SA	Ford Roofing	10009		GEM TREE WAY	Santee	92071	907.12	1761	Home base for contractor working in roofing, siding, and sheet metal work.	No	No	No	No	No	No	No	No	No		No	Low	No

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SA	McKay Roofing Co. Inc.	10622		KENNEY STREET	Santee	92071	907.13	1761	Base for contractor working in roofing, siding and sheet metal. Vehicles parked in gravel area, roofing materials stored on pallets in gravel area, but most materials usually delivered directly to jobsite.	No	Yes	Yes	No	No	Yes	No	No	Yes	No	Low	Yes
SA	MISSION VALLEY ROOFING INC	9908		PROSPECT AVENUE	Santee	92071	907.13	1761	Base for contractor working in roofing, siding and sheet metal. Potential for outside storage.	No	Yes	Yes	No	No	Yes	No	No	Yes	No	Low	No
SA	Prime Time Concrete Pumping	9451		HORNBUCKLE STREET	Santee	92071	907.12	1771	Home base for contractor in concrete work. No outside exposures (storage of materials and waste etc) observed.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	Blue Moon Pools	8606	H	ARGENT STREET	Santee	92071	907.13	1771	Base for contractor working in pool and spa renovation. Outside storage of materials, spills likely during loading/unloading activities.	No	Yes	Yes	No	Yes	No	No	Yes	Yes	No	Low	Yes
SA	MORELLO CONCRETE CONST. INC.	8534		HUBBLES LANE	Santee	92071	907.13	1771	Base for concrete contractor, facility hardscaped and used for vehicle parking and equipment storage.	No	Yes	Yes	No	Yes	No	No	Yes	Yes	No	Low	No
SA	Angus Asphalt Inc.	9959		PROSPECT AVENUE	Santee	92071	907.13	1771	Base for asphalt and concrete construction. Vehicle fueling and maintenance Is performed onsite. All hazardous materials kept under cover / contained. Drip pans are under all vehicles.	No	Yes	No	No	Yes	Yes	No	Yes	No	No	Medium	Yes
SA	Blue Star Steel Inc.	11322		WOODSIDE AVENUE	Santee	92071	907.12	1791	Base for contractor working in structural steel erection. Area either gravel or soil. Outside storage of materials.	No	Yes	No	No	Yes	Yes	No	Yes	No	No	Medium	Yes
SA	RCI Reinforcing Steel Contractor	9409		ABRAHAM WAY	Santee	92071	907.12	1791	Base for steel work contractor, office and indoor storage. No outside exposures.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	RUSSELL GLASS	9440	13	WHEATLANDS	Santee	92071	907.12	1793	Base for glass and glazing work. Most storage indoors, some glass stored outside on racks.	No	No	No	No	No	Yes	No	No	No	No	Low	No
SA	SEA VIEW GLASS	10307		CAREFREE DRIVE	Santee	92071	907.12	1793	Home base for glass and glazing contractor, potential for outside storage	No	No	Yes	No	No	Yes	No	No	Yes	No	Low	No
SA	TOWER GLASS INC	9570	A	PATHWAY STREET	Santee	92071	907.13	1793	Specialty contractor for glass and glazing, some outside storage of glass and frames.	No	No	Yes	No	No	Yes	No	No	Yes	No	Medium	Yes
SA	A & D Fire Protection	11465	1	WOODSIDE AVENUE	Santee	92071	907.12	1799	Base for fire protection installation contractor. Some outside storage and potential for oil leaks on unpaved yard. No storm drain inlet adjacent to property.	No	No	Yes	No	No	Yes	No	No	Yes	No	Low	Yes
SA	American Fence Co.	9944		PROSPECT AVENUE	Santee	92071	907.13	1799	Temporary fence installation company, base for office and outside storage of temporary fence panels. Property paved.	No	Yes	Yes	No	No	Yes	No	Yes	No	No	Low	Yes
SA	AQUA VINYL & PLASTER POOLS*	10127		WOODROSE AVENUE	Santee	92071	907.12	1799	Home base for contractor involved in the service and repair of pools and spas, potential for outside storage	No	No	No	No	No	No	No	No	No	No	Low	No
SA	A-QUALITY GARAGE DOORS	8803		PEBBLE BEACH DRIVE	Santee	92071	907.12	1799	Home base for contractor installing garage doors, potential for outside storage	No	No	No	No	No	No	No	No	No	No	Low	No
SA	AWNING PRODUCTS UNLIMITED	8540	B	ABLETTE ROAD	Santee	92071	907.13	1799	Base for manufacture and installation of fabric awnings. Office and yard. Potential for outside storage.	No	Yes	Yes	No	No	Yes	No	No	Yes	No	Low	No
SA	COLE HILL SYSTEMS	10756		VALOR PLACE	Santee	92071	907.12	1799	Home base for low voltage wiring audio and video contractor. Potential for outside storage.	No	No	No	No	No	No	No	No	No	No	Low	No

Appendix A.4
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SA	CRAFTERS FENCE	8606	A	ARGENT STREET	Santee	92071	907.13	1799	Base (office) for fence contractor.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	GANDER COMPANY INC, THE	8665	B-2	MISSION GORGE ROAD	Santee	92071	907.12	1799	Base (office/indoor storage) for refrigeration of equipment/supplies.	No	Yes	Yes	No	No	Yes	No	No	No	No	Low	No
SA	GOLDEN STATE GARAGE DOORS	10540		KENNEY STREET	Santee	92071	907.13	1799	Base for contractor installing garage doors, potential for outside storage	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	No
SA	JOHN'S CUSTOM BLINDS	10800	201	WOODSIDE AVENUE	Santee	92071	907.12	1799	Base for contractor working in blind installation	No	Yes	Yes	No	No	Yes	No	Yes	Yes	No	Low	No
SA	ROELOF CONSTRUCTION CO	8781	G	CUYAMACA STREET	Santee	92071	907.12	1799	Base for special trade contractor.	Yes	Yes	Yes	No	Yes	Yes	No	Yes	Yes	Yes	Low	No
SA	Falcon Landscape	8707		LIND VERN COURT	Santee	92071	907.13	1799	Home base for landscape maintenance contractor. No outdoor exposures (such as storage) observed.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	Cabral Metal Fab & Fence, Inc.	10020		PROSPECT AVENUE	Santee	92071	907.13	1799	Base for fencing contractor. No outdoor exposures observed.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	SHOT BLASTERS INC.	9962	B	PROSPECT AVENUE	Santee	92071	907.13	1799	Shot blasting company, office and shop indoors. Potential for blast powder to be tracked out of facility.	No	No	Yes	No	No	No	No	Yes	Yes	No	Low	Yes
SA	Cascade Drilling LP	11440		North Woodside	Santee	92071	907.12	1799	Base for drilling company. Storage of rig and equipment in yard. Cleaned prior returning to facility.	No	Yes	Yes	No	Yes	Yes	No	Yes	No	No	Medium	Yes
SA	Guardian Waterproofing Inc	8622	D	ARGENT STREET	Santee	92071	907.13	1799	Base for contractor working in construction waterproofing and caulking. Potential for outside storage.	No	Yes	No	No	Yes	Yes	No	No	No	No	Medium	No
SA	Le Caramel LLC	11220		WOODSIDE AVENUE	Santee	92071	907.12	2064	Manufacturing and selling of caramel products. Some outside storage of pallets and empty containers.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	Fortina Chocolate	172		RIVER ROCK COURT	Santee	92071	907.12	2066	Home based chocolate and cocoa products preparation, potential for outside storage.	No	No	No	No	No	No	No	No	No	No	Medium	No
SA	MANZANITA BREWING COMPANY	9962	E	PROSPECT AVENUE	Santee	92071	907.13	2082	Microbrewery facility with office and tasting room. Brewing conducted indoors. No outdoor storage or consumption.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	FARACE ENTERPRISES, INC.	10759	H	WOODSIDE AVENUE	Santee	92071	907.12	2269	Silkscreening clothing, screens observed drying outside, some outside storage too.	No	Yes	No	No	No	Yes	No	No	No	No	Low	Yes
SA	Advertising Edge Inc.	9840		PROSPECT AVENUE	Santee	92071	907.13	2299	Silk screening company, office and screening shop in building. No outdoor exposures.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	NAILERS INC	10845	C	WHEATLANDS	Santee	92071	907.12	2389	Manufacture of other apparel accessories. Office and workshop in building.	No	Yes	No	No	No	Yes	No	No	Yes	No	Low	No
SA	PRIMO GRAPHICS	9263	B	ABRAHAM WAY	Santee	92071	907.12	2389	Manufacture of other apparel accessories. Office and workshop in building.	No	Yes	No	No	No	Yes	No	No	Yes	No	Low	No
SA	J & J DRAPERY WORKROOM	10054	L	PROSPECT AVENUE	Santee	92071	907.13	2391	Drapery Manufacturing. Office and workshop in building.	No	Yes	No	No	No	Yes	No	No	Yes	No	Low	No
SA	Waren Drapery Service	8733	138	MAGNOLIA AVENUE	Santee	92071	907.12	2391	Drapery Manufacturing. Office and workshop in building.	No	Yes	No	No	No	Yes	No	No	Yes	No	Low	No
SA	RACER X MOTORSPORTS	10815	K	WHEATLANDS	Santee	92071	907.12	2396	Safety/Communication distributor for off road market. Office and storage inside building.	No	Yes	No	No	No	Yes	No	No	Yes	No	Low	No
SA	T M COBB CO	9175		MISSION GORGE ROAD	Santee	92071	907.12	2431	Base for wood window and door manufacturing.	No	Yes	Yes	No	No	Yes	No	No	Yes	No	Low	No
SA	Mill Brothers Fine Woodworking	9356	C	Wheatlands	Santee	92071	907.12	2434	Manufacturer of wood kitchen cabinets, office and workshop inside building. No outside storage.	No	Yes	Yes	No	No	No	No	No	Yes	No	Low	Yes

Appendix A.4
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SA	Misiano's Custom Cabinetry	9201	C	ISAAC STREET	Santee	92071	907.12	2434	Cabinet fabrication contractor. Office and workshop inside building, most work done offsite. No outdoor exposures observed.	No	Yes	Yes	No	No	No	No	No	Yes	No	Low	Yes
SA	Richardson Cabinets	9201		ISAAC STREET	Santee	92071	907.12	2434	Manufacturer of wood kitchen cabinets, office, workshop and spray booth inside building. No outside storage.	No	Yes	Yes	No	No	No	No	No	Yes	No	Low	Yes
SA	SELECT CABINETS	9937	8	PROSPECT AVENUE	Santee	92071	907.13	2434	Woodworking shop and office. No outdoor exposures.	No	Yes	Yes	No	No	No	No	No	Yes	No	Low	Yes
SA	Steagall's Custom Cabinets	10911	#H	Wheatlands	Santee	92071	907.12	2434	Woodworking shop and office. No outdoor exposures.	No	Yes	Yes	No	No	No	No	No	Yes	No	Low	Yes
SA	WoodMAST BOULEVARDer Windows	10965	Q	HARTLEY ROAD	Santee	92071	907.12	2439	Woodworking shop and office. No outdoor exposures.	No	Yes	Yes	No	No	No	No	No	Yes	No	Low	Yes
SA	Valley Box Co. Inc.	10625		PROSPECT AVENUE	Santee	92071	907.13	2441	Wooden box manufacturing. Metalworking area and woodworking area under canopies, some temporary outside storage of boxes/wood.	No	Yes	Yes	No	No	No	No	No	Yes	No	High	No
SA	PECHTELS CUSTOM WOODWORKS	8733	142	MAGNOLIA AVENUE	Santee	92071	907.12	2511	Fabrication of wood household furniture within building.	No	Yes	Yes	No	No	No	No	No	Yes	No	Low	No
SA	S & S WOODCRAFTS	8733	128	MAGNOLIA AVENUE	Santee	92071	907.12	2511	Fabrication of games, toys and children's vehicles in building.	No	Yes	Yes	No	No	No	No	No	Yes	No	Low	No
SA	Westline Woodcraft	9435	F-G	Wheatlands	Santee	92071	907.12	2511	Custom wood kitchen cabinet manufacturing inside building. No outdoor exposures observed.	No	Yes	Yes	No	No	No	No	No	Yes	No	Low	Yes
SA	Anthony Lauren & Co., Inc.	8747		MAGNOLIA AVENUE	Santee	92071	907.12	2511	Furniture manufacturing inside building. No outdoor exposures observed.	No	Yes	Yes	No	No	No	No	No	Yes	No	Low	Yes
SA	INSTITUTIONAL CABINET & MILLWORK INC	10770	B	ROCKVILL STREET	Santee	92071	907.12	2531	Cabinet fabrication, no painting or finishing. Materials stored outside under cover.	No	Yes	Yes	No	No	No	No	No	Yes	No	Low	Yes
SA	DISPLAY CASE MANUFACTURING (previously Case It)	8645	A	ARGENT STREET	Santee	92071	907.13	2541	Woodworking shop used for fabrication of display cases. No outside exposures.	No	Yes	Yes	No	No	No	No	No	Yes	No	Low	Yes
SA	SUNCRAFT SHUTTERS	9344	C	WHEATLANDS	Santee	92071	907.12	2591	Office and workshop in building involved in shutter fabrication and some painting or staining. Temporary storage outside.	No	Yes	Yes	No	No	No	No	No	Yes	No	Low	Yes
SA	BAKER OFFSET PRINTING	8781	T	CUYAMACA STREET	Santee	92071	907.12	2752	Commercial printing operation, outside exposures unlikely.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	BENHAM CORPORATION DBA:, D	10969	A	WHEATLANDS	Santee	92071	907.12	2752	Commercial lithographic printing operation, outside exposures unlikely.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	CHEAPOS PRINTING	10215	C	BUENA VISTA AVENUE	Santee	92071	907.12	2759	Commercial quick printing operation, outside exposures unlikely.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	IN-MINUTES	10217	E	BUENA VISTA AVENUE	Santee	92071	907.12	2759	Commercial quick printing operation, outside exposures unlikely.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	TOWN & COUNTRY PRINTERS INC	9448		MISSION PARK PLACE	Santee	92071	907.12	2759	Commercial printing operation, outside exposures unlikely.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	REFLEX INDUSTRIES INC	9530	105	PATHWAY STREET	Santee	92071	907.13	2834	Pharmaceutical preparation, outside exposures (storage, operations) unlikely.	No	No	No	No	No	No	No	No	No	No	Low	No

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Jurisdiction responsible for inspection of facility (Copermittee)	Name used to identify facility in database	Street number of facility, this is the numeric street address	Suite or unit number or letter, if needed.	Name of street facility is located on	City where facility is located	Zip code where facility is located	Hydrologic sub-area in which facility located (all San Diego River Watershed)	Standard Industrial Classification code of facility determined by US Department of Labor - OSHA.	A narrative description which best reflects the principle products or services provided by the facility.	Bacteria	Gross Pollutants	Metals	Nutrients	Oil & Grease	Organics	Pesticides	Sediment	Trash	Is facility a tributary to 303(d) listed receiving water and generating pollutants for which the water body is impaired?	Does the facility those a high threat to water quality?	Has the threat to water quality been confirmed through inspection or other means of verification?
SA	SCANTIBODIES LAB INC	9336		ABRAHAM WAY	Santee	92071	907.12	2835	Development of antibody testing kits. Laboratory activities conducted within building. Outdoor storage under cover, some outside picnic benches for staff.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	D S Fibertech Corp	11015		MISSION PARK PLACE	Santee	92071	907.12	2899	Operation using silica. All processing conducting indoors where dust collectors are operational. Outside storage is under cover.	No	Yes	No	No	Yes	Yes	No	No	No	No	Low	Yes
SA	J S Bluing and Metal Refinishing	10416		LEN COURT	Santee	92071	907.12	2899	Home base for bluing and refinishing business. Outdoor exposures are unlikely.	No	No	No	No	No	No	No	No	No	No	Medium	No
SA	SCANTIBODIES CLINICAL	9236		ABRAHAM WAY	Santee	92071	907.12	2899	Development of antibody testing kits. Activities conducted within building. Outdoor storage under cover, some outside picnic benches for staff.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	OLSON IRRIGATION SYSTEMS	10910	39449	WHEATLANDS	Santee	92071	907.12	3069	Irrigation installation company. Offices and storage in building. Minor activities in hardscaped yard.	No	Yes	No	No	Yes	Yes	No	No	No	No	Low	No
SA	SEALTITE INC	10225		PROSPECT AVENUE	Santee	92071	907.13	3081	Wholesale Distributor of Packaging Materials. Office and storage within building. Potential for outside storage.	No	Yes	No	No	Yes	No	No	No	No	No	Low	No
SA	A-I-M Plastics Inc.	9326		ABRAHAM WAY	Santee	92071	907.12	3089	Industrial mold manufacturing operation, conducted inside building. Outside cooling operation in enclosure and bermed. Outside area used for extensive storage although many items covered.	No	Yes	No	No	Yes	No	No	No	No	No	Low	Yes
SA	ARGEE CORPORATION	9550		PATHWAY STREET	Santee	92071	907.13	3089	ndustrial mold manufacturing operation, conducted inside building. Potential for outside storage.	No	Yes	No	No	Yes	No	No	No	No	No	Low	No
SA	PLA-COR INC	10207	C-D	BUENA VISTA AVENUE	Santee	92071	907.12	3089	Manufacture of plastic product inside building. Potential for outside storage.	No	Yes	No	No	Yes	No	No	No	No	No	Low	No
SA	Plex Products Unlimited	10744	C	PROSPECT AVENUE	Santee	92071	907.13	3089	Manufacture of plastic product inside building. Potential for outside storage.	No	Yes	No	No	Yes	No	No	No	No	No	Low	No
SA	Red Line	10845		Wheatlands	Santee	92071	907.12	3089	Manufacture of plastic product inside building. No outdoor exposures (storage/operations).	No	Yes	No	No	Yes	No	No	No	No	No	Low	Yes
SA	Loftin GTS	8500		ABLETTE ROAD	Santee	92071	907.13	3089	Assembly and shipping of plastic parts/tools, potential for outdoor storage.	No	Yes	No	No	Yes	No	No	No	No	No	Medium	No
SA	Landmark Glass Co.	9851		PROSPECT AVENUE	Santee	92071	907.13	3211	Fabrication glass, mirrors & windows, potential for outside storage.	No	No	No	No	No	No	No	No	Yes	No	Medium	No
SA	CALIFORNIA ACRYLIC & GLASS MIRROR PLATE COMPANY	10658	C	PROSPECT AVENUE	Santee	92071	907.13	3231	Facility for cutting and polishing mirrors. All activities conducted indoors, no outside storage observed.	No	No	No	No	No	No	No	No	Yes	No	Medium	Yes
SA	R C P BLOCK & BRICK INC	9631		MAGNOLIA AVENUE	Santee	92071	907.12	3271	Concrete block and brick manufacturing. Storage of aggregate on unpaved areas. Operations conducted indoors. Above ground fuel tank and dispenser.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	High	Yes
SA	Artistic Marble and Granite, Inc.	9323		STEVENS ROAD	Santee	92071	907.12	3281	Granite and marble countertop fabrication & Installation. Fabrication conducted within workshop, installation offsite. Storage of slabs outside of building.	No	Yes	No	No	No	No	No	Yes	Yes	No	High	Yes

Appendix A.4
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SA	C C M ENTERPRISES	10848		WHEATLANDS	Santee	92071	907.12	3281	Manufacturing counter tops, shower pans & tubs from cultured marble. All work done indoors. No storage done outside. Catch basin observed in yard.	No	Yes	No	No	No	No	No	Yes	Yes	No	High	Yes
SA	European Company	10051		PROSPECT AVENUE	Santee	92071	907.13	3281	Granite and marble countertop fabrication & Installation. Fabrication conducted within workshop, installation offsite. Storage of slabs and equipment outside of building. Cover over catch basin in yard.	No	Yes	No	No	No	No	No	Yes	Yes	No	High	Yes
SA	MARJAN STONE COMPANY	9746		PROSPECT AVENUE	Santee	92071	907.13	3281	Granite and marble countertop fabrication & Installation. Fabrication conducted within workshop, installation offsite. Storage of slabs outside of building. Catch basin in yard.	No	Yes	No	No	No	No	No	Yes	Yes	No	High	Yes
SA	Solid Surface Solutions	10704		PROSPECT AVENUE	Santee	92071	907.13	3281	Countertop fabrication & Installation. Fabrication conducted within workshop, installation offsite. No outdoor exposures (storage/operations). Shares unit with other company.	No	Yes	No	No	No	No	No	Yes	Yes	No	High	No
SA	C C M ENTERPRISES	9366		ABRAHAM WAY	Santee	92071	907.12	3281	Fabrication of natural stone and quartz counter tops. Operations conducted indoors, storage of slabs outside has been observed. Minor vehicle maintenance onsite.	No	Yes	No	No	No	No	No	Yes	Yes	No	High	Yes
SA	TOTTEN TUBES INC	8540		ROLAND ACRES	Santee	92071	907.13	3312	Temporary storage of iron and steel tubes prior to shipping.	No	No	Yes	No	No	No	No	No	No	No	Low	Yes
SA	RHINE AIR INC	10744	A	PROSPECT AVENUE	Santee	92071	907.13	3334	Indoor manufacturing facility, potential for outside storage.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	No
SA	Rainbow Steel Inc	9484		MISSION PARK PLACE	Santee	92071	907.12	3399	Metal fabrication, potential for outdoor storage and operations.	No	Yes	Yes	No	Yes	No	No	No	No	No	High	Yes
SA	Metro Steel	10520	A	KENNEY STREET	Santee	92071	907.13	3441	Fabricated structural metalworking, installation done offsite. Offices, warehouse. Some metalworking done under canopy, outdoor storage.	No	Yes	Yes	No	Yes	No	No	No	No	No	High	Yes
SA	PRODUCTION TRUSS	9925		PROSPECT AVENUE	Santee	92071	907.13	3443	Fabricated plate work (boiler shop). Potential for outside storage.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	No
SA	Abler Fabrication	10325		AMADA PLACE	Santee	92071	907.12	3444	Home base for sheet metal worker, possible outside storage.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	No
SA	AMERICAN SHEET METAL	8710		RAILROAD AVENUE	Santee	92071	907.12	3444	Roofing, siding & sheet metal fabrication facility. Installation ofsite. Operations restricted to building. Grassy swale onsite.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	Yes
SA	BOWEN & WARENGO INC	10723		PROSPECT AVENUE	Santee	92071	907.13	3444	Heating equipment manufacturing facility. Some outside storage observed.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	Yes
SA	Conn's Machining	10207	B	BUENA VISTA AVENUE	Santee	92071	907.12	3444	Sheet metal working shop. No outdoor exposures (storage/operations).	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	Yes
SA	DAVIC CONSTRUCTION GENERAL CONTRACTOR	10925	N	WHEATLANDS	Santee	92071	907.12	3444	Sheet metal working shop. Potential for outdoor exposures (storage).	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	No
SA	ELECTRONIC SHEET METAL PRODUCTS	9560	5	PATHWAY STREET	Santee	92071	907.13	3444	Custom metal fabrication facility. Operations indoors, potential for outdoor storage.	No	Yes	No	No	No	No	No	No	No	No	Low	No

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SA	METAL TEK	11350		WOODSIDE AVENUE	Santee	92071	907.12	3444	Sheet metal working facility, potential for outdoor storage	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	No
SA	R S R PRECISION MACHINE	10020	G & H	PROSPECT AVENUE	Santee	92071	907.13	3444	Machine shop, potential for outside storage.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	No
SA	RALLS PRECISION MACHINE	10027	C	PROSPECT AVENUE	Santee	92071	907.13	3444	Sheet metal working facility, potential for outdoor storage	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	No
SA	SHAWZ METAL FABRICATION INC	10925		WHEATLANDS AVENUE	Santee	92071	907.12	3444	Sheet metal working facility, no outdoor exposures (storage) observed.	No	No	Yes	No	Yes	No	No	No	No	No	Low	Yes
SA	Specialty Metals Fabrication	11222		WOODSIDE AVENUE	Santee	92071	907.12	3444	Sheet metal working facility, extensive outside storage of materials. Parking for vehicles. Sump in parking lot.	No	Yes	Yes	No	Yes	No	No	No	No	No	High	Yes
SA	MTS Sheet Metal & Fabrication Inc.	8400	E	MAGNOLIA AVENUE	Santee	92071	907.13	3444	Sheet metal working facility, potential for outdoor storage	No	Yes	Yes	No	Yes	No	No	No	No	No	Medium	Yes
SA	SOUTH BAY FOUNDRY, INC.	9444		ABRAHAM WAY	Santee	92071	907.12	3446	Grind, weld (to customize) and distribution of metal products imported from China. Welding and grinding conducted indoors. Outdoor storage of product and equipment.	No	Yes	Yes	No	No	No	No	Yes	Yes	No	Low	Yes
SA	Aluminess Products Inc	9402	A	Wheatlands	Santee	92071	907.12	3465	Automotive stamping shop. Potential for outside storage.	No	Yes	Yes	No	No	No	No	Yes	Yes	No	Low	No
SA	Industrial Metal Processing	10145		PROSPECT AVENUE	Santee	92071	907.13	3471	Industrial painting, plating, and powdercoating, all operations indoors. Some outdoor storage.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	Yes
SA	Creative Metals Industries Inc.	10039	E	PROSPECT AVENUE	Santee	92071	907.13	3479	Custom metal etching & finishing. All operations indoors. No outdoor storage except for pallets during the day.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	Yes
SA	EL CAJON NAMEPLATE	10054	K	PROSPECT AVENUE	Santee	92071	907.13	3479	Engraving trophies, plaques & signs in shop. No outside exposures (i.e., storage) observed.	Yes	Yes	No	No	Yes	No	No	No	Yes	No	Low	Yes
SA	KTM COATING TECHNOLOGIES, Inc	10020	A33-34	PROSPECT AVENUE	Santee	92071	907.13	3479	Metal coating and allied services conducted indoor. Potential for outdoor storage.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	No
SA	SAN DIEGO PROTECTIVE COATINGS	9344	A	WHEATLANDS	Santee	92071	907.12	3479	Rust preventative coating conducted indoors. Coated items may be left outside to dry on racks. No other outside stoage.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	Yes
SA	Altech Machining	11000		WOODSIDE AVENUE	Santee	92071	907.12	3492	Manufacture aerospace parts inside building, potential for outside storage.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	No
SA	Ke-Burgmann	8575		Roland Acres	Santee	92071	907.13	3494	Manufacturing of metal joints for refineries. Operations (including testing of joints) indoors. Sand blasting operation. Some outside storage.	No	Yes	Yes	No	Yes	No	No	Yes	No	No	High	Yes
SA	KW Cages Advanced Design	9565		PATHWAY STREET	Santee	92071	907.13	3496	Fabrication and sales of wire cages for small household pets. No outdoor exposures.	No	No	Yes	No	No	No	No	No	No	No	Medium	No
SA	Bradshaw Engineering Corp.	8645	B	ARGENT STREET	Santee	92071	907.13	3498	Pipe fabrication for fire sprinkler systems. Outside storage of pipes on racks. Company vehicles park onsite.	No	Yes	Yes	No	Yes	No	No	No	No	No	High	Yes
SA	AYMAR ENGINEERING	9434	1	ABRAHAM WAY	Santee	92071	907.12	3499	Precision sheet metal fabrication for aerospace and defense. Operations conducted indoor, potential for outdoor storage.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	Yes

Appendix A.4
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SA	DAVIS GREGG ENTERPRISES	10139		PROSPECT AVENUE	Santee	92071	907.13	3499	Metal fabrication facility, workshop and office inside building. Potential for outside storage.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	No
SA	Precision Water Jetting, Inc.	10031	B & C	PROSPECT AVENUE	Santee	92071	907.13	3499	Cut out various parts from metal, wood, plastic, glass using water. No outdoor storage or operations.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	Yes
SA	SPIRAL ASSEMBLY SYSTEMS	10658	A	PROSPECT AVENUE	Santee	92071	907.13	3499	Metal work and welding conducted inside building. Supplies stored indoors. No outdoor exposures (storage/operations).	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	Yes
SA	TECHMAST BOULEVARDER	10744	106	ROCKVILL STREET	Santee	92071	907.12	3499	Machinery fabrication shop, all work indoors. No outside storage observed.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	Yes
SA	TERRA NOVA TECHNOLOGIES, Inc.	10770		ROCKVILL STREET	Santee	92071	907.12	3535	Design conveying equipment for mines. Activities within building, outdoor exposures unlikely.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	No
SA	Accu-Tap LLC	9625	B2-305	MISSION GORGE ROAD	Santee	92071	907.12	3541	Business involved with machine tools, and metal cutting types. No outdoor exposures observed.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	Yes
SA	Watts Engineering	9920	106	PROSPECT AVENUE	Santee	92071	907.13	3541	design & machining prototypes & tool making. Activities restricted to building.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	No
SA	BTI PERFORMANCE PRODUCTS	9525		PATHWAY STREET	Santee	92071	907.13	3544	Tooling for turbine engines. Work conducted indoors, outside storage under roofed areas.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	Yes
SA	B & A WIRE EDM	8402		MAGNOLIA AVENUE	Santee	92071	907.13	3549	Machine shop for aerospace industry, all work done indoors. No outdoor exposures (storage).	No	Yes	Yes	No	Yes	No	No	No	No	No	Medium	No
SA	Frontier CNC	10728	C & D	PROSPECT AVENUE	Santee	92071	907.13	3549	Machine shop, all work done indoors, no outside storage.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	Yes
SA	P-M Machining Inc.	8630	C	ARGENT STREET	Santee	92071	907.13	3549	Precision metal shop. No outdoor exposures.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	Yes
SA	JAY MATHY ENGINEERING	9315		WHEATLANDS	Santee	92071	907.12	3559	Commercial and industrial machinery fabrication. All work is done indoors. Old coolant is kept in sealed drums in locked and partially covered area. Facility shared with Mathy Machine.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	Yes
SA	Vortex Engineering	9425		Wheatlands	Santee	92071	907.12	3559	Custom drilling equipment company, all operations indoors. Outdoor storage under cover.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	Yes
SA	Mathy Machine Inc.	9315		Wheatlands	Santee	92071	907.12	3559	Commercial and industrial machinery fabrication. All work is done indoors. Old coolant is kept in sealed drums in locked and partially covered area. Facility shared with Jay Mathy Engineering.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	Yes
SA	DISCFLO CORPORATION	10850		HARTLEY ROAD	Santee	92071	907.12	3561	Manufacture and testing of pumps and pumping equipment. Indoor operations, some storage outdoors.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	Yes
SA	Accurate Air Engineering Inc	9356		ABRAHAM WAY	Santee	92071	907.12	3563	Manufacture of air and gas compressors.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	No
SA	Quality Controlled Manufacturing	9429		ABRAHAM WAY	Santee	92071	907.12	3569	Precision machine shop, all operations indoors. Sump in yard.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	Yes
SA	Computer Integrated Machining Inc.	10960		WHEATLANDS	Santee	92071	907.12	3599	Computerized machine fabrication conducted indoors. Some outside storage.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	Yes
SA	Ascend Manufacturing	10217	G	BUENA VISTA AVENUE	Santee	92071	907.12	3599	Machine shop, all work done indoors, no outside storage.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	Yes
SA	CONTOUR TECHNOLOGY	8406	E	MAGNOLIA AVENUE	Santee	92071	907.13	3599	Machine shop working in brass. All work done indoors, no outdoor exposures.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	Yes

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SA	S M L INDUSTRIES	10965	P	HARTLEY ROAD	Santee	92071	907.12	3599	Manufacture of plastic products. Potential for outside storage.	No	Yes	Yes	No	No	No	No	Yes	Yes	No	Low	No
SA	TACKETT MACHINE	10728	D	KENNEY STREET	Santee	92071	907.12	3599	Manufacture of industrial and commercial machinery. Potential for outdoor storage and activities.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	No
SA	Dragon Machine Shop	9435	G	Wheatlands	Santee	92071	907.12	3599	Family owned machine shop, all activities conducted indoors, no outdoor exposures.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	Yes
SA	Dornfeld Inc	9435	B	Wheatlands	Santee	92071	907.12	3599	Industrial and commercial machinery, activities conducted indoors, potential for outdoor storage.	No	Yes	Yes	No	Yes	No	No	No	No	No	Medium	No
SA	REPUBLIC ITS	9932	134	PROSPECT AVENUE	Santee	92071	907.13	3646	Traffic signal maintenance company. Potential for outdoor storage.	No	No	Yes	No	Yes	No	No	No	No	No	Low	No
SA	Alternative Energy Technologies	9465	B	MISSION PARK PLACE	Santee	92071	907.12	3674	Solar energy sales and installation, potential for outside storage.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	No
SA	LHV Power Corporation	10221		BUENA VISTA AVENUE	Santee	92071	907.12	3677	Manufacture of electronic coils, transformers, and other inductors. Potential for outdoor storage.	No	Yes	Yes	No	Yes	No	No	No	No	No	Medium	No
SA	Taco Magnetics	10020	B-12	PROSPECT AVENUE	Santee	92071	907.13	3679	Manufacture of electronic components. Potential for outdoor storage.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	No
SA	Matt Gyvers Custom Werks	8733	#117	MAGNOLIA AVENUE	Santee	92071	907.12	3679	Car electrical/stereo services. Potential for outside storage.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	No
SA	Speedo Shop, The	10027	E	PROSPECT AVENUE	Santee	92071	907.13	3694	Motor vehicle electrical services. No outdoor exposures (work/storage) observed.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	Yes
SA	JIMCO RACING INC.	9426		WHEATLANDS	Santee	92071	907.12	3711	Customized manufacture of offroad vehicles. Manufacturing conducted indoors, some outdoor storage, all under cover.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	Yes
SA	Alloy Studios	9435	G	Wheatlands	Santee	92071	907.12	3711	Off road vehicle fabrication, work done indoors, potential for outdoor storage.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Medium	No
SA	Action Turbo Repair Inc	10722	A	KENNEY STREET	Santee	92071	907.13	3714	Rebuilding of turbo chargers, all work conducted indoors. No outdoor exposures observed.	No	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Low	Yes
SA	AUTOZONE #3347	285		TOWN CENTER PARKWAY	Santee	92071	907.12	3714	Automotive supply store, no maintenance.	No	No	Yes	No	No	Yes	No	No	Yes	No	Low	No
SA	Fox Racing Shox	10943		Wheatlands	Santee	92071	907.12	3714	Motor vehicle steering company. Conducted indoors, potential for outside storage.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	No
SA	FUTURE MACHINE	9440	2	WHEATLANDS	Santee	92071	907.12	3714	Non automotive machine shop, operations conducted indoors. Potential for outdoor storage.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	No
SA	HYDRAULIC ELECTRIC	9938	145	PROSPECT AVENUE	Santee	92071	907.13	3714	Assembly of commercial business parts conducted indoors. No outdoor exposures.	No	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Low	Yes
SA	KRAGEN AUTO PARTS #727	9750		MISSION GORGE ROAD	Santee	92071	907.12	3714	Automotive supply store, no maintenance, or outdoor exposures.	No	No	Yes	No	No	Yes	No	No	Yes	No	Low	No
SA	KRAGEN AUTOWORKS #1419/CSK Auto Parts	9675		MISSION GORGE ROAD	Santee	92071	907.12	3714	Automotive supply and accessory store, no maintenance, or outdoor exposures.	No	Yes	Yes	No	No	Yes	No	No	Yes	No	Low	No
SA	MAJOR PERFORMANCE	10722	C	KENNEY STREET	Santee	92071	907.13	3714	Performance engine building, all work done indoors, potential for outside storage.	No	No	Yes	No	No	Yes	No	No	No	No	Low	No
SA	Viking Battery	10759	B	WOODSIDE AVENUE	Santee	92071	907.12	3714	Battery wholesale company, all work and storage is indoors. No outdoor exposures.	No	Yes	Yes	No	No	Yes	No	No	Yes	No	Low	Yes
SA	Fiberwerx	8400	H	MAGNOLIA AVENUE	Santee	92071	907.13	3714	Installation of motor vehicle parts and accessories. All work is done indoors, no outdoor exposures.	No	No	No	No	No	Yes	No	No	No	No	Low	Yes

Appendix A.4
Santee Stormwater Industrial/Commercial Inventory, September 2011

Agency	Facility Name	Address Number	Suite Number	Street Name	City	Zip Code	Watershed	SIC Code	Principal Products / Services	Potential Pollutants									Tributary to 303(d) Listed	Threat to Water Quality	Threat Confirmed?
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SA	HCM Customs	11421	B	WOODSIDE AVENUE	Santee	92071	907.12	3714	Installation of automotive repair and accessories, body work is primary function. All work is done indoors. No Outdoor Exposures.	No	Yes	Yes	No	No	Yes	No	No	Yes	No	Medium	No
SA	Aeromach	11423	B	WOODSIDE AVENUE	Santee	92071	907.12	3751	Manufacturing / machining of motorcycle parts and accessories. Potential for outdoor storage.	No	No	No	No	No	Yes	No	No	No	No	Low	No
SA	Seki'S Cycles	9932	135	PROSPECT AVENUE	Santee	92071	907.13	3751	Installation of motorcycle parts and accessories. Potential for outdoor storage.	No	No	No	No	No	Yes	No	No	No	No	Low	No
SA	J P Designs (Desert Fabrications dba ,)	11421		WOODSIDE AVENUE	Santee	92071	907.12	3799	Metal fabrication of offroad vehicles. Work conducted inside building. Minor storage in outside unpaved area.	No	No	Yes	No	No	No	No	No	No	No	Low	Yes
SA	Alumi Craft Inc.	10815	I	Wheatlands	Santee	92071	907.12	3799	Metal fabrication of offroad vehicles. Work conducted inside building. No outdoor exposures.	No	No	Yes	No	No	Yes	No	No	No	No	Low	Yes
SA	BUGGY WORKS	11421		WOODSIDE AVENUE	Santee	92071	907.12	3799	Dune buggy repair and fabrication facility. Potential for outdoor exposures (storage).	No	No	Yes	No	No	Yes	No	No	No	No	Low	No
SA	Ty & Bud Hitches & Welding	10229		PROSPECT AVENUE	Santee	92071	907.13	3799	Installation of vehicle hitches. Potential for outdoor exposures (storage).	No	No	Yes	No	No	Yes	No	No	No	No	Low	No
SA	Advanced Electromagnetics	9311		STEVENS ROAD	Santee	92071	907.12	3812	Manufacturing of foam/rubber deflecting material for military purposes. Storage of finished product outside ready for shipping and potential for black ink to be spilled outside. Catch basin in parking lot, away from operational area.	No	No	No	No	Yes	Yes	No	Yes	Yes	No	High	Yes
SA	ROZENDAL ASSOCIATES INC	9530	101	PATHWAY STREET	Santee	92071	907.13	3812	Manufacturing of search detection equipment.	No	No	Yes	No	Yes	No	No	No	No	No	Low	No
SA	DELTATRAK TECHNOLOGIES	9260	D	ISAAC STREET	Santee	92071	907.12	3823	Manufacturing of instruments and related products. Potential for outside storage.	No	No	Yes	No	Yes	No	No	No	No	No	Low	No
SA	LARSON METERCRAFT INC	9328	A	WHEATLANDS	Santee	92071	907.12	3823	Manufacturing of instruments and related products. Potential for outside storage.	No	No	Yes	No	Yes	No	No	No	No	No	Low	No
SA	TOTAL PERFORMANCE MACHINE	10133		PROSPECT AVENUE	Santee	92071	907.13	3859	Automotive machine shop, work done indoors, some outside storage.	No	No	Yes	No	Yes	No	No	No	No	No	Low	Yes
SA	FEATHER ROCK DESIGNS	11316	B	WOODSIDE AVENUE	Santee	92071	907.12	3911	Design & fabrication of metal arts & jewelry. Potential for outside storage.	No	No	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	ARC PAINT	10925	G	HARTLEY ROAD	Santee	92071	907.12	3914	Silverware manufacturers, all operations indoors. Potential for outdoor storage.	No	No	Yes	No	Yes	Yes	No	No	No	No	Low	No
SA	JENSEN SWING PRODUCTS	9327		WHEATLANDS	Santee	92071	907.12	3949	Wholesale manufacturing and distribution of playground component parts. No outdoor storage observed.	No	No	No	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	CROWN SIGNS	9937	10	PROSPECT AVENUE	Santee	92071	907.13	3993	Signs and advertising specialties, potential for outside storage.	No	No	Yes	No	No	Yes	No	No	Yes	No	Low	No
SA	GRAPHICRETE (Q=Mila's Signs)	11571		WOODSIDE AVENUE	Santee	92071	907.12	3993	Sign painting, vinyl lettering, permanent & temporary signs, graphics, potential for outside storage.	No	No	Yes	No	No	Yes	No	No	Yes	No	Low	No
SA	R B INDUSTRIES	9919		PROSPECT AVENUE	Santee	92071	907.13	3993	Sign manufatering for hotels, resorts, casinos. Potential for outside storage.	No	No	Yes	No	No	Yes	No	No	Yes	No	Low	No
SA	Visual Marketing Associates	9560	39452	PATHWAY STREET	Santee	92071	907.13	3993	Sign manufacturing, operations indoors, potential for outside storage.	No	No	Yes	No	No	Yes	No	No	Yes	No	Low	No

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SA	Albert Remolina	10020		PROSPECT AVENUE	Santee	92071	907.13	3993	Sign installation, no fabrication, potential for outside storage.	No	No	Yes	No	No	Yes	No	No	Yes	No	Medium	No
SA	COMPUCRAFT INDUSTRIES INC	8787		OLIVE LANE	Santee	92071	907.13	3999	Aerospace sheet metal & machining processing. Operations indoors, potential for outdoor storage.	No	No	Yes	No	Yes	No	No	No	No	No	Low	No
SA	Kaylien Inc.	8520		RAILROAD AVENUE	Santee	92071	907.13	3999	Manufacturing facility, exposures at rear (resins, fiber glass dust, etc.), but unlikely to impact MS4. Paintbooth indoors.	No	No	Yes	No	Yes	No	No	No	No	No	Low	Yes
SA	STEWARTS RACE WORKS	9419		ABRAHAM WAY	Santee	92071	907.12	3999	Servicing of offroad racing vehicles. Work done in shop, outside storage observed.	No	No	Yes	No	Yes	No	No	No	No	No	Low	No
SA	Tred 'N Water	10641		PROSPECT AVENUE	Santee	92071	907.13	4212	Trucking facility. Potential for outside storage of equipment	No	No	Yes	No	Yes	No	No	No	No	No	High	No
SA	Harrison Trucking Inc.	8801		OLIVE LANE	Santee	92071	907.13	4213	Base for trucks involved in local hauling. Area where vehicles enter/exit is covered in gravel. Truck maintenance conducted under cover, truck washing water drains to a sump, underground fuel tank and dispenser onsite.	No	Yes	No	No	Yes	No	No	No	No	No	High	Yes
SA	Vanguard Trucking, Inc.	8712	136	MAGNOLIA AVENUE	Santee	92071	907.12	4213	Hauler for residential & business. Potential for outside storage of vehicles.	No	Yes	No	No	Yes	No	No	No	No	No	Low	No
SA	C & M Relocation Systems	11433		WOODSIDE AVENUE	Santee	92071	907.12	4214	Business relocation services. Trucks stored onsite. Facility sometimes used for temporary storage of client's equipment.	No	Yes	No	No	Yes	No	No	No	No	No	High	Yes
SA	AMERICAN EAGLE SELF STORAGE	8810		CUYAMACA STREET	Santee	92071	907.12	4225	Self storage facility, units rented to individuals. No outside exposures.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	MAST AVENUEMINI STORAGE	10805		KENNEY STREET	Santee	92071	907.13	4225	Self storage facility, units rented to individuals. No outside exposures.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	SANTEE MINI STORAGE DEPOT	10835		WOODSIDE AVENUE	Santee	92071	907.12	4225	Self storage facility, units rented to individuals. No outside exposures.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	SANTEE SELF STORAGE	10336		BUENA VISTA AVENUE	Santee	92071	907.12	4225	Self storage facility, units rented to individuals. No outside exposures.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	EXTRA SPACE STORAGE	10115		MISSION GORGE ROAD	Santee	92071	907.12	4225	Self storage facility, units rented to individuals. No outside exposures.	No	No	No	No	No	No	No	No	No	No	Medium	No
SA	A-1 Stor-it	11493		WOODSIDE AVENUE	Santee	92071	907.12	4226	Self storage facility, units rented to individuals. No outside exposures.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	TERMINALLIFT LLC	9201	C	ISAAC STREET	Santee	92071	907.12	4731	Freight forwarding facility, potential for vehicle storage.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	Pure-Flo	7737		MISSION GORGE ROAD	Santee	92071	907.12	4941	Water purification and distribution facility. Groundwater held in above ground tanks, connected to sanitary sewer. Fleet parking and maintenance onsite, but under cover. Facility for clients to collect their own drinking water.	No	No	No	No	No	No	No	No	No	No	Low	No

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SA	PADRE DAM WATER RECYCLING FACILITY	9300		FANITA PARKWAY	Santee	92071	907.12	4952	Water recycling plant (sewage), treated water drains into a series of lakes used for recreational purposes and surrounding by camping facilities. Operations yard and customer service facility. Vehicle maintenance facility (maintenance conducted indoor), underground fuel tank and fuel dispensers.	No	Yes	Yes	Yes	No	Yes	No	No	No	Yes	High	No
SA	AL MAX SANITATION (AMS)	10023		PROSPECT AVENUE	Santee	92071	907.13	4953	Pumping of residential septic tanks and restaurant grease traps. All materials stored under cover. Tankers stored in gravel yard. No direct connection to storm drain, runoff from rain drains to sump, then pumped to street. Filter on pump.	Yes	Yes	Yes	Yes	No	Yes	No	No	No	Yes	High	Yes
SA	Lowland Services	10220		PRINCE JED COURT	Santee	92071	907.12	4953	Home base for litter control & trash removal. Potential for outside storage.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	Eliminator Motorsports	11418		WOODSIDE AVENUE	Santee	92071	907.12	5012	Custom boat and truck shop. All work is done indoors or under cover. Some vehicle washing onsite.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	C H C DIST. CO.	10925	M	WHEATLANDS	Santee	92071	907.12	5013	Motor vehicle supplies and parts, potential for outside storage.	No	Yes	Yes	No	Yes	Yes	No	No	No	Yes	Low	No
SA	Battery Systems	9465		MISSION PARK PLACE	Santee	92071	907.12	5013	Wholesale distribution of automotive batteries. All storage is kept under cover or indoors. Dead batteries are kept on pallets and picked up weekly	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	Yes
SA	CUSTOM WHEEL INDUSTRIES INC	10221		PROSPECT AVENUE	Santee	92071	907.13	5013	Facility sells wheels, tires, lug nuts, value stems, lock sets, wheel wax for cars. Some storage outdoors.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	Yes
SA	Cal Parts Connection	10658	D	PROSPECT AVENUE	Santee	92071	907.13	5013	Facility sells vehicle parts. Potential for outside storage.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	No
SA	DG Custom Auto Inc	10728	G	PROSPECT AVENUE	Santee	92071	907.13	5013	Facility sells vehicle parts. Potential for outside storage.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	No
SA	Generic Lift Parts (GLP)	9431		PROSPECT AVENUE	Santee	92071	907.13	5015	Home base for business that buys forklist parts and sells them to businesses that use forklifts.	No	No	Yes	No	Yes	No	No	No	No	No	Low	Yes
SA	NEO TECH IMPORTS	9962	I	PROSPECT AVENUE	Santee	92071	907.13	5015	Wholesale Japanese engine importer.	No	No	Yes	No	Yes	No	No	No	No	No	Low	No
SA	Southwest Entrances	8733		MAGNOLIA AVENUE	Santee	92071	907.12	5039	Repair & installation of commercail doors. Address used for storage of materials.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	MEDICAL SOLUTIONS INC	8406	A	MAGNOLIA AVENUE	Santee	92071	907.13	5047	Sales of medical equipment.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	BC Wire Rope And Rigging Inc.	10580	102	PROSPECT AVENUE	Santee	92071	907.13	5051	Processing of metal wires and ropes indoors. No outdoor exposures.	No	No	No	No	No	No	No	No	No	No	Medium	No
SA	PACIFIC COAST VALVE & SUPPLY	8614	B	ARGENT STREET	Santee	92071	907.13	5074	Plumbing and heating supplies, potential for outside storage.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	TEAL PIPE AND SUPPLY, INC.	9489		MISSION PARK PLACE	Santee	92071	907.12	5074	Plumbing wholesale supply, outside storage of plastic pipes, and storage of company vehicles.	No	No	No	No	No	No	No	No	No	No	Medium	No
SA	PRAXAIR	10728	A	PROSPECT AVENUE	Santee	92071	907.13	5084	Provider of welding supplies & industrial gas products. Potential for outside storage.	No	Yes	No	No	No	No	No	No	No	No	Low	No
SA	Preferred Pump & Equipment	9201	A	ISAAC STREET	Santee	92071	907.12	5084	Wholesale industrial machinery and equipment (pumps), warehouse and office, potential for outside storage.	No	Yes	No	No	No	No	No	No	No	No	Low	No

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SA	Pro Filter Inc.	9266		ABRAHAM WAY	Santee	92071	907.12	5085	Selling filtration systems through wholesale distribution. Warehouse and office, potential for outside storage.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	IMS Recycling Services Inc	9465		MISSION PARK PLACE	Santee	92071	907.12	5093	Recycling and scrap facility. Potential for outside storage and operations.	No	No	Yes	No	No	No	No	No	Yes	No	Medium	No
SA	COASTAL SUPPLY CO INC	8650		ARGENT STREET	Santee	92071	907.13	5099	Distribute sign & screen printing supplies & equipment. All work done indoors, no outdoor exposures (storage).	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	CARROLL BUSINESS SUPPLY, INC.	10223		PROSPECT AVENUE	Santee	92071	907.13	5112	Office supply delivery, office and warehouse. Potential for fleet storage.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	PACKAGING SOLUTIONS FOR TODAY'S INDUSTRY	9402	A	WHEATLANDS	Santee	92071	907.12	5113	Distributors of industrial packaging products & design.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	SAN DIEGO SUPPLY SERVICES	8402	E	MAGNOLIA AVENUE	Santee	92071	907.13	5113	Distribution of paper products & related supplies for restrooms/buildings. Office, warehouse, potential for outside storage.	No	No	No	No	Yes	No	No	No	Yes	No	Low	No
SA	STAT PHARMACEUTICALS	9545		PATHWAY STREET	Santee	92071	907.13	5122	Drugs, drug proprietaries, and druggists' Sundries. Some storage outside building. Debris (including from landscaping) observed.	No	No	No	No	No	No	No	No	Yes	No	Low	Yes
SA	MAXIMA RACING OILS	9266		ABRAHAM WAY	Santee	92071	907.12	5172	Wholesale distribution of lubricating oil, all processing and storage indoors. No outdoor exposures.	No	No	No	No	Yes	No	No	No	Yes	No	Low	Yes
SA	Mayan Trade Inc.	9437	H	Wheatlands	Santee	92071	907.12	5199	Wholesale of orthorehabilitation nondurable goods to hospitals. All storage indoors. No outdoor exposures.	No	No	No	No	No	No	No	No	Yes	No	Low	Yes
SA	8-5 Corp. / Artisan Gallery	10928	A	Wheatlands	Santee	92071	907.12	5199	Warehouse storage and distribution. No outdoor exposures observed.	No	No	No	No	No	No	No	No	Yes	No	Low	Yes
SA	CONSOLIDATED ELECTRICAL DIST	8406	H	MAGNOLIA AVENUE	Santee	92071	907.13	5211	Distribution of building material, potential for outside storage.	No	No	Yes	No	No	No	No	No	Yes	No	Low	No
SA	HOME DEPOT #673, THE	255		TOWN CENTER PARKWAY	Santee	92071	907.12	5211	Home maintenance and gardening supplies retailer. Outside area for gardening supplies storage. Catch basins in parking lot. Compactor and truck loading bay at rear of property.	No	No	No	No	Yes	No	Yes	No	Yes	No	Low	Yes
SA	619 HYDROPONICS	7949		MISSION GORGE ROAD	Santee	92071	907.12	5261	Gardening consulting and equipment sales. Office and storage in building. No outdoor exposures observed.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	Walgreens #09817	9305		MISSION GORGE ROAD	Santee	92071	907.13	5399	Drive-through pharmacy and general store. No outdoor exposures observed. Swales and filtration installed at facility.	No	Yes	No	No	Yes	No	No	No	No	No	Low	Yes
SA	Walgreens #11406	10512		MISSION GORGE ROAD	Santee	92071	907.12	5399	Drive-through pharmacy and general store. No outdoor exposures observed. Filtration system installed at facility.	No	Yes	No	No	Yes	No	No	No	No	No	Low	Yes
SA	7-Eleven 19006D	9111		MISSION GORGE ROAD	Santee	92071	907.12	5411	Convenience store and gas station in shared commercial facility.	No	Yes	No	No	Yes	No	No	No	No	No	Low	Yes
SA	7-Eleven 20611	9805		PROSPECT AVENUE	Santee	92071	907.13	5411	Convenience store in shared commercial facility.	No	Yes	No	No	Yes	No	No	No	Yes	No	Medium	No
SA	7-Eleven-2121-13661C	9251		CARLTON HILLS BOULEVARD	Santee	92071	907.12	5411	Convenience store and gas station in shared commercial facility.	No	Yes	No	No	Yes	No	No	No	Yes	No	Low	Yes

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SA	GTM Discount General Store	8967	A & B	CARLTON HILLS BOULEVARD	Santee	92071	907.12	5411	General store including food, customer parking and loading dock.	No	Yes	No	No	Yes	No	No	No	No	No	Medium	Yes
SA	7-Eleven 2121-20321D	9750		CUYAMACA STREET	Santee	92071	907.12	5411	Convenience store and gas station in shared commercial facility.	No	Yes	No	No	Yes	No	No	No	Yes	No	Low	Yes
SA	Albertsons #6727	9870		MAGNOLIA AVENUE	Santee	92071	907.12	5411	Grocery store in shared commercial facility, loading docks, clarifier.	No	Yes	No	No	Yes	No	No	No	No	No	Medium	Yes
SA	FOOD 4 LESS #349	9430		CUYAMACA STREET	Santee	92071	907.12	5411	Grocery store in shared commercial facility, loading docks.	No	Yes	No	No	Yes	No	No	No	No	No	Medium	Yes
SA	Oaks Market and Deli/Raini EH Enterprises, Inc	9266		CARLTON OAKS	Santee	92071	907.12	5411	Small convenience store with delicatessan. Grease trap, no outdoor exposures.	No	Yes	No	No	Yes	No	No	No	Yes	No	Low	Yes
SA	Santee Market	11007		WOODSIDE AVENUE	Santee	92071	907.12	5411	Convenience store and customer parking. Storm drain located at front of facility.	No	Yes	No	No	Yes	No	No	No	Yes	No	Medium	Yes
SA	Target Stores T-1485	9846		MISSION GORGE ROAD	Santee	92071	907.12	5411	General store including food, and garden supplies. Restaurant, grease trap, loading/unloading area. No outdoor storage, garden area drains to sanitary sewer.	No	Yes	No	No	Yes	No	No	No	Yes	No	Medium	Yes
SA	Vons #1897	9643		MISSION GORGE ROAD	Santee	92071	907.12	5411	Grocery store located in shopping center. Grease trap and rendering drum, loading dock with sump at base. Catch basins located in driveway at rear of building as well as in customer parking area.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Wal-Mart Stores #1917	170		TOWN CENTER PARKWAY	Santee	92071	907.12	5411	General store including food. McDonald's restaurant inside store, grease trap, rendering bin stored indoors. Car repair facility, all work and storage indoors. Trash for store and restaurant disposed of in compactor fed through portal in building. Gravel area at rear of facility used for temporary storage during holidays. Catch basins in parking lot and around facility.	No	Yes	No	No	Yes	No	No	No	Yes	No	Medium	Yes
SA	SPROUTS	9361		MISSION GORGE ROAD	Santee	92071	907.13	5411	Grocery store with delicatessan and loading dock at rear. Part of SUSMP project.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Santee Discount Market	11541		WOODSIDE AVENUE	Santee	92071	907.12	5411	General store selling beer, wine, liquor, and groceries. No food service, no outdoor exposures.	No	Yes	No	No	Yes	No	No	No	Yes	No	Low	Yes
SA	DAWSON LEASING INC., G M	11220		WOODSIDE AVENUE	Santee	92071	907.12	5511	New car dealers, repair unlikely, potential for car cleaning.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	No
SA	SILVER STAR ENTERPRISES INC	8634		SIESTA ROAD	Santee	92071	907.13	5511	Motor vehicle dealer, potential for repair and car cleaning.	No	Yes	Yes	No	No	No	No	Yes	Yes	No	Low	No
SA	Victory Auto Supply	10439	E	PROSPECT AVENUE	Santee	92071	907.13	5511	Automotive supply & delivery store, potential for outside storage.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	No
SA	Most Truck Sales	8017		MISSION GORGE ROAD	Santee	92071	907.12	5511	Truck Sales. Trucks and other vehicles stored on gravel lot. Only electrical, no mechanical work is done onsite. Vehicle batteries stored under cover.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	Yes
SA	VIP Auto Sales	9207		MISSION GORGE ROAD	Santee	92071	907.12	5521	Used car Dealers. Car repair conducted under cover. Potential for car washing and outside storage.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Medium	Yes
SA	BONDS AUTOMOTIVE SALES	11420		WOODSIDE AVENUE	Santee	92071	907.12	5521	Automotive sales, potential for repair and car cleaning.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Medium	No

Appendix A.4
Santee Stormwater Industrial/Commercial Inventory, September 2011

Agency	Facility Name	Address Number	Suite Number	Street Name	City	Zip Code	Watershed	SIC Code	Principal Products / Services	Potential Pollutants									Tributary to 303(d) Listed	Threat to Water Quality	Threat Confirmed?
										Potential pollutants that may be generated by the facility.											
Jurisdiction responsible for inspection of facility (Copermittee)	Name used to identify facility in database	Street number of facility, this is the numeric street address	Suite or unit number or letter, if needed.	Name of street facility is located on	City where facility is located	Zip code where facility is located	Hydrologic sub-area in which facility located (all San Diego River Watershed)	Standard Industrial Classification code of facility determined by US Department of Labor - OSHA.	A narrative description which best reflects the principle products or services provided by the facility.	Bacteria	Gross Pollutants	Metals	Nutrients	Oil & Grease	Organics	Pesticides	Sediment	Trash	Is facility a tributary to 303(d) listed receiving water and generating pollutants for which the water body is impaired?	Does the facility those a high threat to water quality?	Has the threat to water quality been confirmed through inspection or other means of verification?
SA	Tornell Motors	10554		PROSPECT AVENUE	Santee	92071	907.13	5521	Used car dealers, potential for car washing and outside storage.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Medium	No
SA	DUNCAN RACING/DANNYS MACHINE	10734		KENNEY STREET	Santee	92071	907.13	5531	Auto parts and accessory store for offroad motorcycles. No outdoor storage.	No	No	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	FIBER-TECH AUTO PARTS INC	10809		PROSPECT AVENUE	Santee	92071	907.13	5531	Auto parts and accessory store, potential for offsite storage.	No	No	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	FIBER-TECH ENGINEERING INC	10735		PROSPECT AVENUE	Santee	92071	907.13	5531	Auto and home supply stores, potential for outside storage.	No	No	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	HOUSE OF BUGGIES	10308	D	MISSION GORGE ROAD	Santee	92071	907.12	5531	Retail and service of dune buggies. Potential for outside storage and operations. Area drains to unpaved alley at rear.	No	No	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	Pep Boys Manny Moe & Jack	10041		MISSION GORGE ROAD	Santee	92071	907.12	5531	Auto parts and accessories store. Maintenance conducted in building. No outdoor storage.	No	No	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	Express Tire	9535		MISSION GORGE ROAD	Santee	92071	907.12	5531	Retail tire facility, all work is done indoors. Containment for used oil and coolant is stored indoors. Water used for testing tires disposed of to sanitary sewer.	No	No	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	AUTO CORRAL	11440		WOODSIDE AVENUE	Santee	92071	907.12	5541	Gasoline station.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	CIRCLE K/76 #2702955/KAYO Oil CK	10219		MAST BOULEVARD	Santee	92071	907.12	5541	Gasoline station with convenience store.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Medium	Yes
SA	Mobil Oil Corp	9750		MAGNOLIA AVENUE	Santee	92071	907.12	5541	Gasoline station with convenience store.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	Speedee Mart	8011	A	MISSION GORGE ROAD	Santee	92071	907.12	5541	Convenience store.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	BP West Coast Prod. DBA Arco	9009		CARLTON HILLS BOULEVARD	Santee	92071	907.12	5541	Gasoline station with convenience store.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Medium	Yes
SA	Qwik Korner	9035		MISSION GORGE ROAD	Santee	92071	907.12	5541	Gasoline station with convenience store.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Medium	Yes
SA	Dion And Sons, Inc.	11427		WOODSIDE AVENUE	Santee	92071	907.12	5541	Gasoline station with no convenience store.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Medium	Yes
SA	BP West Coast Prod. DBA Arco #9567	9811		MISSION GORGE ROAD	Santee	92071	907.12	5541	Gasoline station with convenience store.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	ROBS R.V. APPLIANCE REPAIR	11366		WOODSIDE AVENUE	Santee	92071	907.12	5561	Recreational vehicle dealers and repair, potential for outside storage and operations.	No	No	Yes	No	Yes	No	No	No	Yes	No	Low	No
SA	RV Discount Center - Santee	8837		MAGNOLIA AVENUE	Santee	92071	907.12	5561	Recreational trailer sales, potential for outside storage.	No	No	Yes	No	Yes	No	No	No	Yes	No	Medium	No
SA	DARKSIDE CUSTOMS	11420		WOODSIDE AVENUE	Santee	92071	907.12	5571	Motorcycle dealership, potential for outside storage.	No	No	Yes	No	Yes	No	No	No	Yes	No	Low	No
SA	S & H ALL DAY CYCLES	9925		PROSPECT AVENUE	Santee	92071	907.13	5571	Sales & service of motorcycle accessories and parts. Potential for outside storage and operations.	No	No	Yes	No	Yes	No	No	No	Yes	No	Low	No
SA	S & H ALLDAY HARLEY PARTS &SVC	9925	A	PROSPECT AVENUE	Santee	92071	907.13	5571	Sales & service of motorcycles. Potential for outside storage and operations.	No	No	Yes	No	Yes	No	No	No	Yes	No	Low	No
SA	SANTEE MOTORCYCLE SUPPLY	9805	E	PROSPECT AVENUE	Santee	92071	907.13	5571	Sales & service of motorcycles. No outdoor operations, potential for outdoor storage.	No	No	Yes	No	Yes	No	No	No	Yes	No	Medium	No
SA	Blue Deuce Cycles	10739		WOODSIDE AVENUE	Santee	92071	907.12	5571	Sales motorcycles. Potential for outside storage and operations.	No	No	Yes	No	Yes	No	No	No	Yes	No	Low	No
SA	Buggy World	10350		MISSION GORGE ROAD	Santee	92071	907.12	5599	Dune buggy parts, sales and service. Potential for outside operations and storage.	No	No	Yes	No	Yes	No	No	No	Yes	No	Medium	No
SA	R T S ENTERPRISES	10965	U & V &	HARTLEY ROAD	Santee	92071	907.12	5599	Automotive dealers, potential for outside storage.	No	No	Yes	No	Yes	No	No	No	Yes	No	Low	No
SA	Royalty Wood	9437	A	Wheatlands	Santee	92071	907.12	2511	Cabinet shop, potential for outdoor storage and operations.	No	Yes	No	No	No	No	No	No	Yes	No	Medium	Yes

Appendix A.4
Santee Stormwater Industrial/Commercial Inventory, September 2011

Agency	Facility Name	Address Number	Suite Number	Street Name	City	Zip Code	Watershed	SIC Code	Principal Products / Services	Potential Pollutants									Tributary to 303(d) Listed	Threat to Water Quality	Threat Confirmed?
										Potential pollutants that may be generated by the facility.												
Jurisdiction responsible for inspection of facility (Copermittee)	Name used to identify facility in database	Street number of facility, this is the numeric street address	Suite or unit number or letter, if needed.	Name of street facility is located on	City where facility is located	Zip code where facility is located	Hydrologic sub-area in which facility located (all San Diego River Watershed)	Standard Industrial Classification code of facility determined by US Department of Labor - OSHA.	A narrative description which best reflects the principle products or services provided by the facility.	Bacteria	Gross Pollutants	Metals	Nutrients	Oil & Grease	Organics	Pesticides	Sediment	Trash	Is facility a tributary to 303(d) listed receiving water and generating pollutants for which the water body is impaired?	Does the facility those a high threat to water quality?	Has the threat to water quality been confirmed through inspection or other means of verification?
SA	Cotijas	9121		MISSION GORGE ROAD	Santee	92071	907.12	5812	Restaurant, rendering bin stored at rear, grease trap. No outside eating area.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	High	Yes
SA	DIY Yogurt	9292	D	CARLTON HILLS BOULEVARD	Santee	92071	907.12	5812	Yogurt parlor in shared commercial complex, no outdoor exposures.	No	No	No	No	No	No	No	No	No	No	Medium	No
SA	Eccentric International Chefs	8925		CARLTON HILLS BOULEVARD	Santee	92071	907.12	5812	Bakery & delicatessan, no outdoor eating or rendering bin, grease trap installed.	No	No	No	No	No	No	No	No	No	No	Medium	Yes
SA	GIANT NEW YORK PIZZA	8933		CARLTON HILLS BOULEVARD	Santee	92071	907.12	5812	Fast food restaurant, grease trap, rendering bin under cover. No outdoor eating. Spill mats not used.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Hilbertos Mexican Food	9805	F	PROSPECT AVENUE	Santee	92071	907.13	5812	Fast food restaurant, grease trap. Rendering bin outside. No outdoor eating. Spill mats not used.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	High	Yes
SA	JACK IN THE BOX #20	9337		MISSION GORGE ROAD	Santee	92071	907.13	5812	Fast food restaurant, grease trap. Rendering bin outside. No outdoor eating. Spill mats not used.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	High	Yes
SA	MARIETAS #4	8915		CARLTON HILLS BOULEVARD	Santee	92071	907.12	5812	Full service restaurant, grease trap. Rendering bin outside. No outdoor eating. Spill mats changed by contractor.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	High	Yes
SA	MARYS DONUTS	9031		MISSION GORGE ROAD	Santee	92071	907.12	5812	Donut sales & restaurant. Deck used for outside consumption. Grease trap, rendering bin stored inside. Spill mats washed either in mop sink (interior mats) or car wash (exterior mats).	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	High	Yes
SA	Estradas	8528	107	MAGNOLIA AVENUE	Santee	92071	907.13	5812	Full service restaurant, grease trap. Rendering bin outside.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	High	Yes
SA	Burger King	9714		MISSION GORGE ROAD	Santee	92071	907.12	5812	Fast food restaurant and drive through in commercial complex, rendering bin and trash area under roofed area, grease trap. No spill mats. Outdoor eating area.	No	No	No	No	No	No	No	No	No	No	Medium	Yes
SA	CARLS JUNIOR #385	10009		MISSION GORGE ROAD	Santee	92071	907.12	5812	Fast food restaurant and drive through in commercial complex, storm drains located in drive through and parking area. Rendering bin outside. Grease trap. No spill mats. Outdoor eating area.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	High	Yes
SA	Casa Nueva Mexican Restaurant	10757		WOODSIDE AVENUE	Santee	92071	907.12	5812	Full service restaurant, no outdoor eating areas. Grease trap. Rendering bin is outside. Spill mats used and cleaned indoors.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Cohen's Knishes	9730	A	CUYAMACA STREET	Santee	92071	907.12	5812	Contract kitchen facilities, no outdoor exposures (i.e., rendering bin).	No	No	No	No	No	No	No	No	No	No	Medium	No
SA	COUNTRY TIME FOOD MARKET	9613		CARLTON HILLS BOULEVARD	Santee	92071	907.12	5812	Restaurant and market, no food preparation onsite.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	No
SA	DAIRY QUEEN	70	A	TOWN CENTER PARKWAY	Santee	92071	907.12	5812	Restaurant in shared commercial complex, no food preparation onsite. No rendering bin or grease trap, no outdoor exposures.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	No
SA	Daphne's Greek Café	9828	B	MISSION GORGE ROAD	Santee	92071	907.12	5812	Restaurant in shared commercial complex, spill mats not used, rendering bin stored inside. Grease trap. Outdoor dining area.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes

Appendix A.4
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SA	DEL TACO #109	9822		MAGNOLIA AVENUE	Santee	92071	907.12	5812	Restaurant in shared commercial complex, spill mats not used, rendering bin stored outside. Grease trap. No outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	DENNYS RESTAURANT	140		TOWN CENTER PARKWAY	Santee	92071	907.12	5812	Restaurant in shared commercial complex, spill mats used, rendering bin stored outside. Grease trap. No outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Dominos	10251	A	MAST BOULEVARD	Santee	92071	907.12	5812	Pizza restaurant in shared commercial complex, no outdoor dining, rendering bin or grease trap.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	Don Lucio's Taco Shop	9740	D	MISSION GORGE ROAD	Santee	92071	907.12	5812	Restaurant in shared commercial complex, spill mats not used, rendering bin stored outside. Grease trap. No outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	EINSTEIN BROS BAGELS #3325	9872		MISSION GORGE ROAD	Santee	92071	907.12	5812	Restaurant and bakery. Grease trap. No rendering bin or outside dining. Spill mats not used.	No	No	Yes	No	No	No	No	No	No	No	Medium	No
SA	El Ranchito Taco Shop	9225	21	CARLTON HILLS BOULEVARD	Santee	92071	907.12	5812	Full service restaurant, no spill mats used. Grease trap. Rendering bin outside.	Yes	Yes	Yes	No	Yes	Yes	No	No	No	Yes	Medium	Yes
SA	Emma's Mexican Food	8781	L	CUYAMACA STREET	Santee	92071	907.12	5812	Full service restaurant. Grease trap. Rendering bin outside.	Yes	Yes	Yes	No	Yes	No	No	No	No	Yes	Medium	Yes
SA	Estradas Mexican Food	9292	B	CARLTON HILLS BOULEVARD	Santee	92071	907.12	5812	Restaurant in shared commercial complex, spill mats used, rendering bin stored outside. Grease trap.	Yes	Yes	Yes	No	Yes	No	No	No	Yes	Yes	High	Yes
SA	GIANT PIZZA KING #10	9614		CARLTON HILLS BOULEVARD	Santee	92071	907.12	5812	Restaurant in shared commercial complex, spill mats not used, rendering bin stored outside. Grease trap.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	GO GET YOGURT	9802	1	MAGNOLIA AVENUE	Santee	92071	907.12	5812	Yogurt shop. No outdoor exposures. No spill mats, no grease trap, no food preparation onsite.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	GOLDEN SPOON FROZEN YOGOURT	9640	C	MISSION GORGE ROAD	Santee	92071	907.12	5812	Frozen yogurt sales. Spill mats are used, but cleaned by offsite service. No grease trap, no rendering bin.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Grindz Coffee Co.	9608		CARLTON HILLS BOULEVARD	Santee	92071	907.12	5812	Full service restaurant, spill mats used. Grease trap.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	HI-C-ERA	11541	D	WOODSIDE AVENUE	Santee	92071	907.12	5812	Bar, no food preparation, no outdoor consumption.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	HOMETOWN BUFFET #720	275		TOWN CENTER PARKWAY	Santee	92071	907.12	5812	Full service restaurant, no spill mats used. Grease trap. Rendering bin outside.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	HONEY DONUTS	10718		WOODSIDE AVENUE	Santee	92071	907.12	5812	Donut & muffin sales, no rendering bin. Grease trap, no outdoor dining	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	INTERNATIONAL HOUSE OF PANCAKES	9708		MISSION GORGE ROAD	Santee	92071	907.12	5812	Restaurant in shared commercial complex, spill mats used, rendering bin stored outside. Grease trap. No outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	JACK IN THE BOX #3007	10330		MAST BOULEVARD	Santee	92071	907.12	5812	Fast food restaurant in commercial complex, grease trap, rendering bin outside. No outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	High	Yes
SA	JACK IN THE BOX #3056	8500		MAGNOLIA AVENUE	Santee	92071	907.13	5812	Fast food restaurant in commercial complex, grease trap, rendering bin inside. No outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Jamba Juice Company #517	9828		MISSION GORGE ROAD	Santee	92071	907.12	5812	Vendor of fresh juice smoothies and sandwiches . Food prepared offsite, no rendering bin or grease trap. No outdoor dining. Spill mats used.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	JIMMYS FAMILY RESTAURANT	9635		MISSION GORGE ROAD	Santee	92071	907.12	5812	Full service restaurant in commercial complex. Rendering bin outside. Spill mats used. Grease trap. No outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes

Appendix A.4
Santee Stormwater Industrial/Commercial Inventory, September 2011

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SA	KFC CORPORATION	8890		CUYAMACA STREET	Santee	92071	907.12	5812	Fast food restaurant, no spill mats used. Grease trap, rendering bin kept in contained area. No outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	LITTLE CAESER'S PIZZA	9720		MISSION GORGE ROAD	Santee	92071	907.12	5812	Take out pizza restaurant, no outdoor dining. Grease trap, no rendering bin, no spill mats.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	LOS NACHOS TACO SHOP	9740	C	CUYAMACA STREET	Santee	92071	907.12	5812	Restaurant in commercial complex, grease trap, no outdoor dining. Rendering bin stored outside. No spill mats.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	LUCKY CHINESE FAST FOOD	9740	B	MISSION GORGE ROAD	Santee	92071	907.12	5812	Restaurant in commercial complex, grease trap, no outdoor dining. Rendering bin stored outside. No spill mats.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	MCDONALDS #2441	8876		CUYAMACA STREET	Santee	92071	907.12	5812	Fast food restaurant, grease trap, used oil stored indoors. No spill mats.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	MCDONALD'S #29484	170		TOWN CENTER PARKWAY	Santee	92071	907.12	5812	Fast food restaurant within Walmart, no outdoor exposures.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	MICHAELS GRILL	9621	5	MISSION GORGE ROAD	Santee	92071	907.12	5812	Restaurant in commercial complex, grease trap. Rendering bin stored outside. Spill mats used.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	MIMI'S CAFÉ #86	9812		MISSION GORGE ROAD	Santee	92071	907.12	5812	Restaurant, rendering bin stored indoors, grease trap, spill mats used. No outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	MISSION GORGE MARKET	7757		MISSION GORGE ROAD	Santee	92071	907.12	5812	Convenience store hosting Subway sandwich counter. No rendering bin, no grease trap. No outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Oggi's Pizza & Brewing Co.	9828		MISSION GORGE ROAD	Santee	92071	907.12	5812	Restaurant, rendering bin stored outdoors, grease trap, spill mats used. Outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	OISHII JAPANESE-THAI RESTAURANT	10251		MAST BOULEVARD	Santee	92071	907.12	5812	Restaurant, rendering bin stored outdoors, grease trap, no spill mats used. No outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	OLIVE GARDEN	9800		MISSION GORGE ROAD	Santee	92071	907.12	5812	Restaurant, rendering bin stored outdoors, grease trap, no spill mats used. No outdoor dining. Dumpster area connected to grease trap.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	OMELETTE FACTORY, THE	7941		MISSION GORGE ROAD	Santee	92071	907.12	5812	Restaurant, rendering bin stored outdoors, grease trap, spill mats used. No outdoor dining, catch basin at rear of restaurant.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	PANDA COUNTRY RESTAURANT	9621	104	MISSION GORGE ROAD	Santee	92071	907.12	5812	Restaurant in commercial facility, rendering bin stored under cover, grease trap, no spill mats used. No outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	PANDA EXPRESS #739	9862		MISSION GORGE ROAD	Santee	92071	907.12	5812	Restaurant in commercial facility, rendering bin stored outdoors, grease trap, no spill mats used. No outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	PAPA JOHN'S PIZZA #2255	9490		CUYAMACA STREET	Santee	92071	907.12	5812	Take out pizza restaurant, no outdoor dining. Grease trap, no rendering bin, spill mats, no outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	PINNACLE PEAK STEAK HOUSE	7927		MISSION GORGE ROAD	Santee	92071	907.12	5812	Full service restaurant, no outdoor dining. Grease trap, spill mats, no rendering bin.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Pizza Hut / Wing Street	9420	100	CUYAMACA STREET	Santee	92071	907.12	5812	Full service restaurant and take out in commercial facility. No outdoor dining. No rendering bin and spill mats.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes

Appendix A.4
Santee Stormwater Industrial/Commercial Inventory, September 2011

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SA	QUIZNO'S CLASSIC SUBS	9862	3F	MISSION GORGE ROAD	Santee	92071	907.12	5812	Grilled sandwich restaurant in commercial complex. Grease trap, no rendering bin.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Ranch House Restaurant	11510	#F	WOODSIDE AVENUE	Santee	92071	907.12	5812	Full service restaurant with outdoor rendering bin and grease trap. No outdoor storage.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	ROUND TABLE PIZZA	9824		MAGNOLIA AVENUE	Santee	92071	907.12	5812	Full service restaurant with grease trap, no rendering bin or spill mats, no outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	SANTEE DONUTS	9740	J	CUYAMACA STREET	Santee	92071	907.12	5812	Food preparation and service in commercial complex. No rendering bin or spill mats. Grease trap.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Smoothie King	9802	#2	MAGNOLIA AVENUE	Santee	92071	907.12	5812	Selling smoothies, no rendering bin, no grease trap.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	No
SA	SORIANA'S MEXICAN FOOD	9470	#130	CUYAMACA STREET	Santee	92071	907.12	5812	Restaurant in commercial facility, rendering bin stored outdoors, grease trap, spill mats used. No outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Starbucks Coffee #5912	9802		MAGNOLIA AVENUE	Santee	92071	907.12	5812	Coffee shop in commercial complex, no food preparation onsite, grease trap. Outdoor dining area.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Starbucks Coffee #6636	9868	B	MISSION GORGE ROAD	Santee	92071	907.12	5812	Coffee shop in commercial complex, no food preparation onsite, spill mats in service area. Outdoor dining area.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Subway Sandwiches	7757		MISSION GORGE ROAD	Santee	92071	907.12	5812	Subway shop operating in Mission Gorge Market. No outdoor dining, spill mats, rendering bin or grease trap.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Subway Sandwiches	9890		MAGNOLIA AVENUE	Santee	92071	907.12	5812	Sandwich shop in commercial facility, outside dining, grease trap. No rendering bin, no spill mats.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Subway Sandwiches	50	D	TOWN CENTER PARKWAY	Santee	92071	907.12	5812	Sandwich shop in commercial facility, no grease trap or rendering bin.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	TACO BELL #9417	9825		MISSION GORGE ROAD	Santee	92071	907.12	5812	Fast foot restaurant and drive through. Uses spill mats and grease trap. Rendering bin outside. No outdoor eating area.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	TASTY DONUTS	9802	3	MAGNOLIA AVENUE	Santee	92071	907.12	5812	Donut shop, grease trap, but no rendering bin. No outside dining. No spill mats.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	The Sandwich Bags	10769	108	WOODSIDE AVENUE	Santee	92071	907.12	5812	Sandwich shop (with delivery service) in commercial facility, spill mats, grease trap. No rendering bin, no outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	No
SA	Wendy's	9655		MISSION GORGE ROAD	Santee	92071	907.12	5812	Fast food restaurant. Uses spill mats and grease trap. Used oil stored indoors.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Wienerschnitzel #424	9650		MISSION GORGE ROAD	Santee	92071	907.12	5812	Fast food restaurant. Uses spill mats and grease trap. Rendering bin outdoors. No outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Woodside Deli	10925	B	HARTLEY ROAD	Santee	92071	907.12	5812	Sandwich shop in industrial area. No grease trap, or rendering bin. Spill mats used.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	No
SA	L&L Hawaiian BBQ	9621		MISSION GORGE ROAD	Santee	92071	907.12	5812	Restaurant in commercial facility. Spill mats and grease trap. Rendering bin shared, and stored outside.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Frubble	9628		CARLTON HILLS BOULEVARD	Santee	92071	907.12	5812	Restaurant, no rendering bin or spill mats, grease trap installed.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	ChiTown Pizza Company	8528		N. Magnolia	Santee	92071	907.13	5812	Restaurant, used oil stored indoors, grease trap.	No	No	No	No	No	No	No	No	No	No	Low	Yes

Appendix A.4
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SA	Starbucks Coffee #14489	9325		MISSION GORGE ROAD	Santee	92071	907.12	5812	Coffee shop in commercial complex, no food preparation onsite, grease trap. Outdoor dining area.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Cookies By Design	30	B	TOWN CENTER PARKWAY	Santee	92071	907.12	5812	Food preparation facility, grease trap. No outdoor exposures.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	Subway Sandwiches	10538	130	MISSION GORGE ROAD	Santee	92071	907.12	5812	Sandwich shop in commercial facility, no grease trap or rendering bin.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	WC'S Wagon Wheel	8861		MAGNOLIA AVENUE	Santee	92071	907.12	5812	Restaurant, grease trap, rendering bin stored outside. No outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Cazadores Mexican Food	9331	111	MISSION GORGE ROAD	Santee	92071	907.13	5812	Restaurant, grease trap, rendering bin stored indoors.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	High	Yes
SA	Rubios Fresh Mexican Grill	130		TOWN CENTER PARKWAY	Santee	92071	907.12	5812	Restaurant in commercial complex. Rendering bin stored outside, grease trap, outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Filippi'S Pizza Grotto	10767		WOODSIDE AVENUE	Santee	92071	907.12	5812	Restaurant, grease trap, spill mats used, rendering bin outside.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Friendly Grounds Inc.	9225		CARLTON HILLS BOULEVARD	Santee	92071	907.12	5812	Coffee shop, no rendering bin or grease trap. Outdoor dining.	No	Yes	Yes	No	Yes	No	No	No	No	No	Medium	Yes
SA	Alberto's Mexican Food	9535	A & B	MISSION GORGE ROAD	Santee	92071	907.13	5812	Restaurant with grease trap and outdoor rendering bin. No spill mats.	Yes	Yes	Yes	No	Yes	No	No	No	No	Yes	Medium	Yes
SA	Fox's Pizza Den	8011		MISSION GORGE ROAD	Santee	92071	907.12	5812	Restaurant, grease trap installed, no rendering bin.	No	Yes	Yes	No	Yes	No	No	No	No	No	Medium	Yes
SA	Estrada's Mexican Food	9630		CARLTON HILLS BOULEVARD	Santee	92071	907.12	5812	Restaurant, grease trap, used oil stored inside. Spill mats used.	Yes	Yes	Yes	No	Yes	No	No	No	No	Yes	High	Yes
SA	Domo Sushi	9625		MISSION GORGE ROAD	Santee	92071	907.13	5812	Restaurant, no spill mats, grease trap installed, rendering bin outside.	No	Yes	Yes	No	Yes	No	No	No	No	No	Medium	Yes
SA	Coffee Corner, The	9608		CARLTON HILLS BOULEVARD	Santee	92071	907.12	5812	Coffee Shop, potential for outside dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	No
SA	Janet's Café & Deli	9225	20	CARLTON HILLS BOULEVARD	Santee	92071	907.12	5812	Restaurant with grease trap and outdoor rendering bin.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Penguin Yogurt Factory	9621	A	MISSION GORGE ROAD	Santee	92071	907.13	5812	Yogurt shop, no rendering bin or grease trap.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	Double Double Fine Burger	9862		MISSION GORGE ROAD	Santee	92071	907.12	5812	Restaurant, grease trap, used oil stored inside.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Sonic Drive-In	10515		MISSION GORGE ROAD	Santee	92071	907.12	5812	Restaurant, rendering bin stored under cover, grease trap. Property subject to SUSMP.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Senor Pancho Mexican Grill	10320		MISSION GORGE ROAD	Santee	92071	907.12	5812	Restaurant, grease trap, rendering bin stored outside.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Italia Ristorante	8918		CARLTON HILLS BOULEVARD	Santee	92071	907.12	5812	Restaurant - spill mats are used, rendering bin outside. Grease trap. No outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Nam Long Restaurants	9828		MAGNOLIA AVENUE	Santee	92071	907.12	5812	Restaurant, grease trap, rendering bin outside. Spill mats not used.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Smoking Joe's Intl. BarBQue	205	A	TOWN CENTER PARKWAY	Santee	92071	907.12	5812	Restaurant in commercial facility, outdoor smoker used to prepare food.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Okawa Steak House And Sushi	9720	A	MISSION GORGE ROAD	Santee	92071	907.12	5812	Restaurant with grease trap. Used oil disposed of offsite.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Yogurt World	9331	110	MISSION GORGE ROAD	Santee	92071	907.13	5812	Yogurt shop, no food preparation onsite, no grease trap or rendering bin. No outdoor exposures	No	No	No	No	No	No	No	No	No	No	Medium	No
SA	Taco Loco	8667		FANITA DRIVE	Santee	92071	907.12	5812	Taco shop, grease trap and rendering bin outside.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	THE RED LOTUS	9888		MAGNOLIA AVENUE	Santee	92071	907.12	5812	Restaurant, rendering bin outside, grease trap, no outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes

Appendix A.4
Santee Stormwater Industrial/Commercial Inventory, September 2011

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SA	AMY'S FINE BURGER	9862		MISSION GORGE ROAD	Santee	92071	907.12	5812	Restaurant, no outdoor storage, spill mat by drinks dispenser, grease trap, rendering bin stored indoors.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Sab-E-Lee	9159		MISSION GORGE ROAD	Santee	92071	907.13	5812	Restauarant, no outdoor dining, no spill mats, grease trap, rendering bin in secondary containment.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	High	Yes
SA	The Coffee Brake	9161		MISSION GORGE ROAD	Santee	92071	907.13	5812	Coffee vendor in booth in parking lot. Spills only potential outside exposure.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	Pho Santee	8790	K	CUYAMACA STREET	Santee	92071	907.12	5812	Restaurant in commercial complex, grease trap, no outdoor dining. Rendering bin stored outside. No spill mats.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	High	Yes
SA	Iwamoto'S Cafe Con Fusion	235	C	TOWN CENTER PARKWAY	Santee	92071	907.12	5812	Restaurant, potential for outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	No
SA	K 39 Taco Shop	235	H	TOWN CENTER PARKWAY	Santee	92071	907.12	5812	Restaurant, potential for outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	No
SA	Rancho Viejo	8001		MISSION GORGE ROAD	Santee	92071	907.12	5812	Mexican restaurant, potential for outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	No
SA	GEORGES SALOON	9179		MISSION GORGE ROAD	Santee	92071	907.12	5813	Bar, no food preparation, no outdoor dining. Spill mats used.	No	No	No	No	No	No	No	No	No	No	Medium	No
SA	Ye Village Inn	8929		CARLTON HILLS BOULEVARD	Santee	92071	907.12	5813	Bar, no food preparation, no outdoor dining. Spill mats used.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	CHILI'S GRILL & BAR	9804		MISSION GORGE ROAD	Santee	92071	907.12	5813	Restaurant, spill mats used, grease trap, rendering bin outside. No outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Landre'S Sports Bar & Grill	70	C	TOWN CENTER PARKWAY	Santee	92071	907.12	5813	Sports bar type restaurant, potential for outside rendering bin and dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Via Moto	9331	103	MISSION GORGE ROAD	Santee	92071	907.13	5813	Restaurant with outdoor dining. Potential for outdoor rendering bin.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Lacey J'S Roadhouse Saloon & Grille	8861		MAGNOLIA AVENUE	Santee	92071	907.12	5813	Sports bar type restaurant, potential for outside rendering bin and dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Lakes Market and Deli	9266		CARLTON OAKS	Santee	92071	907.12	5921	Liquor store, grease trap, no rendering bin, spill mats, or outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Santee Mini Market	8781	I	CUYAMACA STREET	Santee	92071	907.12	5921	Liquor store, no grease trap, no rendering bin, spill mats, or outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Santana Liquor	8959		CARLTON HILLS BOULEVARD	Santee	92071	907.12	5921	Liquor store, no food preparation, no outdoor exposures.	No	No	No	No	No	No	No	No	Yes	No	Low	Yes
SA	Fanita Liquor & Market	8663		FANITA DRIVE	Santee	92071	907.12	5921	Liquor store, grease trap, no rendering bin, spill mats, or outdoor dining.	No	No	No	No	No	No	No	No	Yes	No	Low	Yes
SA	Belvedere Liquor	10769	101	WOODSIDE AVENUE	Santee	92071	907.12	5921	Liquor store, grease trap, no rendering bin, spill mats, or outdoor dining.	No	No	No	No	No	No	No	No	Yes	No	Low	Yes
SA	ANGLERS MARINE	10960		WHEATLANDS	Santee	92071	907.12	5941	Retail boating and fishing and service center. Work conducted indoors, potential for vehicle washing. Catch basin located in yard.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Medium	Yes
SA	Pacific Sports Warehouse	10746	303	KENNEY STREET	Santee	92071	907.13	5961	Retail boating and fishing and service center. Work conducted indoors, potential for vehicle washing.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	CHEVRON STATION INC #1741	8888		MAGNOLIA AVENUE	Santee	92071	907.12	5989	Gasoline station with convenience store. Dispenser area has overhead canopy.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	CHEVRON KALASHO	9312		MISSION GORGE ROAD	Santee	92071	907.13	5989	Gasoline station with convenience store. Dispenser area has overhead canopy.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Medium	Yes
SA	SMOKER'S HEAVEN	9882		MAGNOLIA AVENUE	Santee	92071	907.12	5993	Tobacco stores, unlikely to have outdoor exposures.	No	No	No	No	No	No	No	No	Yes	Yes	Low	Yes

Appendix A.4
Santee Stormwater Industrial/Commercial Inventory, September 2011

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SA	Costco Wholesale #403	101		TOWN CENTER PARKWAY	Santee	92071	907.12	5999	Club warehouse with vehicle maintenance facility, two grease traps, used oil kept indoors, loading dock, gas pumps located under cover.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	EAST COUNTY FEED AND SUPPLY	10845		WOODSIDE AVENUE	Santee	92071	907.12	5999	Animal feed supply, paved facility, all materials stored under cover.	Yes	Yes	No	No	No	No	No	No	Yes	Yes	Medium	No
SA	Living Water	235	G	TOWN CENTER PARKWAY	Santee	92071	907.12	5999	Retail store, outdoor exposures unlikely.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	So Calif Equipment	9925		PROSPECT AVENUE	Santee	92071	907.13	5999	Equipment company, potential for outdoor storage and maintenance.	No	No	Yes	No	Yes	No	No	No	No	No	Low	No
SA	Padre Dam Santee Lakes	9310		FANITA PARKWAY	Santee	92071	907.12	7033	Campground and recreation facility. Largely unpaved, area drains to lakes which discharge to river under permit.	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	High	No
SA	San Diego Flood Busters*	9943		PROSPECT AVENUE	Santee	92071	907.13	7217	Carpet and upholstery cleaning, cleaning water disposed of to sanitary sewer, chemicals stored indoors. Fleet parking.	No	Yes	No	No	No	Yes	No	No	No	No	Low	Yes
SA	CARPET CLEANER (ALAN)*	10233		MISSION GORGE ROAD	Santee	92071	907.12	7217	Home base for carpet cleaner.	No	Yes	No	No	No	Yes	No	No	No	No	Low	No
SA	GENTUE & SONS*	9802		SETTLE ROAD	Santee	92071	907.12	7217	Home base for carpet cleaner.	No	Yes	No	No	No	Yes	No	No	No	No	Low	No
SA	ALL CITIES BEE & PEST CONTROL	10201		BUENA VISTA AVENUE	Santee	92071	907.12	7342	Rat Abatement, exterminate bees, remove honey from structures. Pesticides stored inside building. Fleet parking.	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Low	Yes
SA	J & J FUMIGATION INC	10744	101	ROCKVILL STREET	Santee	92071	907.12	7342	Pest control, chemicals likely stored inside building.	No	Yes	Yes	No	No	Yes	Yes	No	No	No	Low	No
SA	Truly Nolen	8400	M & N	MAGNOLIA AVENUE	Santee	92071	907.13	7342	Pest control. Chemicals stored inside building. Fleet parking.	No	Yes	Yes	No	No	Yes	Yes	No	No	No	Medium	Yes
SA	HANSON MACHINE	10969	B	WHEATLANDS	Santee	92071	907.12	7353	Construction equipment rental, potential for outside storage of equipment, equipment maintenance and cleaning.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	No
SA	TOYOTALIFT INC	11446		WOODSIDE AVENUE	Santee	92071	907.12	7353	Construction equipment rental, some outside storage of equipment on paved areas.	No	Yes	Yes	No	Yes	No	No	No	No	No	Medium	Yes
SA	Bilcan Inc. DBA El Camino Rentals	8795		CUYAMACA STREET	Santee	92071	907.12	7353	Equipment rental and leasing. Repair under roofed areas. Equipment washwater drains through clarifier through sanitary sewer.	No	Yes	Yes	No	Yes	No	No	No	No	Yes	Medium	Yes
SA	DCXcavation	8614		SIESTA ROAD	Santee	92071	907.13	7353	Equipment leasing and rental, storage of equipment onsite. Equipment repair under cover.	No	Yes	Yes	No	Yes	No	No	No	No	Yes	Medium	Yes
SA	THE MAST BOULEVARDER JUMPS	10342		PARK AVENUE	Santee	92071	907.12	7359	Homebased jump rental, chairs & tables for parties. Potential for outside storage.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	INSTANT SIGNS OF SANTEE	10769	103	WOODSIDE AVENUE	Santee	92071	907.12	7389	Sign services, storage inside building. Potential for outside storage.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	NEW IMAGE EMBROIDERY & SIGNS	10659	B	PROSPECT AVENUE	Santee	92071	907.13	7389	Embroidery & signs, storage inside building. Potential for outside storage.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	INTER VALLEY POOL SUPPLY, INC.	8656		CUYAMACA STREET	Santee	92071	907.13	7389	Swimming pool supplies, potential for outside storage.	Yes	Yes	Yes	No	No	Yes	No	No	No	Yes	Medium	No
SA	JL Watson Distributing	10250		PROSPECT AVENUE	Santee	92071	907.13	7389	Homebased sales, possible outside storage.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	Pool Covers Unlimited	8606	E	ARGENT STREET	Santee	92071	907.13	7389	Building used for storage of pool covers. No outdoor exposures.	No	No	No	No	Yes	Yes	No	No	No	No	Low	Yes

Appendix A.4
Santee Stormwater Industrial/Commercial Inventory, September 2011

Agency	Facility Name	Address Number	Suite Number	Street Name	City	Zip Code	Watershed	SIC Code	Principal Products / Services	Potential Pollutants									Tributary to 303(d) Listed	Threat to Water Quality	Threat Confirmed?
										Potential pollutants that may be generated by the facility.											
Jurisdiction responsible for inspection of facility (Copermittee)	Name used to identify facility in database	Street number of facility, this is the numeric street address	Suite or unit number or letter, if needed.	Name of street facility is located on	City where facility is located	Zip code where facility is located	Hydrologic sub-area in which facility located (all San Diego River Watershed)	Standard Industrial Classification code of facility determined by US Department of Labor - OSHA.	A narrative description which best reflects the principle products or services provided by the facility.	Bacteria	Gross Pollutants	Metals	Nutrients	Oil & Grease	Organics	Pesticides	Sediment	Trash	Is facility a tributary to 303(d) listed receiving water and generating pollutants for which the water body is impaired?	Does the facility those a high threat to water quality?	Has the threat to water quality been confirmed through inspection or other means of verification?
SA	Petersen's Pool & Spa Service*	8674		WAHL STREET	Santee	92071	907.12	7389	Homebase pool and spa maintenance service. Potential for outside storage.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	Paradise Pools Service And Repair*	10906		GREENCASTLE STREET	Santee	92071	907.12	7389	Homebase pool and spa maintenance service. Potential for outside storage.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	Enterprise Rent-A-Car	10330		MISSION GORGE ROAD	Santee	92071	907.12	7514	Car rental facility, storage of fleet on paved area. Car washing conducted onsite.	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Medium	Yes
SA	C & H AUTO BODY	10996		WOODSIDE AVENUE	Santee	92071	907.12	7532	Auto Body repair & painting. Larger vehicles worked on outside. Vehicle washing.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	DALTON & SON PAINT & BODY	10439		PROSPECT AVENUE	Santee	92071	907.13	7532	Auto body repair and painting. All work conducted indoors. Painting done in booth.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	M & J Restoration	10223		MAST BOULEVARD	Santee	92071	907.12	7532	Custom paint and body work on vintage cars. All work done indoors. Outside washing of vehicles occasionally occurs.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	MADRIDS AUTO BODY REPAIRS	10559		PROSPECT AVENUE	Santee	92071	907.13	7532	Top, Body, and Upholstery Repair Shops and Paint Shops, potential for outside exposures.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	METRIX AUTOBODY	10438	C	MISSION GORGE ROAD	Santee	92071	907.12	7532	Automotive collision repair, some work conducted under cover. Potential for outside exposures (repairs, detailing etc).	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	PHILIP THEARLES AUTOWERKS	8809		MISSION GORGE ROAD	Santee	92071	907.12	7532	Auto body repair, all work conducted indoors. Hazardous materials stored under cover and in secondary containment. Subject to SUSMP.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	Russos Auto Body Inc	10410		MISSION GORGE ROAD	Santee	92071	907.12	7532	Auto body and paint, no mechanical. All work conducted indoors, paintbooths onsite.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	SAN DIEGO GLASS & PAINT	8828		CUYAMACA STREET	Santee	92071	907.12	7532	Top, body, and upholstery repair shops and paint shops. Potential for outside operations and storage.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	Lloyd's Collision Care	9936		BUENA VISTA AVENUE	Santee	92071	907.12	7532	Top, body repair and paint shop. All work conducted indoors, hazardous materials stored indoors. Potential for spills from vehicles.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	MAST BOULEVARDercraft Inc.	11433		WOODSIDE AVENUE	Santee	92071	907.12	7532	Top, body, and upholstery repair and paint shop. Potential for outside exposures (operations and storage).	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	A1 Customs LLC	11491		WOODSIDE AVENUE	Santee	92071	907.12	7532	Auto repair and body work. Potential for outside exposures (storage or operations).	No	Yes	Yes	No	Yes	Yes	No	No	Yes	Yes	Medium	No
SA	Rodder's Choice	9217		SECURITY WAY	Santee	92071	907.12	7532	Automobile restoration, potential for outside exposures (storage and operations).	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Medium	No
SA	Collision Repair Specialists	10806		PROSPECT AVENUE	Santee	92071	907.13	7532	Automotive paint and body repair conducted indoors. Car detailing water disposed of to sewer.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Medium	Yes
SA	San Diego Classic Restoration	9440	#14	Wheatlands	Santee	92071	907.12	7532	Auto restoration, work conducted indoors, potential for outdoor storage.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	High	No
SA	COYOTE SERVICES LLC	8745		MAGNOLIA AVENUE	Santee	92071	907.12	7532	Repair vehicle dents, paint, dry and clean. Potential for outdoor exposures (storage, operations).	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Medium	No
SA	Logan Detailing*	9670	1	MACCOOL LANE	Santee	92071	907.13	7542	Homebase for mobile auto detailer.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	R.E.S. Enterprises	10965	U	HARTLEY ROAD	Santee	92071	907.12	7532	Autobody work, all work conducted indoors.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	Ozzie'S Kustom Works	10658	B	PROSPECT AVENUE	Santee	92071	907.13	7532	Autobody work, all work conducted indoors.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No

Appendix A.4
Santee Stormwater Industrial/Commercial Inventory, September 2011

Agency	Facility Name	Address Number	Suite Number	Street Name	City	Zip Code	Watershed	SIC Code	Principal Products / Services	Potential Pollutants									Tributary to 303(d) Listed	Threat to Water Quality	Threat Confirmed?
										Potential pollutants that may be generated by the facility.											
Jurisdiction responsible for inspection of facility (Copermittee)	Name used to identify facility in database	Street number of facility, this is the numeric street address	Suite or unit number or letter, if needed.	Name of street facility is located on	City where facility is located	Zip code where facility is located	Hydrologic sub-area in which facility located (all San Diego River Watershed)	Standard Industrial Classification code of facility determined by US Department of Labor - OSHA.	A narrative description which best reflects the principle products or services provided by the facility.	Bacteria	Gross Pollutants	Metals	Nutrients	Oil & Grease	Organics	Pesticides	Sediment	Trash	Is facility a tributary to 303(d) listed receiving water and generating pollutants for which the water body is impaired?	Does the facility those a high threat to water quality?	Has the threat to water quality been confirmed through inspection or other means of verification?
SA	Star A Autobody & Paint	10737		WOODSIDE AVENUE	Santee	92071	907.12	7532	Autobody work, potential for outside storage and operations.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Medium	No
SA	Deep'S Garage	10911	E	Wheatlands	Santee	92071	907.12	7532	Autobody work, potential for outside storage and operations.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	Bumper Doc	8711	100	MAGNOLIA AVENUE	Santee	92071	907.12	7532	Autobody work, potential for outside storage and operations.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	John's Collision Center	10806	3	PROSPECT AVENUE	Santee	92071	907.13	7532	Autobody work, potential for outside storage and operations.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Medium	No
SA	Hard Core Muscle Motorsports	11421	D	WOODSIDE AVENUE	Santee	92071	907.13	7532	Autobody work, potential for outside storage and operations.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	Express Automotive Enterprises	8711	300	MAGNOLIA AVENUE	Santee	92071	907.12	7533	Automotive aftermarket parts and exhaust systems, all work conducted indoors. Property subject to SUSMP.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	MAST AVENUETEST ONLY STATION	8931		MAGNOLIA AVENUE	Santee	92071	907.12	7533	Automotive exhaust system repair shops, potential for outside storage and operations.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	Absolute Exhaust Coatings	10020	B14	PROSPECT AVENUE	Santee	92071	907.13	7533	Automotive exhaust system repair, potential for outside storage and operations.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	Jack Randalls Automotive	10845	F	Wheatlands	Santee	92071	907.12	7536	Automotive glass replacement shop, no outdoor exposures.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	D R W TRANSMISSION SPECIALTIES	10728	B	KENNEY STREET	Santee	92071	907.13	7537	Automotive transmission repair, potential for outdoor exposures.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	East County Transmission	10227	B	PROSPECT AVENUE	Santee	92071	907.13	7537	Automotive transmission repair, all work conducted indoors, outdoor storage under cover.	No	Yes	No	No	No	No	No	No	Yes	No	Low	Yes
SA	PERFORMANCE TRANSMISSION	8501		ABLETTE ROAD	Santee	92071	907.13	7537	Transmission installation and repair, potential for storage of vehicles outdoors.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	Sparkys Transmissions	10410		MISSION GORGE ROAD	Santee	92071	907.12	7537	Automotive transmission repair, all work conducted indoors, no outdoor exposures observed.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	Factory Transmissions	10806		PROSPECT AVENUE	Santee	92071	907.13	7537	Removing and installing transmissions, all work conducted indoors, no outdoor exposures observed.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Medium	No
SA	A&I Services	8665	A	ARGENT STREET	Santee	92071	907.13	7538	Carpet cleaning supplies and equipment rental.. All work conducted indoors.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	High	No
SA	Acuhon	8665	B1	MISSION GORGE ROAD	Santee	92071	907.12	7538	General automotive repair all work conducted indoors.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	AUSTIN HEALEY MOTOR WORKS	9440		WHEATLANDS	Santee	92071	907.12	7538	General automotive repair shop, potential for outdoor exposures (storage or operations)	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	AUTO PERFECT	9937	11	PROSPECT AVENUE	Santee	92071	907.13	7538	General automotive repair, no outdoor exposures observed.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	AUTOFAB	10996		WOODSIDE AVENUE	Santee	92071	907.12	7538	General automotive repair shop, potential for outdoor exposures (storage or operations)	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	SAN DIEGO RV CENTER	8629		TUMBLEWEED	Santee	92071	907.13	7538	Recreational and trailer repair, potential for outdoor exposures (storage and operations.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	Bright Tech Auto Service	10438	B	MISSION GORGE ROAD	Santee	92071	907.12	7538	Owner operated automotive repair, outdoor operations observed.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes

Appendix A.4
Santee Stormwater Industrial/Commercial Inventory, September 2011

Agency	Facility Name	Address Number	Suite Number	Street Name	City	Zip Code	Watershed	SIC Code	Principal Products / Services	Potential Pollutants									Tributary to 303(d) Listed	Threat to Water Quality	Threat Confirmed?
										Potential pollutants that may be generated by the facility.											
Jurisdiction responsible for inspection of facility (Copermittee)	Name used to identify facility in database	Street number of facility, this is the numeric street address	Suite or unit number or letter, if needed.	Name of street facility is located on	City where facility is located	Zip code where facility is located	Hydrologic sub-area in which facility located (all San Diego River Watershed)	Standard Industrial Classification code of facility determined by US Department of Labor - OSHA.	A narrative description which best reflects the principle products or services provided by the facility.	Bacteria	Gross Pollutants	Metals	Nutrients	Oil & Grease	Organics	Pesticides	Sediment	Trash	Is facility a tributary to 303(d) listed receiving water and generating pollutants for which the water body is impaired?	Does the facility those a high threat to water quality?	Has the threat to water quality been confirmed through inspection or other means of verification?
SA	CARTER COLLISION SERVICE	8835		CUYAMACA STREET	Santee	92071	907.12	7538	General automotive repair, no outdoor exposures observed.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	COOL MAST BOULEVARDER	8501	B	ABLETTE ROAD	Santee	92071	907.13	7538	Automotive repair and maintenance. All work conducted indoors, some outdoor storage observed.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	COUNTY FLEET SERVICE	10053		PROSPECT AVENUE	Santee	92071	907.13	7538	General automotive repair shop, potential for outdoor exposures (storage or operations)	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	D & R AUTOMOTIVE	10517		PROSPECT AVENUE	Santee	92071	907.13	7538	General automotive repair shop, all work conducted indoors or under cover. Stormwater drains through sump and pump which is regularly cleaned.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Medium	Yes
SA	DYNO SHOP, THE	10042		PROSPECT AVENUE	Santee	92071	907.13	7538	General automotive repair shop, only those vehicles too large to enter maintenance bays are maintained outside. Drip pans and other BMPs deployed for outside work.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	HI-TECH CUSTOMS	9962	G	PROSPECT AVENUE	Santee	92071	907.13	7538	General automotive repair shop, potential for outdoor expsoures (storage and operations).	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	Horsman Automotive	8891		RAILROAD AVENUE	Santee	92071	907.12	7538	General automotive repair, all work conducted indoors, vehicles stored outdoors.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	Import Auto Service	7945	111	MISSION GORGE ROAD	Santee	92071	907.12	7538	General automotive repair shop, all work conducted indoors. Storm drain in parking lot.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	J G AUTO REPAIR	10468		MISSION GORGE ROAD	Santee	92071	907.12	7538	General automotive repair, no outdoor exposures observed.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	MEINEKE 1711	9551	B	MISSION GORGE ROAD	Santee	92071	907.13	7538	General automotive repair, no outdoor exposures observed.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Medium	No
SA	MISSION GORGE AUTOMOTIVE	10332		MISSION GORGE ROAD	Santee	92071	907.12	7538	General automotive repair, no outdoor exposures observed..	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	MUELLERS TRUCK & EQUIP SERV.	8500		ABLETTE ROAD	Santee	92071	907.13	7538	Repair trucks & equipment, potential for outdoor storage.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	Phantastic Auto Repair	10223		MAST BOULEVARD	Santee	92071	907.12	7538	General automotive repair shop, outdoor storage of vehicles. Area does not drain to the storm drain system.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	RICKS MACHINE SHOP	11448		WOODSIDE AVENUE	Santee	92071	907.12	7538	General automotive repair facility, outside storage of parts under plastic sheeting. Wash area under cover and bermed.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	High	Yes
SA	RUSH MOTORSPORT	10147		MISSION GORGE ROAD	Santee	92071	907.12	7538	Automotive service, repair conducted indoors. Vehicles stored outside, BMPs used in vehicle washing area. Water drains to sump that is pumped.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	SOCAL PAINT WORKS	10009		PROSPECT AVENUE	Santee	92071	907.13	7538	Automotive repair and restoration, potential for outside exposures (storage and operations).	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	Sparks Computerized Car Care	10735		WOODSIDE AVENUE	Santee	92071	907.12	7538	General automotive repair shops, work conducted indoors, outdoor storage.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	TERRA TRAILERS & TRUCK SALES	11424		WOODSIDE AVENUE	Santee	92071	907.12	7538	Recreational vehicle repair and trailer sales. Potential for outdoor exposures (storage and operations).	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No

Appendix A.4
Santee Stormwater Industrial/Commercial Inventory, September 2011

Agency	Facility Name	Address Number	Suite Number	Street Name	City	Zip Code	Watershed	SIC Code	Principal Products / Services	Potential Pollutants									Tributary to 303(d) Listed	Threat to Water Quality	Threat Confirmed?
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SA	THUNDERWORKS	10729	C	WHEATLANDS	Santee	92071	907.12	7538	General automotive repair shops, work conducted indoors, potential for outdoor exposures (storage and vehicle detailing).	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	VGCC Management dba Volkers	7953		MISSION GORGE ROAD	Santee	92071	907.12	7538	General automotive repair, all work conducted indoors.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	Mikes Auto Body	10737		WOODSIDE AVENUE	Santee	92071	907.12	7538	Auto body paint & repair, maintenance. Potential for outdoor exposures (operations and storage).	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Medium	No
SA	Four Wheel Direct	10731		WOODSIDE AVENUE	Santee	92071	907.12	7538	General automotive repair shop, all work conducted indoors. Tires stored outside temporarily prior to pick-up.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Medium	Yes
SA	Ban's Auto Repair II	8625		CUYAMACA STREET	Santee	92071	907.13	7538	General automotive repair, all work conducted indoors, outside storage observed.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Medium	Yes
SA	Toyota Certified Of Santee	8891		FANITA PARKWAY	Santee	92071	907.12	7538	Automotive dealer and service center. Operations and storage conducted indoors. Property subject to SUSMP.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Medium	Yes
SA	INTERNATIONAL AUTOREPAIR	10031	D	PROSPECT AVENUE	Santee	92071	907.13	7538	General automotive repair, all work conducted indoors, outside storage observed.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Medium	Yes
SA	Mayhem Motorcycle Shop	8733	113	MAGNOLIA AVENUE	Santee	92071	907.12	7538	Motorcycle sales and service, all work conducted indoors, no outdoor exposures.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	Alba Racing	10806	1	PROSPECT AVENUE	Santee	92071	907.13	7538	Motorcycle sales, potential for outside exposures (storage / operations).	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Medium	No
SA	Lemon Grove Cycle Supply	10704	B	PROSPECT AVENUE	Santee	92071	907.13	7538	Motorcyle sales and service, potential for outdoor exposures (storage / operations)	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	Advanced Automotive Center	7945	108	MISSION GORGE ROAD	Santee	92071	907.12	7539	General automotive repair, all work conducted indoors, potential for outdoor storage.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	DISCOUNT TIRE CO OF SAN DIEGO	9750		MISSION GORGE ROAD	Santee	92071	907.12	7539	Automotive parts and accessory store. All work conducted indoors, no outdoor storage.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Medium	No
SA	EAST COUNTY ALIGNMENT	10741		WOODSIDE AVENUE	Santee	92071	907.12	7539	Automotive mechnical and electronic repair shop. Potential for outdoor exposures (storage / operations).	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	HP WIRING	7341		PARK VIEW COURT	Santee	92071	907.12	7539	Service electrical wiring of offroad vehicles. No outdoor exposures observed.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	ROGER DANIEL'S ALIGNMENT & BRAKE	8517	F	ABLETTE ROAD	Santee	92071	907.13	7539	Automotive alignment & brake repair shop, most work conducted indoors.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	SANTEE FOREIGN CAR REPAIR	7969		MISSION GORGE ROAD	Santee	92071	907.12	7539	Other automotive mechanical & electronic repair. All work conducted indoors, no outdoor exposures observed.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	ONE STOP AUTO TECH	9605		CARLTON HILLS BOULEVARD	Santee	92071	907.12	7539	Automotive repair shop. All work conducted indoors, no outdoor exposures observed.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Medium	Yes
SA	AUTO SPA DETAILING*	9538		CARLTON HILLS BOULEVARD	Santee	92071	907.12	7542	Homebase for mobile auto detailer.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	K-KAR CENTER	8931		MAGNOLIA AVENUE	Santee	92071	907.12	7542	Car wash and general automotive repair. Potential for runoff from washing operations.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	MCLEAN DOOR & TRIM	9260	E	ISAAC STREET	Santee	92071	907.12	7542	Window, door & trim shop & installation. Potential for outdoor exposures (storage and operations).	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes

Appendix A.4
Santee Stormwater Industrial/Commercial Inventory, September 2011

Agency	Facility Name	Address Number	Suite Number	Street Name	City	Zip Code	Watershed	SIC Code	Principal Products / Services	Potential Pollutants									Tributary to 303(d) Listed	Threat to Water Quality	Threat Confirmed?
										Potential pollutants that may be generated by the facility.											
Jurisdiction responsible for inspection of facility (Copermittee)	Name used to identify facility in database	Street number of facility, this is the numeric street address	Suite or unit number or letter, if needed.	Name of street facility is located on	City where facility is located	Zip code where facility is located	Hydrologic sub-area in which facility located (all San Diego River Watershed)	Standard Industrial Classification code of facility determined by US Department of Labor - OSHA.	A narrative description which best reflects the principle products or services provided by the facility.	Bacteria	Gross Pollutants	Metals	Nutrients	Oil & Grease	Organics	Pesticides	Sediment	Trash	Is facility a tributary to 303(d) listed receiving water and generating pollutants for which the water body is impaired?	Does the facility those a high threat to water quality?	Has the threat to water quality been confirmed through inspection or other means of verification?
SA	MISSION GORGE CARWASH	7751		MISSION GORGE ROAD	Santee	92071	907.12	7542	Full service car wash, water discharged to 3 chamber clarifier system.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Medium	No
SA	SANTEE CAR WASH	8868		FANITA DRIVE	Santee	92071	907.12	7542	Coin operated self serve car wash, all washing conducted under cover in bermed area.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	Sonic Car Wash	9015		MISSION GORGE ROAD	Santee	92071	907.12	7542	Car wash under cover. Finishing conducted outside. Property subject to SUSMP.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	East County Lube Center	7945	161	MISSION GORGE ROAD	Santee	92071	907.12	7549	Automotive repair and maintenance. All work conducted indoors, no outside storage.	No	Yes	Yes	No	No	No	No	No	Yes	No	Low	Yes
SA	LUHRS CUSTOM UPHOLSTERY, MARK	10557		PROSPECT AVENUE	Santee	92071	907.13	7549	Automotive upholsterer. Potential for outdoor storage.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	SANTEE SMOG TEST ONLY	10529		MISSION GORGE ROAD	Santee	92071	907.12	7549	Smog test only for automobiles, conducted in service bays.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	Unlimited Smog - Test Only	10659	D	PROSPECT AVENUE	Santee	92071	907.13	7549	Smog test only for automobiles, conducted in service bays.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	Executives Garage Inc	10438	D	MISSION GORGE ROAD	Santee	92071	907.12	7549	Auotmotive repair and maintenance. Potential for outside exposures (storage / operations).	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	HOME CARE BIOMEDICAL SERVICES	8406	C	MAGNOLIA AVENUE	Santee	92071	907.13	7629	Medical equipment repair, potential for outdoor storage.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	Weekend Appliance Repair	10424		SECOND AVENUE	Santee	92071	907.12	7629	Base for in -home appliance repair, potential for outside storage.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	METAL MAGIC OF SAN DIEGO	7932		POPLIN DRIVE	Santee	92071	907.12	7629	Electrical and electronic repair shops, potential for outside storage.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	Mr. Fix-It Appliance Repair	8614	H	ARGENT STREET	Santee	92071	907.13	7629	Appliance repair - household appliances, potential for outside storage.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	SANTEE WELDING	9937	4	PROSPECT AVENUE	Santee	92071	907.13	7692	Welding repair, all work conducted indoors, no outdoor storage observed.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	Adona Grinding a Divisions of	11478		WOODSIDE AVENUE	Santee	92071	907.12	7699	Repair shop, potential for outdoor storage and operations.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	BMW MC Service of S.D., Inc.	7945	109	MISSION GORGE ROAD	Santee	92071	907.12	7699	Motorcycle repair, all work conducted indoors, no outdoor exposures observed.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	COMPETITION BOBCAT	9587		MAVIN DRIVE	Santee	92071	907.12	7699	Home base for repair services, no outside exposures observed.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	COUNTY RV SERVICE CENTER	10229		PROSPECT AVENUE	Santee	92071	907.13	7699	R.V. repair & service, R.V.s stored in gravel-covered area.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	No
SA	CS MUSIC COMPANY	8606	B	ARGENT STREET	Santee	92071	907.13	7699	Storage & repair of coin operated machines. Potential for outside storage.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	No
SA	FORM FAB	11478		WOODSIDE AVENUE	Santee	92071	907.12	7699	Other services to buildings & homes, potential for outside storage.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	No
SA	L & S PRECISION CUTTER SERVICE	10925	O	WHEATLANDS	Santee	92071	907.12	7699	Tool & cutters sharpening service, outdoor exposures unlikely.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	No
SA	LA JOLLA BRASS	10911	C	WHEATLANDS	Santee	92071	907.12	7699	Other personal and household goods, all work conducted indoors.	No	No	Yes	No	Yes	No	No	No	No	No	Low	No
SA	R H A	11425		WOODSIDE AVENUE	Santee	92071	907.12	7699	Commercial & industrial repair, potential for outdoor storage.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	No

Appendix A.4
Santee Stormwater Industrial/Commercial Inventory, September 2011

Agency	Facility Name	Address Number	Suite Number	Street Name	City	Zip Code	Watershed	SIC Code	Principal Products / Services	Potential Pollutants									Tributary to 303(d) Listed	Threat to Water Quality	Threat Confirmed?
										Potential pollutants that may be generated by the facility.											
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SA	REBEL IRON WORKS	11521		WOODSIDE AVENUE	Santee	92071	907.12	7699	Commercial & industrial repair, potential for outdoor storage.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	No
SA	Reed Sports Buggies, Greg	9745		AIRPORT VISTA WAY	Santee	92071	907.13	7699	Commercial & industrial repair, potential for outdoor storage.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	No
SA	TAPERS REPAIRED	9316		LAKE COUNTY DRIVE	Santee	92071	907.12	7699	Homebase for repair of drywall tools.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	Tri-City Locksmith	8781	P	CUYAMACA STREET	Santee	92071	907.12	7699	Locksmith, outdoor exposures unlikely.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	Valley Tractor & Equipment	11478		WOODSIDE AVENUE	Santee	92071	907.12	7699	Sales and services of tractors. Outside storage of vehicles.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	High	Yes
SA	Waynes Harley & Machine Shop	10020	A12	PROSPECT AVENUE	Santee	92071	907.13	7699	Sales and services of equipment. Potential for outside storage.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	No
SA	West Coast Appliance Co.	10728	B	PROSPECT AVENUE	Santee	92071	907.13	7699	Commercial & industrial machine repair, potential for outdoor storage.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	No
SA	FUN IN THE SUN POOLS*	10340		SANTANA	Santee	92071	907.12	7389	Home base for swimming pool & spa repair, potential for outdoor storage.	No	No	No	No	No	No	No	No	No	No	Medium	No
SA	Mueller's Machine Tool rebuilders	10945		MAGNOLIA AVENUE	Santee	92071	907.12	7699	Repair shops for machine tools, potential for outdoor storage.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Medium	No
SA	P-Wa's General Maintenance Services	9851		Mission Viejo Court	Santee	92071	907.13	7699	Repair shops, potential for outdoor storage.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	No
SA	JR'S Jack Of All Trades	9440		Wheatlands	Santee	92071	907.12	7699	General handyman and basic mechanic service, potential for outdoor storage.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Medium	No
SA	Scooterbug Inc.	9260	C	ISAAC STREET	Santee	92071	907.12	7699	Repair & maintenance of mobility equipment, no outdoor exposures observed.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	Yes
SA	Full Throttle Powersports	9143		MISSION GORGE ROAD	Santee	92071	907.12	7948	Sale & minor repair of motorcycles, no outdoor exposures observed, storm drain in parking lot.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Medium	Yes
SA	REVOLUTION RACING SHOCKS	9434		ABRAHAM WAY	Santee	92071	907.12	7948	Racing, including track operation, potential for outdoor storage.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	No
SA	William's Racing Developments	10928	A	WHEATLANDS	Santee	92071	907.12	7948	Race car transmission servicing, potential for outside exposures (storage / operations).	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	No
SA	CARLTON OAKS COUNTRY CLUB	9200		INWOOD	Santee	92071	907.12	7992	Public golf course with restaurant. Storage of fuel in above ground tank.	Yes	Yes	No	Yes	No	No	Yes	Yes	Yes	Yes	High	Yes
SA	Rock Rental Inc.	10925		Wheatlands	Santee	92071	907.12	7999	Amusement and recreation services, potential for outdoor storage.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	Bryans Racing Enterprises	9260	A	ISAAC STREET	Santee	92071	907.12	3799	Racing vehicle fabrication, no outdoor exposures.	No	No	Yes	No	No	No	No	No	No	No	Low	Yes
SA	Kittyhawk Energy LLC	9484		MISSION PARK PLACE	Santee	92071	907.12	8734	Biofuels facility for electricity generation, storage of woodchips outside..	Yes	Yes	Yes	Yes	No	Yes	No	No	No	Yes	Medium	Yes
SA	TAYLOR MADE POOLS*	9723		HUBER COURT	Santee	92071	907.12	8811	Home base for pool maintenance company, potential for outdoor storage.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	TOWN & COUNTRY CUSTOM POOLS	9926	121	PROSPECT AVENUE	Santee	92071	907.13	8811	Base for pool maintenance company, potential for outdoor storage.	No	Yes	No	No	Yes	No	No	Yes	Yes	No	Low	No
SA	G E LUDWIG POOLS	9944		CARLTON PLACE	Santee	92071	907.12	8811	Home base for pool maintenance company, potential for outdoor storage.	No	No	No	No	No	No	No	No	No	No	Medium	No
SA	TINASSY'S K-9 SPLASH-R-CISE INC.	10925	E	HARTLEY ROAD	Santee	92071	907.12	8999	Dog exercise therapy conducted in indoor pools, no outdoor exposures observed.	No	No	No	No	No	No	No	No	No	No	Low	Yes

* Mobile business. It is unlikely that mobile businesses will be discharging pollutants at their home locations, as their work will be conducted at offsite locations. Therefore no pollutant generating potential is shown. However these are inventoried to comply with permit requirements.

APPENDIX B

SUMMARY OF DOCUMENTED COMPLAINTS

Appendix B
Summary of Documented Complaints

#	Date	Category	Type/Pollutant	Location	Notes
1	7/6/2010	Municipal	Street sweepings	East end of Mast Boulevard	City staff received a complaint about the disposal of "street sweepings" at the east end of Mast Boulevard. This area is closed to the public and was being used to stage materials for street maintenance. City stormwater staff inspected the location and did not identify any material from street sweeping. However, recommendations were made for BMP implementation and were implemented by Public Works.
2	7/12/2010	Residential	Pet waste	8015 Poplin Drive	Referral from County hotline. Number of issues at property, including keeping three dogs on the property and not cleaning up after them. Addressed within a code compliance case.
3	7/22/2010	Residential	Unknown	San Diego River	Complaint to City website regarding odor in river. City staff investigated after reviewing storm drain plan to assess areas draining to relevant portion of river (largely residential). A few (less than ten) dead fish observed in river east of Walmart Bridge in Mast Park. Traced storm drain back through drainage, opening manholes and assessing potential sources of pollution. No potential source of pollution was observed. Could be naturally-occurring low oxygen conditions in river, although it appeared earlier than usual (typically observed late summer/early fall).
4	8/6/2010	Commercial	Food Waste	130 Town Center Parkway	City staff observed liquid material oozing from trash enclosure. Spoke to manager of food outlet responsible for the material. Material was cleaned up and manager sent in evidence of staff training.
5	8/10/2010	Residential	Sediment	11055 Columbus Street	Complaint about neighbor laying sod on cul-de-sac, watering, cutting and removing it without cleaning up afterwards. Visited site four times until corrected.

Appendix B
Summary of Documented Complaints

#	Date	Category	Type/Pollutant	Location	Notes
6	8/25/2010	Residential	Vehicle fluids	Magnolia Avenue	Call from Fire Department regarding collision of RV with another vehicle resulting in the release of a small amount of fuel oil, and transmission fluid. Approximately 5 gallons estimated to go into 2 inlet boxes. No indication of reaching further downstream. Public works already on scene cleaning up. Fire dept installed soil berm during initial response. Sand used to soak up liquid. Public works used a vactor truck to powerwash affected drains and reclaim water.
7	8/30/2010	Residential	Water	10518 Princess Jo Ann	Complaint about water flowing down curb and gutter "attracting wasps." Investigated, concluded to be groundwater seeping out of the hillside. Not a stormwater violation.
8	8/31/2010	Municipal	Water	Fire Station 5	City staff observed fire personnel working with pipes on Fanita Parkway and Carlton Oaks. Water was observed to have leaked from pipes. Contacted staff member responsible for Fire Station 5 who explained that it had been a training activity, which due to staffing circumstances could not be done offsite. City stormwater staff explained that this type of discharge was prohibited and that in future similar training should be conducted at an appropriate facility.
9	9/8/2010	Residential	Pet Waste	10643 Ironwood Avenue	Complaint forwarded by public works during channel maintenance. Resident throwing pet waste in channel. Left courtesy notice advising resident of appropriate ways to dispose of pet waste.

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#	Date	Category	Type/Pollutant	Location	Notes
10	9/20/2010	Construction	Sewage	1308 Calabria	Padre Dam notified the City about a sewer overflow at this address during the previous night. The liquid oozed out of a manhole. Padre Dam removed the blockage and cleaned up the area affected by the discharge. The City's dry weather monitoring consultant was working in the area and investigated the area, confirming that the clean-up had been completed. This is described further in the 2010 dry weather monitoring report submitted December 2010. Padre Dam complained that there was construction debris in the manhole which contributed to the blockage. The sewer system had not been accepted by Padre Dam. A notice of violation was issued to the developer, as this had resulted from practices during construction.
11	9/20/2010	Residential	Sediment	11055 Columbus Street	Complaint about sediment tracking from property. Very minor, but left courtesy notice with resident.
12	9/27/2010	Residential	Swimming pool discharge	Medina Drive	Reported discharge of swimming pool water on Medina Drive. Verified that it was a legal discharge.
13	10/6/2010	Residential	Pet Waste	10358 Timber lane Way	Complaint forwarded by public works during routine maintenance. Resident throwing pet waste in concrete drainage ditch. Left courtesy notice advising resident of appropriate ways to dispose of pet waste. Pet waste removed during routine maintenance.
14	10/8/2010	Residential	Swimming pool discharge	9424 Pebble Beach Drive	Complaint about swimming pool discharge. City staff investigated, however the discharge was compliant with the stormwater ordinance.
15	10/14/2010	Residential	Sewage	8526 Atlas Drive	Referral from Padre Dam, which had been called to this address after the blockage of a lateral; it was reported that there was no discharge to the storm drain system. City staff visited location to verify report. No violation observed.

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#	Date	Category	Type/Pollutant	Location	Notes
16	10/14/2010	Commercial	Potable water	Morning View/Ladera Construction site	Complaint from developer regarding discharge of water through brow ditches on the perimeter of their property and entering their offsite detention basin. Source appeared to be from permitted flushing activities from Padre Dam Municipal Water District. Explained to developer that they were obliged to accept and manage this runon. Provided contact information for Padre Dam to discuss issue. Padre Dam tried in future to discharge at alternative locations.
17	10/24/2010	Residential	Construction Material	11031 Larkridge Street	Complaint about pink paint being discharged down gutter from address. Pink chalky material observed on pavement, but not in curb and gutter. Left courtesy notice with resident to remove material. This was done.
18	11/10/2010	Commercial	Undetermined Discharge	8919 Edgemore Drive	Complaint about pool of water in alley at rear of property. Spoke to facility operator at this address. A portion of the water may have originated from rain, but based on washing undergoing at site, plus staining observed in drainage structures on property, it was concluded that residues from the site's activities had been washed off the property. The facility operator was educated on how and why discharges can be prevented from the site.
19	11/10/2010	Residential	Feces	Alley behind 8919 Edgemore	Feces (possibly human) observed in alley during complaint investigation. Removed by public works.

Appendix B
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#	Date	Category	Type/Pollutant	Location	Notes
20	11/20/2011	Commercial	Unknown material	9015 Mission Gorge Road (Sonic Car Wash)	Complaint referred via City Manager's office. It was alleged that a black material was being deposited on the ground at the rear of the property. Contacted County Department of Environmental Health (DEH) as it appeared to be illegal deposit of waste. City also inspected facility for stormwater concerns and verified that a manifest for the emptying of the sludge tank was available (last done 2/23/09). It was not obvious that material had been deposited (material seemed to have been dug into the soil), but DEH collected samples and analyzed samples to assess if they could be classified as hazardous waste. It was concluded that the material was not hazardous.
21	11/30/2010	Residential	Sediment	10054 Waynecrest Lane	Complaint about activities at this address. Laying irrigation pipes, no stormwater violation observed.
22	11/30/2010	Residential	Over-irrigation	5580 Dracena Street	Complaint from Lennar regarding homeowner over-irrigating their yard. Referred to Padre Dam Municipal Water District to address under their drought ordinance.
23	12/8/2010	Commercial	Grey Water	8931 Carlton Hills Boulevard	Complaint about Giant New York Pizza dumping kitchen grease in alley during early morning. Visited location to investigate and discussed with facility operator. No obvious sign of discharge, but cleaning manifest not available for grease trap. Referred to fats, oils and grease (FOG) inspector for Padre Dam.
24	12/13/2010	Commercial	Automotive Detailing (Mobile)	8861 Magnolia Avenue	Car washing observed at El Cajon Ford without BMPs. Spoke to manager and provided educational information on car washing. Call from corporate office to follow-up. Referred to City of El Cajon, as other facilities located there.

Appendix B
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#	Date	Category	Type/Pollutant	Location	Notes
25	12/13/2010	Municipal	Unspecified	9534 Via Zapador	Received inquiry regarding BMP implementation at the public works facility. Followed up with inspection of facility. Although BMPs were being implemented at the facility, some additional improvements (covering some items stored outside and removal of litter) were made. City stormwater staff followed up periodically over the next few months to monitor the facility.
26	12/14/2010	Commercial	Automotive Detailing (Mobile)	10731 Woodside Avenue	Observed car washing behind Mike's autobody. Provided educational information on car washing and advised facility operator that this needed to be immediately stopped and cleaned up. This was done.
27	1/3/2011	Residential	Fire residue	8564 Clifford Heights Road	Referral from Fire Department, which had responded to a fire here. Fire Department tried to minimize discharge to storm drain. Vactor truck mobilized to clean storm drains. Gravel bags placed on perimeter of property prior to rain (rained on 1/3/11). City staff member visited property on morning of 1/3/11 to assess BMPs and verified that storm drain had been sufficiently cleaned (which it had). Followed up with property owner to ensure appropriate BMPs implemented at property.
28	1/3/2011	Residential	Swimming Pool Discharge	Linen Drive	Complaint by Public Works about swimming pool discharge (including backwashed filter) on 7900 block of Linen Drive (south side of road, no specific address given). City staff investigated and could not find source of discharge (no residue remaining, even though responded on receipt of the complaint, but it was a rainy morning). Sent swimming pool factsheets to each address on south side of Linen Drive in 7900 block.

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#	Date	Category	Type/Pollutant	Location	Notes
29	1/18/2011	Industrial	Construction residue	South Woodside Avenue	Complaint about discharge of white material to Woodside Avenue. Observed small amount of white material on street, observed nearby facilities to assess if they were a potential source and contacted relevant facility operators. Unable to identify a definitive source. Asked complainant to call in if the issue was observed again, although contact with inspector during investigation may prevent further discharges.
30	1/20/2011	Residential	Oil	9521 Pryor Road	Complaint about oil staining from vehicles. City staff investigated, no stormwater ordinance violation; however, referred to code compliance for resolution of other issues.
31	1/24/2011	Residential	Over-irrigation	Ellsworth Circle	Complaint about water and algae on sidewalk. Water appeared to have originated from irrigation within El Cajon. Public works removed algae and sediment that had accumulated in the right-of-way.
32	1/24/2011	Residential	Sewage	8081 Poplin Drive	Complaint about a trailer being used as a residence. No evidence of a stormwater violation. Referred to code compliance for resolution of other issues.
33	1/27/2011	Residential	Sediment	7297 Ocotillo Street	Complaint from Lennar regarding the construction of a dirt bridge over the curb and gutter to bring in equipment for pool construction. Contractor removed material on direction, and confirmed with City inspector. Followed up with company requiring training on stormwater which was done.

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#	Date	Category	Type/Pollutant	Location	Notes
34	2/2/2011	Commercial	Powerwashing	Sky Ranch	Discharge opposite Club House on Calabria by Valleycrest landscaper hosing down area of street (around 2-3pm, cleaning up at end of day). Spoke to him; his supervisor said that it was just water. Explained that it was still an illegal discharge and pointed out sediment in water. They switched the water off and swept the water away from the gutter. Followed up with business owner requiring staff be trained in stormwater requirements. This was complied with.
35	2/2/2011	Commercial	Yard debris	9200 Inwood Drive	Complaint from City staff regarding debris (wooden pallets and other yard debris) deposited on side of drainage channel. Contacted facility operator and directed him to remove and properly dispose of the material. Verified that this was done.
36	2/8/2011	Industrial	Powerwashing	9426 Wheatlands Court	Observed discharge at side of building. Spoke to business operator who directed staff to clean-up discharge. Provided education information and required documentation be provided that staff had been trained. This was complied with. Observed a mobile detailing contractor working on facility and not using appropriate BMPs, followed-up with NOV for contractor.
37	2/15/2011	Municipal	Sand	City Hall	Contacted public works about sand used to seal work in parking lot. Rain was forecast. Sand immediately removed.
38	2/16/2011	Residential	Sediment	7072 Mariposa Street	Observed soil stockpile on driveway. Spoke to resident who said that soil was being actively carried into rear of property. No evidence of actual work. Advised homeowner that soil needed to be removed or covered before rain. Confirmed that this was done.
39	2/16/2011	Residential	Undetermined discharge	8723 Lind Vern Court	Complaint about burnt out truck on street. Referred to abandoned vehicle abatement specialist who contacted sheriff. Returned a few days later, vehicle removed and area cleaned up.

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Summary of Documented Complaints

#	Date	Category	Type/Pollutant	Location	Notes
40	2/23/2011	Industrial	Undetermined discharge	9316 Wheatlands Road	Observed water running off property into street, which was traced back to a pipe under a roll-up door. Condensate from ice machine, employee agreed to stop discharge to street. Revisited area to confirm that this was done.
41	2/28/2011	Residential	Undetermined Discharge	7297 Ocotillo Street	Complaint about pumping of sediment-bearing water to street. Immediately mobilized on receipt of complaint, but active pumping not occurring. However it had recently rained and there were open trenches at the back of the property. Spoke to representative of contractor, sent courtesy notice to business owner with requirement to provide documentation on training on stormwater. Copied residents on notice. Revisited next day, BMPs had been installed at property. Property subsequently subject to periodic inspections.
42	3/2/2011	Residential	Sediment	7252 Ocotillo Street	Observed sediment on sidewalk and evidence of erosion on property. Left courtesy notice at property. Observed area had been cleaned by next day.
43	3/2/2011	Commercial	Undetermined Discharge	9200 Inwood Drive (Carlton Oaks Golf Course)	City staff reported that they had observed water being pumped from the golf course into the river and provided photographs. City stormwater staff followed up with a joint inspection with the City of San Diego stormwater department, however evidence of the pumping (pipes, pump etc) had been removed. Issued a notice of violation as no BMPs (such as a filter on the pipe) had been observed by City staff and advised business owner that they needed to obtain a permit from the RWQCB before they did any further pumping into the river.

Appendix B
Summary of Documented Complaints

#	Date	Category	Type/Pollutant	Location	Notes
44	3/7/2011	Residential	Sediment	7273 Ocotillo Street	Observed no BMPs were being implemented by contractors at home. Left courtesy notice. Observed worker hosing down driveway during follow-up inspection. Advised him of violation and he stopped. Water removed and area cleaned up. City reinspected twice to ensure clean-up sufficient. Sent notice to business owner with requirement to provide evidence of stormwater training.
45	3/7/2011	Residential	Pet Waste	Santana Ranch Estates	Complaint from new homeowner regarding dog run for development. Verified location, contacted HOA giving a timeframe to remove the pet waste and to inform residents on proper pet waste management measures. Provided educational information for resident to use, as they had offered to educate their neighbors on the issue. Reinspected dog run and confirmed that the material had been removed and notices posted advising residents to clean up after their pets.
46	3/7/2011	Residential	Sediment	11055 Columbus Street	Complaint about neighbor tracking sediment onto street. Visited location and observed that resident was illegally grading his yard and not using BMPs. Number of significant code violations, including stormwater ordinance. Coordinated response across several staff members to direct resident to remove sediment on street, debris from property, and obtain grading permit. Issued administrative citation when timeframe not complied with. Resident trying to improve water drainage across his property, which had been the cause of previous complaints. Work was completed according to permit conditions.

Appendix B
Summary of Documented Complaints

#	Date	Category	Type/Pollutant	Location	Notes
47	3/10/2011	Residential	Pet Waste	Meadowbrook Mobile Home Park	Complaint via website regarding residents walking their dogs on the Mesa Road / Mission Gorge Road intersection and not picking up after their pet. Contacted manager of mobile home park and provided them with educational information to notify their dog-owning residents of the appropriate way to dispose of their pet waste. City staff removed the debris from Mesa Road/Mission Gorge Road.
48	3/18/2011	Municipal	Over-irrigation	Calle Del Lago/Via Del Lago intersection	Complaint regarding irrigation leak at intersection of Calle Del Lago and Via Del Lago. City-maintained landscaping. Was already being addressed by contractor that day. Referred to public works.
49	3/21/2011	Commercial	Hosing Down	8890 Cuyamaca Street	Complaint regarding dirty water being discharged in driveway through area at KFC. Advised manager that this was an illegal discharge and needed to be stopped and cleaned up. Sent courtesy notice with educational information and a requirement for training.
50	3/23/2011	Residential	Sediment	10209 Woodrose Avenue	Complain received about illegal grading activities. An engineering inspector visited the location and left a courtesy notice with the contractor and homeowner to implement BMPs and obtain a grading permit. This was done.
51	4/4/2011	Residential	Sewage	7957 Shantung Drive	Resident complained to County hotline and City about his neighbors discharging their RV waste to the "storm drain" Investigated and found that the RV was being discharged to a permitted sewer cleanout. No evidence of a discharge to the stormdrain system observed. Complaint part of wider conflict between neighbors.
52	4/5/2011	Residential	Sediment	7261 Ocotillo Street	Observed tracking on street arising from contractor working at home. Directed contractor to remove sediment and left courtesy notice for homeowner and contractor. Confirmed that clean-up was done.

Appendix B
Summary of Documented Complaints

#	Date	Category	Type/Pollutant	Location	Notes
53	4/8/2011	Residential	Sediment	11055 Columbus Street	Complaint about how work was being done at this address. No additional tracking observed. Assisted resident with rerouting access.
54	4/8/2011	Residential	Sediment	10117 Three Oaks Way	Complaint regarding grading without permit or BMPs. Inspector visited site, informed resident, who promptly deployed BMPs and applied for a grading permit.
55	4/11/2011	Residential	Sediment	7066 Mariposa	Complaint from community developer's superintendent regarding a resident's contractor staging equipment on a stabilized pad adjacent to the resident's property. Recommended that he contact the homeowner directly as Lennar still has control over the pad.
56	4/12/2011	Residential	Oil	10703 Strathmore	Complaint about oily material being discharged onto street and tracked onto his property. Inspected location, however could not identify any specific source of the oil (most likely from the street). Followed up with complainant to establish if they had further information (an activity at a specific address that may have caused a discharge). Provided educational information on residential BMPs to each address in immediate vicinity to help residents understand how they can help prevent pollution.
57	4/18/2011	Residential	Powerwashing	10352 Timberline Way	Observed resident washing down RV on street. Gave him educational information and advised him to stop and clean up. Resident stopped and said he would borrow a wet vacuum from his neighbor.
58	5/5/2011	Residential	Swimming Pool Discharge	10284 Lariat Drive	Complaint about discharge from swimming pool during maintenance. Visited address, pool clearly not recently maintained. Visited adjacent address also with pool. Possible source of discharge (pool maintained). Spoke to resident and provided them with educational information on pool maintenance.

Appendix B
Summary of Documented Complaints

#	Date	Category	Type/Pollutant	Location	Notes
59	5/6/2011	Municipal	Homeless encampment	Forester Creek	Complaint about homeless person sleeping in storm drain at Forester Creek. Investigated, did not find anyone in storm drain system, however observed an encampment in the channel. Contacted Sheriff, who removed camper, and public works removed encampment.
60	5/10/2011	Residential	Pet Waste	Stanley Court	Complaint about neighbors allowing their dogs to run uncontrolled around the area and not picking up after their pets (no specific address of source of problem provided). Provided educational information to every address on Stanley Court.
61	5/31/2011	Residential	Concrete	9482 Medina Way	Complaint about washing of concrete down curb and gutter. Appeared to be a contractor working at address. Left courtesy notice with resident and contractor directing them to clean up. Based on reinspection, this was done. Sent NOV to contractor requiring that they show evidence of employee training in stormwater. Notified City in which contractor was based.
62	6/1/2011	Industrial	Powerwashing	9419 Abraham Way	Complaint referred by consultant conducting dry weather monitoring. Observed evidence of runoff from powerwashing. BMPs deployed inadequate to prevent water from running off. Consultant met with business owner to explain why BMPs inadequate. City scheduled facility for inspection.
63	6/3/2011	Residential	Swimming Pool Discharge	9801 Halberns	Complaint about water being discharged from address, likely from swimming pool. Verified that there is a swimming pool at this address. Inspected the curb and gutter and verified that there was no visual residue from discharge. Appears not to be a violation.

Appendix B
Summary of Documented Complaints

#	Date	Category	Type/Pollutant	Location	Notes
64	6/7/2011	Residential	Sediment	9791 Roe Drive	City staff observed that a portion of the curb and sidewalk had been cut to allow a pipe to be placed across the sidewalk. The void around the pipe was backfilled with soil and stones. Code compliance sent a notice of violation requiring the property owners to obtain permits and correct the various issues associated with this construction, as well as to remove any residue in the curb and gutter.
65	6/10/2011	Residential	Construction Material	6000 Cala Lily Street	Complaint from Lennar regarding a resident who was installing a driveway and had deposited concrete washings onto the adjacent lot. Courtesy notice and conversation with resident, who agreed to remove the material.
66	6/13/2011	Commercial	Mobile Auto Detailing	Isaac Street	City staff observed a powerwashing company preparing to work in street with inadequate BMPs (a single absorbent roll on the ground). Notified operator that washing vehicles in the street was illegal and advised him of how BMPs were to be implemented to prevent any discharge to the storm drain system.
67	6/16/2011	Residential	Gravel	9590 Halberns Boulevard	Complaint about man throwing gravel into stormdrain inlet box. Visited location, resident trying to maintain private corrugated metal pipe on his property. Will move gravel into pipeline and pour concrete to maintain pipe. Not a violation.

APPENDIX C

JURMP ANNUAL REPORT REQUIREMENTS CHECKLIST

Appendix C
JURMP Annual Report Requirements Checklist

Development Planning Component

Permit Annual Reporting Requirement—Section J.3.a.(3).(a)	Location in Report
i. A description of any amendments to the General Plan, the environmental review process, development project approval processes, or development project requirements.	2.2, 2.3
ii. Confirmation that all development projects were required to undergo the Copermittee's urban runoff approval process and meet the applicable project requirements, including a description of how this information was tracked.	2.4.4.2
iii. A listing of the development projects to which SUSMP requirements were applied.	2.4.4.2, Table 2-1
iv. Confirmation that all applicable SUSMP BMP requirements were applied to all priority development projects, including a description of how this information was tracked.	2.4.3, 2.4.4.2
v. At least one example of a priority development project that was conditioned to meet SUSMP requirements and a description of the required BMPs.	2.4.4.2
vi. A listing of the priority development projects which were allowed to implement treatment control BMPs with low removal efficiency rankings, including the feasibility analyses which were conducted to exhibit that more effective BMPs were infeasible.	2.4.4.2
vii. An updated treatment control BMP inventory.	Appendix A.1
viii. The number of treatment control BMPs inspected, including a summary of inspection results and findings.	2.4.4.3, Table 2-2 and 2-3
ix. A description of the annual verification of operation and maintenance of treatment control BMPs, including a summary of verification results and findings.	2.4.4.3
x. Confirmation that BMP verification was conducted for all priority development projects prior to occupancy, including a description of how this information was tracked.	2.4.4.2
xi. A listing of any projects which received a SUSMP waiver.	2.4.4.2
xii. A description of implementation of any SUSMP waiver mitigation program.	2.4.4.2
xiii. A description of Hydromodification Management Plan (HMP) development collaboration and participation.	2.4.4.2
xiv. A listing of development projects required to meet HMP requirements, including a description of hydrologic control measures implemented.	2.4.4.2
xv. A listing of priority development projects not required to meet HMP requirements, including a description of why the projects were found to be exempt from the requirements.	2.4.4.2

Development Planning Component

Permit Annual Reporting Requirement—Section J.3.a.(3).(a)	Location in Report
xvi. A listing of development projects disturbing 50 acres or more, including information on whether Interim Hydromodification Criteria were met by each of the projects, together with a description of hydrologic control measures implemented for each applicable project.	2.4.4.2
xvii. The number of violations and enforcement actions (including types) taken for development projects, including information on any necessary follow-up actions taken. The discussion should exhibit that compliance has been achieved, or describe actions that are being taken to achieve compliance.	2.4.4.3
xviii. A description of notable activities conducted to manage urban runoff from development projects.	Throughout Section 2

Construction

Permit Annual Reporting Requirement—Section J.3.a.(3).(b)	**Location in Report**
i. Confirmation that all construction sites were required to undergo the Copermittee's construction urban runoff approval process and meet the applicable construction requirements, including a description of how this information was tracked.	3.5
ii. Confirmation that a regularly updated construction site inventory was maintained, including a description of how the inventory was managed.	3.2
iii. A description of modifications made to the construction and grading ordinances and approval processes.	3.3, 3.4, 3.5
iv. Confirmation that the designated BMPs were implemented, or required to be implemented, for all construction sites.	3.5
v. Confirmation that a maximum disturbed area for grading was applied to all applicable construction sites.	3.5
vi. A listing of all construction sites with conditions requiring advanced treatment, together with confirmation that advanced treatment was required at such construction sites.	3.5
vii. For each construction site within each priority category (high, medium, and low), identification of the period of time (weeks) the site was active within the rainy season, the number of inspections conducted during the rainy season, and the number of inspections conducted during the dry season, and the total number of inspections conducted for all sites.	3.5, Appendix A.2
viii. A description of the general results of the inspections.	3.5
ix. Confirmation that the inspections conducted addressed all the required inspection steps to determine full compliance.	3.5
x. The number of violations and enforcement actions (including types) taken for construction sites, including information on any necessary follow-up actions taken. The discussion should exhibit that compliance has been achieved, or describe actions that are being taken to achieve compliance.	3.1.1, 3.5 Table 3-1
xi. A description of notable activities conducted to manage urban runoff from construction sites.	Throughout Section 3

Municipal

Permit Annual Reporting Requirement—Section J.3.a.(3).(c)	**Location in Report**
i. Any updates to the municipal inventory and prioritization.	4.2.2, Appendix A.3
ii. Confirmation that the designated BMPs were implemented, or required to be implemented, for municipal areas and activities, as well as special events.	4.2.3, 4.2.4, 4.3.4, 4.4.4, 4.5.4, 4.6.4, 4.7.4
iii. A description of inspections and maintenance conducted for municipal treatment controls.	2.4, 4.2.4
iv. Identification of the total number of catch basins and inlets, the number of catch basins and inlets inspected, the number of catch basins and inlets found with accumulated waste exceeding cleaning criteria, and the number of catch basins and inlets cleaned.	4.4
v. Identification of the total distance (miles) of the MS4, the distance of the MS4 inspected, the distance of the MS4 found with accumulated waste exceeding cleaning criteria, and the distance of the MS4 cleaned.	4.4
vi. Identification of the total distance (miles) of open channels, the distance of open channels inspected, the distance of open channels found with anthropogenic litter, and the distance of open channels cleaned.	4.4
vii. Amount of waste and litter (tons) removed from catch basins, inlets, the MS4, and open channels, by category.	4.4
viii. Identification of any MS4 facility found to require inspection less than annually following two years of inspection, including justification for the finding.	N/A
ix. Confirmation that the designated BMPs for pesticides, herbicides, and fertilizers were implemented, or required to be implemented, for municipal areas and activities.	4.2.3
x. Identification of the total distance of curb-miles of improved roads, streets, and highways identified as consistently generating the highest volumes of trash and/or debris, as well as the frequency of sweeping conducted for such roads, streets, and highways.	4.3 Table 4-1
xi. Identification of the total distance of curb-miles of improved roads, streets, and highways identified as consistently generating moderate volumes of trash and/or debris, as well as the frequency of sweeping conducted for such roads, streets, and highways.	4.3 Table 4-1

Municipal

Permit Annual Reporting Requirement—Section J.3.a.(3).(c)	**Location in Report**
xii. Identification of the total distance of curb-miles of improved roads, streets, and highways identified as consistently generating low volumes of trash and/or debris, as well as the frequency of sweeping conducted for such roads, streets, and highways.	4.3 Table 4-1
xiii. Identification of the total distance of curb-miles swept.	4.3 Table 4-1
xiv. Identification of the number of municipal parking lots, the number of municipal parking lots swept, and the frequency of sweeping.	4.3 Table 4-1
xv. Amount of material (tons) collected from street and parking lot sweeping.	4.3
xvi. A description of efforts implemented to prevent and eliminate infiltration from the sanitary sewer to the MS4	4.5
xvii. Identification of the number of sites requiring inspections, the number of sites inspected, and the frequency of the inspections.	4.2.4, 4.7.4
xviii. A description of the general results of the inspections.	4.2.4, 4.7.4
xix. Confirmation that the inspections conducted addressed all the required inspection steps to determine full compliance.	4.2.4
xx. The number of violations and enforcement actions (including types) taken for municipal areas and activities, including information on any necessary follow-up actions taken. The discussion should exhibit that compliance has been achieved, or describe actions that are being taken to achieve compliance.	4.2.4, 4.10
xxi. A description of notable activities conducted to manage urban runoff from municipal areas and activities.	Throughout Section

Industrial and Commercial

Permit Annual Reporting Requirement—Section J.3.a.(3).(d)	**Location in Report**
i. Any updates to the industrial and commercial inventory.	5.2.2 (stationary), 5.3.2 (mobile), Appendix A (inventories)
ii. Confirmation that the designated BMPs were implemented, or required to be implemented, for industrial and commercial sites/sources.	5.2.4, 5.3.4
iii. A description of efforts taken to notify owners/operators of industrial and commercial sites/sources of BMP requirements, including mobile businesses.	5.2.4, 5.3.4
iv. Identification of the total number of industrial and commercial sites/sources inventoried and the total number inspected.	5.2.2, 5.3.2; 5.2.4, 5.3.4
v. Justification and rationale for why the industrial and commercial sites/sources inspected were chosen for inspection.	5.2.4
vi. Confirmation that all inspections conducted addressed all the required inspection steps to determine full compliance.	5.2.4
vii. Identification of the number of third party inspections conducted.	5.2.4
viii. Identification of efforts conducted to verify third party inspection effectiveness.	5.2.4
ix. A description of efforts implemented to address mobile businesses.	5.3.4
x. The number of violations and enforcement actions (including types) taken for industrial and commercial sites/sources, including information on any necessary follow-up actions taken. The discussion should exhibit that compliance has been achieved, or describe actions that are being taken to achieve compliance.	5.1.1, 5.2.4, 5.3.4 , Table 5-2
xi. A description of steps taken to identify non-filers and a list of non-filers (under the General Industrial Permit) identified by the Copermittees.	5.2.4, Table 5-1
xii. A description of notable activities conducted to manage urban runoff from industrial and commercial sites/sources.	Throughout Section

Residential

Permit Annual Reporting Requirement—Section J.3.a.(3).(e)	**Location in Report**
i. Identification of the high threat to water quality residential areas and activities that were focused on.	6.2
ii. Confirmation that the designated BMPs were implemented, or required to be implemented, for residential areas and activities.	6.3, 6.4
iii. A description of efforts implemented to facilitate proper management and disposal of used oil and other household hazardous materials.	6.4
iv. Types and amounts of household hazardous wastes collected, if applicable.	6.4
v. A description of any evaluation of methods used for oversight of residential areas and activities, as well as any findings of the evaluation.	6.4 (see discussion in JURMP)
vi. The number of violations and enforcement actions (including types) taken for residential areas and activities, including information on any necessary follow-up actions taken. The discussion should exhibit that compliance has been achieved, or describe actions that are being taken to achieve compliance.	6.4
vii. A description of collaboration efforts taken to develop and implement the Regional Residential Education Program.	6.4
viii. A description of notable activities conducted to manage urban runoff from residential areas and activities.	6.1, 6.4

IDDE*

Permit Annual Reporting Requirement—Section J.3.a.(3).(f)	Location in Report
* Section 7, the Illicit Discharge Detection and Elimination component, of the 2009/2010 Annual Report, will be submitted to the RWQCB no later than December 15, 2010.	

IDDE—Additional Dry Weather Monitoring Program Requirements*

Permit Annual Reporting Requirement—Attachment B and Receiving Waters Monitoring and Reporting Program No. R9-2007-0001, Section II.B.3.c,d	Location in Report
* Section 7, the Illicit Discharge Detection and Elimination component, of the 2009/2010 Annual Report, will be submitted to the RWQCB no later than December 15, 2010.	

Education

Permit Annual Reporting Requirement—Section J.3.a.(3).(g)	Location in Report
i. A description of education efforts conducted for each target community.	8.3
ii. A description of how education efforts targeted underserved target audiences, high-risk behaviors, and "allowable" behaviors and discharges.	8.3
iii. A description of education efforts conducted for municipal departments and personnel.	8.2
iv. A description of education efforts conducted for the new development and construction communities.	8.3
v. A description of jurisdictional education efforts conducted for residents, the general public, and school children.	8.3

Public Participation

Permit Annual Reporting Requirement—Section J.3.a.(3).(h)	Location in Report
i. A description of public participation efforts conducted.	9.2 and 9.3

Effectiveness Assessment

Permit Annual Reporting Requirement—Section J.3.a.(3).(i)	Location in Report
i. An assessment of the effectiveness of the Jurisdictional Urban Runoff Management Program which meets all requirements of section I.1 of this Order.	11

Fiscal Analysis

Permit Annual Reporting Requirement—Section J.3.a.(3).(j)	Location in Report
i. A fiscal analysis of the Copermittee's urban runoff management programs which meets all requirements of section G of this Order. (For 2007-2008, the requirements that apply are essentially the same as those found in Order No. 2001-01)	10

Same as old Permit for 2007-2008

Special Investigations

Permit Annual Reporting Requirement—Section J.3.a.(3).(k)	Location in Report
i. A description of any special investigations conducted.	12

Non-Emergency Firefighting

Permit Annual Reporting Requirement—Section J.3.a.(3).(l)	Location in Report
i. A description of efforts conducted to reduce pollutant discharges from non-emergency fire fighting flows.	4.2.3, 13

JURMP Revisions

Permit Annual Reporting Requirement—Section J.3.a.(3).(m)	Location in Report
i. A description of any proposed revisions to the JURMP.	14 and each program component section

ATTACHMENT 5.1

STORMWATER FACTSHEETS

CITY OF SANTEE

STORMWATER INFORMATION

STORMWATER FACT SHEET 02

Water Quality Impacts

STORMWATER INFORMATION

POLLUTANT TYPE	POLLUTANT SOURCES AND IMPACTS
SEDIMENT	Sediment is a common component of stormwater, and can be a significant pollutant. Sources of sediment in stormwater include construction activities and slope erosion. Sediment can be detrimental to aquatic life by impeding such natural functions as photosynthesis, respiration, growth, reproduction and oxygen exchange in the water column. Additionally, sediment in stormwater will carry other pollutants such as oil, grease, and metals.
NUTRIENTS	Nutrients including nitrogen and phosphorous are commonly found in fertilizers used in landscaping. Nutrients are found in stormwater through over irrigation of lawns and other landscaped areas. Nutrients in local water bodies will result in excessive growth of aquatic vegetation such as algae, and a rapid reduction in oxygen that supports fish populations.
BACTERIA & VIRUSES	Sources of bacteria and viruses in stormwater include improperly disposed pet waste, illegal sewer connections, and sanitary sewer overflows. High levels of indicator bacteria lead to the closure of beaches, lakes, rivers, and bays throughout the County of San Diego.
OIL & GREASE	Oil and grease compounds may be toxic to aquatic environments, compromising the survival of aquatic plant and animal species. Sources of oil and grease include illegal dumping, oil spills, automotive fluid leaks, and restaurant grease.
METALS	Metals including lead, zinc, cadmium, copper, chromium, and nickel are commonly found in stormwater runoff. Materials such as galvanized metal, brake pads, corroded paints, and automobiles contribute to the metals found in stormwater. Heavy metals are of concern to the aquatic environment as they can be potentially toxic to organisms, and accumulate to toxic levels in fish.
PESTICIDES	Including herbicides, fungicides, rodenticides, and insecticides are frequently detected in stormwater at toxic levels. Excessive use of these chemicals at home or in commercial settings, will have a detrimental impact on human as well as environmental health.

CITY OF SANTEE

STORMWATER INFORMATION

STORMWATER FACT SHEET 03

STORMWATER INFORMATION

Wet Weather...Are You Ready?

What is stormwater pollution?
Stormwater pollution is the untreated water that drains from streets, parking lots, industrial yards, driveways, sidewalks and other impervious surfaces. Stormwater runoff containing pollutants can contaminate our local creeks, rivers, streams and ultimately the Pacific Ocean.

REMEMBER

The Rainy Season lasts from October 1 - April 30

Is your home or business ready for wet weather?
Use the following wet weather checklist to prepare for the rain, and to do your part to prevent pollution in runoff.

WET WEATHER CHECKLIST

- ☑ COVER exposed material stockpiles including soil, sand, gravel, fertilizers, auto parts, tires, batteries, storage containers, etc.
- ☑ CLEAN significant fluid spills (oil, grease, paint, solvents) from drive ways, parking lots, parking spaces, and sidewalks. Use a mop and bucket and dispose of the water in a sanitary sewer drain (sink, toilet, floordrain).
- ☑ CLEAR earthen channels, culverts, brow ditches, and other drainage structures within and surrounding your property.
- ☑ REMOVE and PROPERLY DISPOSE of waste materials.
- ☑ INSPECT the property for potential sources of pollution.
- ☑ AVOID using chemicals (pesticides, herbicides, and fertilizers) and irrigation when rain is forecast within 48 hours.
- ☑ CALL the City of Santee at (619) 248-4100 x177 with any questions.

TO REPORT STORMWATER POLLUTION IN SANTEE CALL (619) 258-4100 x168

CITY OF SANTEE

STORMWATER INFORMATION

STORMWATER FACT SHEET 04

STORMWATER INFORMATION

Restaurants & Bars



RESTAURANTS & WATER QUALITY IMPACTS

The City of Santee has adopted the Stormwater Management and Discharge Control Ordinance (SMC 13.42) to regulate the discharge of pollutants to the storm drain system. Pollutants typically associated with food establishments include grease, food waste, cleaners, trash and debris. As a business owner or operator, you are legally responsible for ensuring that stormwater pollutants are properly managed.

BEST MANAGEMENT PRACTICES (BMPs)

Best Management Practices are practical and cost effective approaches to day to day business operations that reduce, control, or prevent water pollution. The following is a list of minimum Best Management Practices that are required at all food establishments in the City of Santee.

- ☑ Employee Training.
- ☑ Clean Floor Mats Inside.
- ☑ Maintain Outdoor Grease Bins.
- ☑ Keep Dumpster Lids Closed.
- ☑ Maintain Dumpster Areas Using Dry Cleanup Techniques.
- ☑ Use a Mop and Bucket for Outdoor Cleaning Activities. Dispose of Mop Water in a Sanitary Drain. (sink, toilet)
- ☑ Sweep It, Never Hose It Down.
- ☑ Keep Absorbent Material or Other Spill Response Materials On Site.
- ☑ Maintain Good Housekeeping Practices.
- ☑ Contain, Control & Capture All Water Used in Cleaning Activities.
- ☑ Dispose of All Wastewater into a Sanitary Sewer Connection. (Sink, Floor Drain, Toilet)
- ☑ Adjust Sprinklers to Avoid Overspray from Irrigation of Landscaped Areas.
- ☑ Ensure that Pressure Washing of Sidewalks, Drive Thrus, or Parking Lots is Conducted with Adequate Controls in Place.
- ☑ Direct Runoff to Landscaped Areas.
- ☑ Clean Outdoor Spills Immediately.
- ☑ Properly Maintain Sinks and Drains to Avoid Sewer Overflows.

TO REPORT STORMWATER POLLUTION IN SANTEE CALL (619) 258-4100 x168

CITY OF SANTEE

STORMWATER INFORMATION

STORMWATER FACT SHEET 05

STORMWATER INFORMATION

Automotive Industry



AUTOMOTIVE INDUSTRY & WATER QUALITY IMPACTS

The City of Santee has adopted the Stormwater Management and Discharge Control Ordinance (SMC 13.42) to regulate the discharge of pollutants to the storm drain system. Pollutants typically associated with automotive maintenance and repair include antifreeze, fuels, waste oils, solvents and paints. As a business owner or operator, you are legally responsible for ensuring that stormwater pollutants are properly managed.

BEST MANAGEMENT PRACTICES (BMPs)

Best Management Practices are practical and cost effective approaches to day to day business operations that reduce, control, or prevent water pollution. The following is a list of minimum Best Management Practices that are required at all automotive repair, servicing, and maintenance facilities in the City of Santee.

- ☑ Employee Training.
- ☑ Service Indoors When Applicable.
- ☑ Ensure that Floor Drains Are Plumbed to the Sanitary Sewer.
- ☑ Place Drip Pans Under Vehicles in Exposed Outdoor Areas.
- ☑ Keep Absorbent Materials / Pads Readily Accessible at All Times.
- ☑ Properly Dispose of Hazardous Wastes.
- ☑ Drain all Fluids Indoors.
- ☑ Wash Equipment & Vehicles in Designated Areas to Avoid Discharge to the storm drain.
- ☑ Maintain Good Housekeeping Practices.
- ☑ Utilize "Dry" Cleanup Methods. (Sweep, Vacuum)
- ☑ Dry Sweep All Work Areas Before Mopping.
- ☑ Use a Mop and Bucket to Clean Shop Floors and/or Outdoor Areas. Dispose of mop water in a sanitary drain.
- ☑ Collect All Dust, Grindings and Shavings at Work Stations.
- ☑ Remove or Cover All Materials Stored in Outdoor Areas.
- ☑ Recycle Oil, Antifreeze, Batteries, etc.

TO REPORT STORMWATER POLLUTION IN SANTEE CALL (619) 258-4100 x168

CITY OF SANTEE

STORMWATER INFORMATION

STORMWATER FACT SHEET 06

STORMWATER INFORMATION

Mobile Auto Detailing



MOBILE AUTO DETAILING & WATER QUALITY IMPACTS

The City of Santee has adopted the Stormwater Management and Discharge Control Ordinance (SMC 13.42) to regulate the discharge of pollutants to the storm drain system. Pollutants typically associated with mobile auto detailing include oil, grease, heavy metals (brake dust), and detergents. As a business owner or operator, you are legally responsible for ensuring that stormwater pollutants are properly managed.

BEST MANAGEMENT PRACTICES (BMPs)

Best Management Practices are practical and cost effective approaches to day to day business operations that reduce, control, or prevent water pollution. The following is a list of minimum Best Management Practices that are required at all mobile auto detailing activities in the City of Santee.

- ☑ Contain, Control and Capture ALL Wash Water.
- ☑ Train Employees to Use Practices that will Eliminate Discharge to a Storm Drain.
- ☑ Locate and Protect All Nearby Storm Drains or Water Bodies.
- ☑ Utilize a "Shop Vacuum" to Capture all Wash Water.
- ☑ Service Vehicles on or Near Vegetated Areas.
- ☑ Minimize or Eliminate the Use of Soaps or Detergents.
- ☑ Confine Washing and Cleaning Activities within a burmed Area.

REMEMBER

- **Biodegradable Soaps Only Degrade Faster, And May Be Detrimental to Water Quality.**
- **Curbs, Gutters, Drainage Channels, Curb Inlets, Brow Ditches, Channels and Culverts are ALL Connected to the San Diego River and Ultimately the Pacific Ocean.**
- **ONLY RAIN BELONGS IN THE STORM DRAIN!**

TO REPORT STORMWATER POLLUTION IN SANTEE CALL (619) 258-4100 X168

CITY OF SANTEE

STORMWATER INFORMATION

STORMWATER FACT SHEET 07

Power Washing Activities



POWER / PRESSURE WASHING & WATER QUALITY IMPACTS

The City of Santee has adopted the Stormwater Management and Discharge Control Ordinance (SMC 13.42) to regulate the discharge of pollutants to the storm drain system. Pollutants typically associated with power washing activities include sediment, grease, oil, food waste, and trash. As a business owner or operator, you are legally responsible for ensuring that stormwater pollutants are properly managed.

BEST MANAGEMENT PRACTICES (BMPs)

Best Management Practices are practical and cost effective approaches to day to day business operations that reduce, control, or prevent water pollution. The following is a list of Minimum Best Management Practices that are required at all power washing activities in the City of Santee.

POWER WASHING REQUIREMENTS

The following BMPs are REQUIRED for ALL Power Washing Activities including but not limited to vehicle maintenance & fuel dispensing areas, power washing buildings, sidewalks, parking lots, loading docks and common areas.

1. Block all storm drain inlets and collect water/waste for disposal to the sanitary sewer. No water can drain to the street or catch basins.
2. Prior to washing activities, clean and/or sweep all loose debris from the area.
3. Clean any significant oil / auto fluid spills with an appropriate dry method prior to cleaning.
4. If possible, direct divert runoff to a vegetated area where water can absorb into the ground.
5. If visual observation of runoff indicates contamination (cloudy, discolored, presence of suspended materials), stop activities immediately, and use additional BMPs (i.e. filtration) to eliminate polluted runoff to vegetation.

REMEMBER THE THREE C's

Contain , Control , & Capture
All Waste & Wash Water

TO REPORT STORMWATER POLLUTION IN SANTEE CALL (619) 258-4100 X168

STORMWATER INFORMATION

CITY OF SANTEE

STORMWATER INFORMATION

STORMWATER FACT SHEET 08

Industrial & Commercial Activities

WHAT IS STORMWATER POLLUTION?

Stormwater pollution is the untreated, contaminated water that drains from streets, parking lots, industrial yards, driveways, sidewalks and other impervi-

CITY OF SANTEE

STORMWATER INFORMATION

STORMWATER FACT SHEET 01

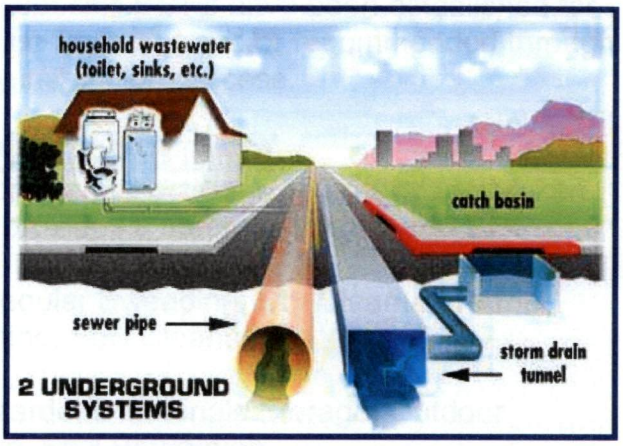
What is Stormwater Pollution?

WHAT IS STORMWATER POLLUTION?

Stormwater pollution is the untreated, contaminated water that drains from streets, parking lots, industrial yards, driveways, sidewalks and other impervious surfaces. Water from such sources as rain, hoses, power washers, sprinklers, and car-washing activities carry pollutants to the storm drain system.

WHERE DOES IT GO?

The storm drain system is made up of a series of curbs, gutters, drainage channels, culverts, inlets and pipes. All water that drains off of the streets, parking lots, driveways and sidewalks, and through the storm drain system ends up in our creeks, rivers, and ultimately the Pacific Ocean completely untreated! Just remember, the storm drain system is SEPARATE from the sanitary sewer system.



WHY IS IT A PROBLEM?

It is important to remember that the City of Santee is host to the San Diego River as it flows towards the Pacific Ocean. The River offers tremendous biological resources within its reach through Santee and beyond, supporting a diverse population of plant and animal life. The health and the beauty of the San Diego River is directly dependent on the actions of all Santee residents, and deserving of our protection from stormwater pollution!

WHAT CAN I DO TO HELP?

STORMWATER INFORMATION

Swimming Pool & Spa Maintenance

SWIMMING POOL DISCHARGE

The City of Santee has adopted the Stormwater Management and Discharge Control Ordinance (SMC 13.42) to regulate the discharge of pollutants to the storm drain system. Pollutants typically associated with swimming pool and spa maintenance activities include chlorine, pH, organic matter (decaying plants & algae), and copper.

WHERE DOES IT GO?

All water that drains off of the streets, parking lots, driveways and sidewalks, and through the storm drain system ends up in our creeks, rivers, and ultimately the Pacific Ocean, completely untreated! Just remember, the storm drain system is SEPARATE from the sanitary sewer system.

CAN IT BE DISCHARGED INTO THE STORM DRAIN?

If it is not a saline pool, you can discharge water with NO chemicals into the storm drain. The water must:

1. Be water only (no debris)
2. Be de-chlorinated
3. Have a pH range of 7-8.
4. Have no algae present
5. Be a controlled flow to avoid erosion problems or cause a traffic hazard.

Can I get rid of chlorine?

Chlorine will naturally dissipate, and pool water will become de-chlorinated over time. Monitor the pool over a period of 3-5 days until NO chlorine is detected.

How do I Clean Pool Filters?

It's best to clean pool filters over a lawn, dirt, planter box, vegetated hillside, or something to absorb the discharge. Collect materials on filter cloth, then throw the filter cloth away. Rinse cartridge and diatomaceous earth material onto a dirt area, and spade filter residue into soil.

If you retain a pool company to take care of your pool, please make sure that they comply with these regulations. By doing your part, you will help reduce the pollution problems in the community where your family lives, works and plays.

TO REPORT STORMWATER POLLUTION IN SANTEE CALL (619) 258-4100 x168
CALL PADRE DAM MUNICIPAL WATER DISTRICT ON (619) 258-4664 FOR INFORMATION ON DISCHARGES TO SEWER.

CITY OF SANTEE

STORMWATER INFORMATION

STORMWATER FACT SHEET 10

STORMWATER INFORMATION

Residences

Although many residents may not realize it, everyday activities that we conduct at home have the potential to impact the quality of water which drains from the street into our municipal storm drain. This eventually discharges UNTREATED into the San Diego River. The cumulative impact of discharges from each residence has the potential to directly impact the San Diego River. Here are some examples of common household activities of concern:

PET WASTE

This may be considered "natural," but did you know that the water quality of San Diego River is considered to be impaired due to the presence of bacteria from fecal discharges? *ALWAYS pick up after your pet, even at home, and dispose of pet waste in the trash.* Don't throw pet waste in any drainage channel, culvert, gutter or drain.

AUTOMOTIVE

Reduce or eliminate the release of motor oil from leaking cars, detergents from washing and gasoline from fuel drips. Do not maintain your vehicle in the street and clean up fluid spills and leaks immediately. *Use drip pans under leaking vehicles and properly dispose of automotive fluids.*

HOME IMPROVEMENT AND GARDEN CARE

Many home improvement projects may involve the use of hazardous materials (paints, solvents etc.). Powder materials (e.g.,concrete, sand, and grout) can form harmful sediment if washed into the San Diego River via the storm drain. Rinse concrete or grout residue into a hole dug into a dirt area. Let the water infiltrate into the ground and throw away the residue. *Sweep, do not hose down* when cleaning and *do not blow plant debris into the storm drain.* Dispose of household hazardous wastes including paint, cleaners, and batteries for FREE at one of the following locations:

Clean Harbors Environmental Services, 12325 Crosthwaite Circle, Poway, CA 92064. 1-800-444-4244. Saturdays 9 am to 3 pm.

Waste Management, City of El Cajon, end of O' Conner Street, El Cajon CA 619-596-5100. Household pickup by appointment.

- Pick Up After Your Pets
- NO DUMPING!
- Sweep It, Don't Hose It Down.
- Wash Paint Brushes in the Sink
- Do not overwater
- Report illegal dumping

TO REPORT STORMWATER POLLUTION IN SANTEE CALL (619) 258-4100 x168

CITY OF SANTEE

STORMWATER INFORMATION

STORMWATER FACT SHEET 11

Demolition & Construction

Non-rainwater discharges from demolition and construction sites are illegal and could be subject to clean up costs, as well as fines and other penalties. With a few simple steps contractors on these sites can prevent illegal discharges.

WHERE DOES IT GO?

All water that drains off of the streets, parking lots, driveways and sidewalks enters the storm drain and is discharged into the San Diego River completely untreated!

KEEP YOUR SOIL ON YOUR PROPERTY

It is illegal to allow soil discharges into the street. Plan to use measures to prevent erosion (for example, preservation of current landscaping, expedited planting, blankets, hydroseeding, or bonded fiber matrix); and sediment control measures (silt fence, gravel bags, and fiber rolls) to prevent discharges, particularly between the months of October and May. Use silt-free gravel, not sand, in gravel bags. Be prepared to stop liquid discharges during demolition.

MANAGE A TIDY SITE

It is a violation of City ordinance to discharge airborne dust or allow the tracking of soil onto the street. Sweep or vacuum, DO NOT HOSE DOWN, any material that strays onto the street. Keep liquid materials in a covered second container. Do not discard waste materials to the ground. Instead, immediately place it into a trash container. Order an extra trash pickup if more waste is generated than usual. Dispose of hazardous materials properly. Use drip pans under vehicles and promptly remove spills.

CONCRETE AND POWDER MATERIALS

The pH content of cement mix can be high enough to classify it as hazardous waste! When concrete waste gets into a gutter and then the storm drain, it eventually ends up in the San Diego River. If allowed to dry in gutters or catch basins, it can disrupt the proper flow of rainwater. Other powdery material (stone dust, grout, and masonry), if discharged to the storm drain, will result in increased sediment in the San Diego River, having a negative effect on aquatic life. Place concrete waste into a container, and let it dry before disposal.

KEEP OUT OF THE GUTTER!

The gutter is not the place to clean any piece of equipment, large or small. It is a violation of the City's ordinance to park heavy vehicles in the street.

TO REPORT STORMWATER POLLUTION IN SANTEE CALL (619) 258-4100 x168

STORMWATER INFORMATION

CITY OF SANTEE

STORMWATER INFORMATION

STORMWATER FACT SHEET 12

STORMWATER INFORMATION

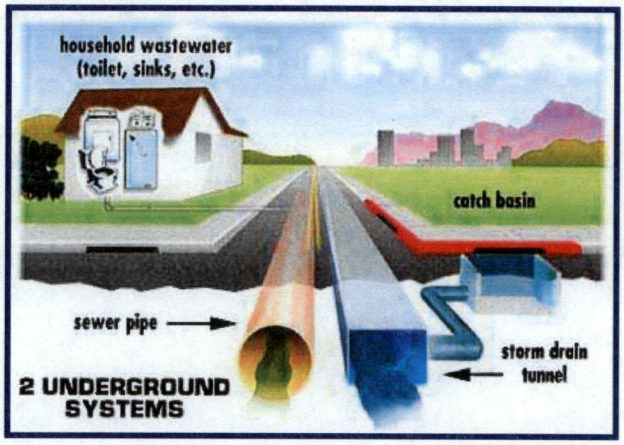
Pollution Prevention at Special Events

WHAT IS STORMWATER POLLUTION?

Stormwater pollution is the untreated, contaminated water that drains from streets, parking lots, industrial yards, driveways, sidewalks and other impervious surfaces. Water from such sources as rain, hoses, power washers, sprinklers, and car-washing activities carry pollutants to the storm drain system.

WHERE DOES IT GO?

The storm drain system is made up of a series of curbs, gutters, drainage channels, culverts, inlets and pipes. All water that drains off of the streets, parking lots, driveways and sidewalks, and through the storm drain system ends up in our creeks, rivers, and ultimately the Pacific Ocean completely untreated! Just remember, the storm drain system is SEPARATE from the sanitary sewer system.



HOW CAN A SPECIAL EVENT CAUSE STORMWATER POLLUTION?

An event can result in the generation of a large amount of litter. Plastic bags and other light material may be blown into creeks and channels. Other items may enter curb inlets, either blocking the structure, or being washed via runoff through the stormdrain system into nearby rivers and creeks. Food and pet waste can be sources of bacteria and nutrients. Protect water quality by using the following best management practices:

- Portable toilets shall have secondary containment.
- Have materials available (cloths, paper towels, a dustpan and brush, etc.) to promptly remove spills as they occur.
- Install temporary fencing to prevent trash from being dispersed.
- Use temporary screens on catch basins and storm drain inlets.
- Provide plenty of trash and recycling bins. Promptly dispose of trash into dumpsters with lids and do not allow dumpsters to overfill.
- Sweep the area after the event. Clean catch basins as necessary.

TO REPORT STORMWATER POLLUTION IN SANTEE CALL (619) 258-4100 x168

Carpet and Upholstery Cleaning

Carpets and upholstery are regularly cleaned in homes and commercial businesses to prolong the life of carpets and furniture, and to ensure a hygienic living and working space. Wastewater from carpet cleaning usually contains detergents, other potentially hazardous chemicals and extracted carpet residues, some of which are known pollutants.

It is illegal to discharge wastewater from these cleaning activities to the storm drain.

WHERE DOES IT GO?

All water that drains off of the streets, parking lots, driveways and sidewalks enters the storm drain and is discharged into the San Diego River completely untreated!

- Any wastewater poured into streets, gutters, or stormdrain inlets will make its way into sensitive waterways that support aquatic plants and animals. Carpet cleaning chemicals and other residues in carpet cleaning wastewater may damage fragile ecosystems.
- Many carpet cleaning agents are toxic to aquatic plant and animal life.
- Residues from carpet cleaning can contribute to nutrient loadings that will result in explosive algal growth and deplete waterbodies of oxygen.

WHAT ARE THE REQUIREMENTS?

Wastewater and residue from carpet cleaning must NEVER be discharged to any roadside gutter, parking lot drain, stormdrain, curb inlet, drainage channel, or watercourse.

- Wastewater and residue from carpet cleaning should be discharged to a sanitary sewer connection such as a sink, floor drain, toilet sewer cleanout, or septic tank.
- Clean or flush hoses to a vegetated or dirt area and let the water infiltrate the ground.
- Contain, control, and capture all wastewater or chemicals.

STORMWATER INFORMATION

TO REPORT STORMWATER POLLUTION IN SANTEE CALL (619) 258-4100 x168

CITY OF SANTEE

STORMWATER INFORMATION

STORMWATER FACT SHEET 14

STORMWATER INFORMATION

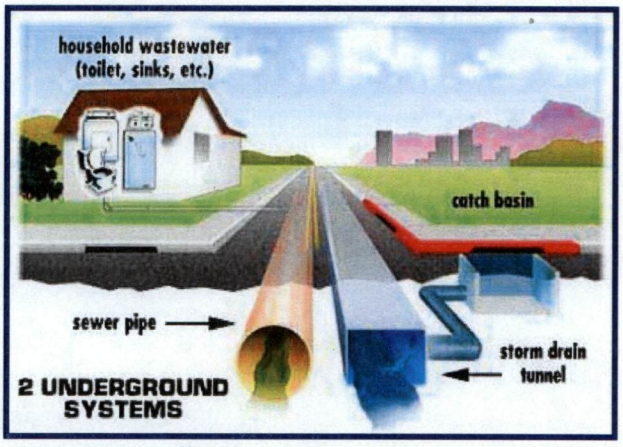
Pollution Prevention during Community Activities

WHAT IS STORMWATER POLLUTION?

Stormwater pollution is the untreated, contaminated water that drains from streets, parking lots, industrial yards, driveways, sidewalks and other impervious surfaces. Water from such sources as rain, hoses, power washers, sprinklers, and car-washing activities carry pollutants to the storm drain system.

WHERE DOES IT GO?

The storm drain system is made up of a series of curbs, gutters, drainage channels, culverts, inlets and pipes. All water that drains off of the streets, parking lots, driveways and sidewalks, and through the storm drain system ends up in our creeks, rivers, and ultimately the Pacific Ocean completely untreated! Just remember, the storm drain system is SEPARATE from the sanitary sewer system.



HOW CAN COMMUNITY ACTIVITIES CAUSE STORMWATER POLLUTION?

Any activity that results in runoff discharging into catch basins on private property or into the street (such as washing cars or cleaning up after an event) can cause stormwater pollution. These types of discharges are illegal. In addition, community events can result in the generation of litter which can get into the storm drain system. Simple steps can be take to prevent pollution and protect **a valuable community resource — our river**.

- Use trays under portable toilets (secondary containment).
- Have materials available at an outdoor event (cloths, paper towels, a dustpan and brush, etc.) to promptly remove spills as they occur.
- Promptly dispose of trash into dumpsters with lids and do not allow dumpsters to overfill.
- Sweep after an outdoor event and clean catch basins as needed.
- Contact the City for pollution prevention methods during special events and car washing activities (look at www.ci.santee.ca.us/For Residents).

TO REPORT STORMWATER POLLUTION IN SANTEE CALL (619) 258-4100 x168

CITY OF SANTEE

STORMWATER INFORMATION

STORMWATER FACT SHEET 15

Benefits of Low Impact Development and Site Design Practices

STORMWATER INFORMATION

WHAT IS STORMWATER POLLUTION?

Stormwater pollution is the untreated, contaminated water that drains from streets, parking lots, industrial yards, driveways, sidewalks and other impervious surfaces. Water from such sources as rain, hoses, power washers, sprinklers, and car-washing activities carry pollutants to the storm drain system. The storm drain system discharges this water directly to our creeks, rivers, and ultimately the Pacific Ocean UNTREATED.



HOW DOES DEVELOPMENT AFFECT THIS?

The addition of impervious area removes the natural absorption and infiltration abilities of the land. This results in a greater volume, velocity, rate and duration of runoff from the property, than in its predevelopment condition. It can result in the mobilization of a wide range of pollutants that would normally remain on the property and transport these pollutants to surface waters. *This cocktail of pollutants can destroy aquatic life.*

WHAT IS THE SOLUTION?

Since 2002, all major development incorporated a mixture of best management practices (BMPs) to reduce its impact on stormwater quality. Site Design BMPs and Low Impact Development BMPs include the following:

- Reduce directly connected paved areas.
- Direct runoff to landscaping to reduce runoff from the property.
- Use grassed swales to facilitate infiltration.
- Use drought tolerant or native vegetation
- Conserve natural areas.
- Protect slopes (i.e. with vegetation) to prevent erosion.

The objective of this is to mimic the natural hydrologic conditions of the site to minimize the increase in volume, velocity, rate and duration of the property after development.

Please preserve these features on your property and protect our river! Do not destroy these features and maintain them to remain effective.

TO REPORT STORMWATER POLLUTION IN SANTEE CALL (619) 258-4100 x168

CITY OF SANTEE

STORMWATER INFORMATION

STORMWATER FACT SHEET 16

STORMWATER INFORMATION

YARD & GARDEN MAINTENANCE



HOW CAN GARDENING HARM OUR WATERWAYS?

Yard maintenance can directly impact the quality of our local surface waters. When soil, organic wastes, dirt, leaves, grass clippings, and chemicals leave your yard, they flow directly into creeks and the ocean harming the health of humans and wildlife that swim in the waters, impacting the environment and water quality.

BEST MANAGEMENT PRACTICES (BMPs)

Whether you take care of your own yard or contract a professional service, you are responsible for ensuring that BMP's are implemented to reduce storm water pollution, protect water quality and conserve our valuable water and natural resources. By implementing the simple solutions in this fact sheet you can take part in protecting our local waterways and beaches.

- Use fertilizers sparingly and possibly consider using an organic fertilizer.
- Use an efficient irrigation method and try to avoid over-watering.
- Break watering down into five minute intervals, or less. This will allow water to soak in before the next application.
- Rather than applying a temporary, chemical only approach, try a natural method such as hand weeding and planting diverse native plants. This will result in a safer long term solution to weed and insect problems.
- Improve the health of your soil by adding compost and using organic mulches. You'll reduce the need for fertilizers and your plants will be healthier. You will also prevent soil erosion.

REMEMBER : When using a professional landscaping service

- Make sure they sweep up clippings and dispose of them properly, rather than blowing them out into the street.
- If you decide to use pesticides, check to make sure the service is properly trained and licensed to apply them.
- Know how often fertilizers are used. Even professionals over-fertilize.
- The property owner is responsible for violations of the Clean Water Act.

TO REPORT STORMWATER POLLUTION IN SANTEE CALL (619) 258-4100 X168

Fire Prevention and Erosion

During dry and hot seasons, vegetation can pose a fire risk, and requires proper management.

WHICH FIRE PREVENTION MEASURES ARE RECOMMENDED?

Vegetation on open lots should be *mowed* to a height of approximately four inches. The clippings can be left on top of the stubble, providing additional fire suppression. Dead shrubs, dead trees or limbs, and rubbish should be removed. The City's Municipal Code requires property owners to mow and/or clear a distance of one hundred feet from any structure and up to thirty feet along each side of roadways or driveways. Fire prevention measures should be implemented during late spring and early summer.

When a rare, threatened, or endangered plant or wildlife may be present on the property to be cleared, it is the responsibility of the owner, occupant or person in charge of the property to obtain all required permits or approvals from all other governmental agencies prior to removal of the nuisance. This includes California State Fish and Game and the U.S. Fish and Wildlife Service can be contacted at (760) 4341-9440). If you have questions contact City Development Services at (619) 258-4100 x168 with any questions.

WHY SHOULDN'T I JUST CLEAR THE GROUND OF VEGETATION?

Not only is this unattractive and unnecessary, but you risk losing the most valuable component of your ground through erosion. The top layer of soil tends to be rich in organic matter providing nutrients and a soil matrix hospitable to plant life. Once that has been removed, it will be difficult for plants to grow in this soil without the addition of expensive soil amendments.

Cutting vegetation allows the plant roots to help hold the soil in place minimizing erosion. Erosion prevention is important to prevent loss of land, damage of property downgradient of the erosion and potential pollution through the discharge of sediment to the storm drain system. The storm drain system conveys runoff from streets and private property to the river *untreated*. Blockages of the storm drain system may result in property damage and are costly to remove. Sediment discharged into our creeks and rivers is harmful to river life, including plants, insects and fish. If you are concerned about potential erosion, install erosion prevention measures (see http://www.cabmphandbooks.com/Construction.asp for more information).

Call Fire Prevention at (619) 258-4100 x184 for additional information.





Area of eroded soil versus a slope stabilized with erosion prevention measures.

TO REPORT STORMWATER POLLUTION IN SANTEE CALL (619) 258-4100 x168

CITY OF SANTEE

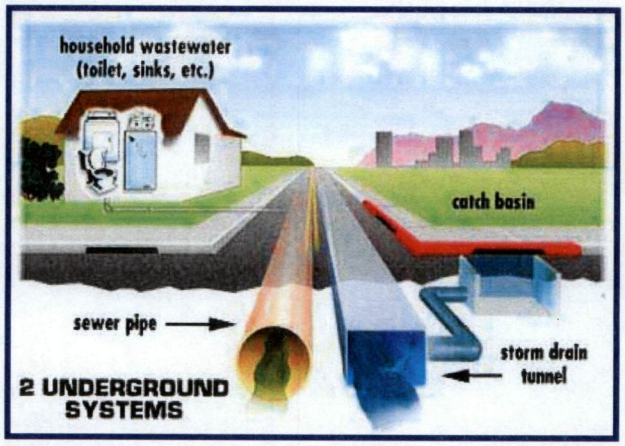
STORMWATER INFORMATION

STORMWATER FACT SHEET 18

STORMWATER INFORMATION

Responding to Sewage Spills

Many people mistakenly believe that storm drains are connected to Padre Dam's sanitary sewer system and that any wastewater dumped into an alley, street or storm drain is treated at Padre Dam's sewage treatment plant. This is not the case. Any material discharged or washed into the street ends up in the San Diego River.



Raw sewage is a biohazard to people, and adds pollutants such as sediment and nutrients to the environment. The source of any sewage spill must be immediately stopped, and the spill must be contained. The affected area must be isolated to keep the public from exposure to the hazard. Sewage must be removed and the area disinfected by a properly trained person. Raw sewage may be discharged into the wastewater system with permission from Padre Dam.

Any sewage discharge into the storm water conveyance system, even from a blocked lateral line, is a violation of federal, state and local laws. These laws apply to individuals, businesses and public agencies. There are no exceptions.

Please ensure that any contractor you hire to respond to a sewage spill understands these regulations and has the ability to comply with them. By doing this you help to protect your family, and the environment from exposure to the sewage spill.



TO REPORT STORMWATER POLLUTION IN SANTEE CALL (619) 258-4100 x168

ATTACHMENT 8.1

SANTEE REVIEW ARTICLES

Santee Review

Your quarterly update for City news



Fall 2010

Sportsplex Now Open

Off Leash Dog Areas

Sustainable Santee Project

The City of
Santee

INSIDE

1 Santee's New Sports Complex Opens With a Home Run!

2 Santee Invests $1.7 Million for Street Maintenance
Reevaluation of the Sycamore Landfill Expansion Plan Required

3 Off Leash Dog Program Receives Favorable Response

4 Cedar Creek Apartments Provide Affordable House Opportunity
Santee Disposal Rate Surpasses State Requirements

5 Solar Panels Produce Electricity for Town Center Community Park
Santee Generates Savings Through Street Light Upgrades

6 Deputy City Manager Receives SDSU Monty Award
New Community Services Director

7 Don't Text and Drive
Santee Welcomes New Santee Sheriff Captain

8 Santee Sheriff Rolls Out Campaign to Educate Teen Drivers
Social Host Ordinance Designed to Prevent Underage Drinking

9 Crime Prevention Corner
Awards Recognize Community Assistance in Crime Prevention
12th Annual Pancake Breakfast

10 Protecting Your Property from Fire and Erosion
Warm Weather Brings Out Rattlesnakes

11 Hypodermic Needles Must be Properly Disposed
Santee Bluegrass Festival

12 Local Youth Participated in Major League Baseball Competition
City and School District Work Together to Improve Chet F. Harritt Ball Field
Community Holiday Lighting Celebration

13 Friends of Santee's River Park Day of Community Service
Community Native Planting Event

14 City Council Highlights

Cover: Town Center Community Park

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Santee, CA 92071
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www.ci.santee.ca.us

Mayor Randy Voepel
Vice Mayor Brian W. Jones
Council Member Jack E. Dale
Council Member John W. Minto
Council Member Hal Ryan

City Manager Keith Till

Contact Us @
(619) 258-4100
www.ci.santee.ca.us

Mayor & City Council	ext. 100
City Manager	ext. 100
Building Division	ext. 154
City Clerk	ext. 114
Community Services	ext. 222
Development Services	ext. 168
Event Information	ext. 201
Finance	ext. 144
Fire Administration	ext. 207
Human Resources	ext. 262
Public Services	258-4195
Recreation Services	ext. 222
Sheriff's Department	956-4000
Teen Center	258-4191

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Para información en Español llame a (619) 258-4100 ex. 128.

Santee's New Sports Complex Opens With a Home Run!

Santee's new 15-acre sports complex within the 55-acre Town Center Community Park is now open to the community. The facility provides for local and regional adult softball and soccer leagues, youth and adult tournaments, sports camps, high school and college games, corporate events and other special events. It is slated to draw over 350,000 visitors annually.

Touted as "San Diego's premier recreational sports facility," the complex features three lighted softball fields, four batting cages, two lighted arena soccer fields, spectator seating, parking and a sports themed restaurant offering food, beer and wine with indoor and outdoor seating to view games. Sportsplex USA will operate the complex under a public-private agreement with the City.

Santee City Manager Keith Till explains, "This is far more than a community recreational amenity… it is an economic boost for Santee." A 2005 economic impact analysis noted that the complex could generate $5.5 million annually in

"Far more than a community recreational amenity..."

local expenditures, and create demand for 80 additional hotel rooms. At 1,000 visitors a day for tournaments, that translates into a significant benefit for local businesses. Under conservative estimates, the facility could reach 100% capacity by 2012, hosting 1000 softball teams and 500 soccer teams annually.

Sportsplex USA Santee seems well on its way to reaching those goals. According to Chris Vertrees, the Director of Marketing and Development, there are already 163 softball teams and 52 soccer teams signed up with every available weekend booked for games and out-of-region tournaments through the end of the year. The facility has recently been identified as the host of the 2012 National Police and Firefighter Olympics which will attract over 7,000 players.

In keeping with the City's "Sustainable Santee" program, there are several eco-friendly features as well. Three ball fields and two soccer arenas incorporate synthetic turf and all landscaping is served by reclaimed water from Padre







Dam Municipal Water District. The restaurant is also equipped with a photovoltaic (solar) power system.

The remainder of the Town Center Community Park construction, funded in part by a $100,000 grant from the National Football League and the San Diego Chargers, is nearing final completion. Features will include an outdoor performance stage, a lighted synthetic turf football/soccer field, a lighted synthetic turf soccer field, two lighted youth grass turf soccer fields, five shade structures, a large themed play structure, a USMC memorial, a human sundial, connecting walking trails, the new Park Center Drive and a restroom and concession building.

Improvements to the western portion of the park included new sidewalks, parking lots and landscaping. The final amenity will include a grass picnic area in front of the City of Santee Aquatics Center/Cameron Family YMCA on River Walk Drive.

The Santee Ravens and Santee AYSO have already begun using the synthetic fields for the fall season and the Santee Park and Recreation Committee hosted the first concert event on the large lawn with the Santee Bluegrass Festival. A community event is scheduled in the fall to celebrate the completion of the entire park. For additional information on the park, contact the Department of Community Services at (619) 258-4100 ext. 222 or visit www.ci.santee.ca.us.

Santee Invests $1.7 Million for Street Maintenance

A total budget of $1.7 million is currently being used to fund several street repaving and rehabilitation projects in the following neighborhoods: Vomac Road north of Mast Boulevard; Crystal Springs Road neighborhood south of Woodside Avenue; Calle Del Lago neighborhood; Holburn Street north of Second Street; and Pebble Beach Drive south of Mast Boulevard.

Using rubber from old tires, the current repair method is very innovative. This type of material has proven very successful and has a life expectancy of over 10 years. It is also cost effective as repairs are almost half the normal cost.

Funding for the repairs has been made possible through the use of TransNet and Proposition 1B Local Streets and Roads funding. The TransNet funding used is the half cent sales tax for local transportation projects that was first approved by voters in 1988 and extended in 2004 for another 40 years. Proposition 1B funding was a 2006 general election proposition approved by voters to authorize general obligation bonds for improvements to transportation facilities to reduce congestion and deterioration.



TRANSNET

Reevaluation of the Sycamore Landfill Expansion Plan Required

When the City of San Diego certified the Environmental Impact Report (EIR) in 2008 for an expansion of the Sycamore Landfill, the City of Santee promptly filed a lawsuit in San Diego Superior Court challenging San Diego's compliance with the California Environmental Quality Act (CEQA).

The EIR permitted a greater landfill height and allowed an increased amount of trash to be accepted without full disclosure or analysis of the issues associated with the larger than proposed expansion project. Moreover, San Diego failed to adopt "Findings of Fact and Statement of Overriding Considerations" as required by CEQA to support the approval of this environmentally inferior project.

In July 2010, a judge confirmed that San Diego had improperly adopted a larger project than originally proposed and analyzed in the environmental document. The court ruling will likely lead to the de-certification of the EIR and the annulment of other approvals made by the City of San Diego.

Santee will continue its active engagement in the proposed Sycamore Landfill expansion to ensure that effective controls are implemented to minimize further impacts on our community, such as visual effects, traffic and odor.







Off Leash Dog Program Receives Favorable Response

In June 2009, the City Council approved a pilot program allowing off-leash dog areas within designated City parks subject to certain rules and regulations. Off-leash areas were established at Woodglen Vista Park, Mast Park and Big Rock Park during specific days and times to allow dogs to exercise and socialize in designated areas without being constricted by a leash. Signs are posted at each park identifying the areas, days and time for off-leash use or you can visit the City's web site at *www.ci.santee.ca.us* to review this information.

Overall, the response to the off-leash program has been very favorable. Many of the users of the off-leash areas have expressed appreciation for providing an area for their pets to exercise and commingle with other pets and have requested dedicated off-leash parks with additional hours of availability. In response, off leash hours were increas ed at the three parks in January 2010. Many users requested clearer notification to better define the off-leash area within each park. In response, additional signs with maps were installed identifying the areas that are allowed for off-leash uses.

While most of the feedback has been favorable, some park users have voiced concerns about persons not removing or placing pet feces into proper receptacles in accordance with the City Municipal Code and as required for use of the off-leash area. Additional dog waste bag dispensers have been installed at each park. Most users have been cooperative about removing feces and have offered assistance when others do not.

Unfortunately, there have also been reports of irresponsible behavior by dog owners, such as dogs walking off-leash with their owners beyond the boundaries of the off-leash areas. Off-leash dogs have approached walkers, runners and other on-leash dogs who are traveling on the park's sidewalks, trails or play areas. Other concerns are off-leash activities outside the designated hours or days. This type of unauthorized use puts the success and future of the off-leash program at risk. The Sheriff's Department and Animal Control have increased their surveillance of the parks for unauthorized off-leash use.

At their meeting on August 25, the City Council approved to continue the off leash program for an additional six months and requested a dog park stewardship plan be put into place to help ensure all users are following the rules.

If you are a user of the off-lease pet areas, please help to make this program successful by reminding other users of the designated off-leash boundaries and rules.

Off-leash use is subject to the following rules:

- Dogs must be licensed
- Dogs must be under effective voice control
- Owner must clean up after pet
- Dogs must be prevented from biting or harassing any person or another animal
- Dogs must be kept out of playground and landscape areas, sports courts and picnic areas

As a reminder, dogs are not permitted to be off-leash at any time at Shadow Hill, West Hills, Sky Ranch, Santee Mini or Town Center Parks. In addition, dogs are not permitted at any time (on or off-leash) on any school properties. If you witness irresponsible pet behavior, contact the County of San Diego Department of Animal Services at (619) 236-4250.

A community dog park forum will be held at 7:00 p.m. on Thursday, October 7 at Santee City Hall, building 2, for those interested in being a part of the new dog park committee. For additional information regarding off-leash areas, please call (619) 258-4100 ext. 126 or visit the City Parks page on the "For Residents" tab at *www.ci.santee.ca.us*.



Cedar Creek Apartments Provide Affordable Housing Opportunity

The Chelsea Investment Corporation is bringing a unique, affordable multifamily development to the City called "Cedar Creek Apartments" which will include 48 dwelling units located on Fanita Drive.

The Cedar Creek Apartments will advance Santee's housing goal to provide a diverse mix of housing for residents. The gated community has units ranging in size from one-bedroom to three-bedrooms within four multiplex buildings.

The development includes market-rate amenities, such as a landscaped courtyard with a protected children's play area and a central barbeque patio. A key feature for residents is the multiuse facility where residents are able to host social gatherings or meetings as well as participate in the computer lab, exercise facility, and enjoy supervised after school programs for kids.

Meeting Santee's interest in sustainable communities, the development uses eco-friendly design features such as solar water heating, low water use strategies, and methods to protect water quality.



SANTEE RECYCLES

Santee Disposal Rate Surpasses State Requirements

The Santee community continues to excel in diverting trash from the landfills and meeting the State's recycling requirements. Since 2003, the City of Santee has met or exceeded the State's solid waste disposal requirements.

Santee's reported disposal rate for 2009 was 4.3 pounds-per-person-per-day, which is lower than the State's requirement of 6.5 pounds-per-person-per-day. This equates to a 66% diversion rate.

Thank you to all Santee residents for continuing to recycle household items and construction waste and keeping it out of our landfills. For recycling information please visit Santee's web site at www.ci.santee.ca.us or call (619) 258-4100 ext. 128.





Solar Panels Produce Electricity for Town Center Community Park

The City of Santee will soon benefit from the installation of its first photovoltaic energy system. In an effort to reduce our local government's energy use, save taxpayer dollars and promote energy efficiency, solar panels were recently installed on the roof of the Sports Complex in Town Center Community Park (TCCP). The panels, known as a solar or photovoltaic (PV) energy system, will produce electricity to help power the restaurant.

The system allows the City to produce electricity during the day by converting sunlight into power through the use of photovoltaic cells. Santee offers a great location for solar power generation with mostly sunny, cloud free days, which will allow the system to deliver electricity for many years.

As part of the City's Sustainability Project, additional sites throughout the City are currently being evaluated for installation of PV systems.

Santee Generates Savings Through Street Light Upgrades

The City of Santee will be among the first in the region to achieve savings and reduce energy use through its progressive Street Lighting Upgrade Project. As part of the City's sustainability efforts, more than half of the city-owned street lights will be replaced with more energy efficient lighting, saving $75,000 and reducing energy use by more than 600,000 kilowatt hours each year. The new street lights will not only be cost effective, they will be environmentally responsible.

The replacement of the street lights will reduce Santee's reliance on costly business practices, save taxpayer dollars through energy efficiency and maintain long-term benefits for the environment. "It's a win-win for the environment and the Santee taxpayers," said Santee Mayor, Randy Voepel. In addition to annual savings, San Diego Gas & Electric will be awarding the City $47,900 in energy efficiency rebates for installing the new lights.

While the goal in Santee is to replace all of the street lights, the current plan will replace 933 of the 1,700 city-owned high pressure sodium and mercury vapor streetlights with lower wattage induction lights, which use up to 40% less energy. This first phase will replace all of the higher wattage lights on the arterial and collector streets and some lower wattage lights in residential areas. The project is expected to be completed by the end of 2010.

Through the use of a federal energy grant and an interest free loan through SDG&E, which will be repaid through energy cost savings, there is no impact to the City's General Fund. In fact, the City's Streetlight Maintenance budget will benefit from this action through the cost savings and rebates. The City is working on obtaining additional funding to replace the remaining street lights in the near future.

While some energy retrofit projects can take years to see a return on investment, the City will see an almost immediate payback from the replacement of its street lights, which in turn benefits the taxpayers and the environment.

Deputy City Manager Receives SDSU Monty Award

The Monty Awards are a time-honored tradition at San Diego State University. The award is a symbol of achievement and success presented to distinguished alumni who have made significant contributions to San Diego State University, the San Diego community or California, nationally or internationally.

Pedro Orso-Delgado, the Deputy City Manager/ Director of Development Services for the City of Santee, was recently presented the Monty from the College of Engineering where he graduated in 1983 with a degree in civil engineering. A former District Director at CALTRANS, he is credited with significant contributions to the field of civil engineering through innovations in his district that received world-wide recognition. He also currently serves on several SDSU boards and committees.



(L) Pedro Orso-Delgado, Deputy City Manager/Director of Development Services and SDSU President Stephen Weber.



Captain Ed Musgrove

Santee Welcomes New Santee Sheriff Captain

Santee welcomes a new Sheriff in town . . . Captain Ed Musgrove, who comes from the Vista Station where he was the Lieutenant in charge of field operations, patrol and traffic. During his 22-years of service in the Sheriff's Department, Captain Musgrove has worked in a wide variety of law enforcement assignments including the Emergency Planning Detail in the Sheriff's Emergency Services Division at Gillespie Field.

Captain Musgrove is a California native, born in Sacramento, but raised in San Diego. After graduating from Poway High School in 1980, he served seven years in the United States Army. He later earned a Bachelor of Science degree in Business Management and a Master of Arts in Organizational Leadership. In 2009, Captain Musgrove attended the FBI National Academy. He is married to retired Sheriff's Deputy Carole Musgrove and has two daughters, 16 year-old Cailin, and 14 year-old Brooke.

As he begins his first assignment as a Captain, he looks forward to the challenges and rewards of leading a patrol station as Santee's "Chief of Police." Captain Musgrove believes problem solving in modern policing is best achieved by marrying traditional law-enforcement processes with critical, non-traditional thinking and involving the community to achieve success. His challenge to the station staff is to provide Santee the best law enforcement service in the county by working with the community to keep this a great place to live, work and enjoy.

Santee Bluegrass Festival
Wine, Dine & let the Bluegrass shine



Photo by Ron Cooks


Photo by Steve Prendergast


Photo by Ron Cooks


Photo by Steve Prendergast

Blue Grass Festival Offered a Taste of Santee

The Santee Park and Recreation Committee hosted the first ever Santee Bluegrass Festival on Saturday, September 25. The fund-raising event was the first event to be held at the new Town Center Community Park off Park Center Drive.

Live bluegrass music performed by Gone Tomorrow and The Shirthouse Band added ambiance to the festival as approximately 400 attendees enjoyed a variety of wines from throughout California and sampled award winning and local beers in commemorative glasses. Restaurants from Santee and East County provided a delicious selection of food tastes and desserts throughout the night.

The event offered a chance for community members to gather close to home and enjoy the company of friends. "Many thanks to the restaurants, wineries, breweries, businesses and volunteers who supported this great event that benefit Santee families" said Ken Fox, Festival and SPARC Chairperson.

Proceeds from the festival will benefit municipal park enhancements, community programs and the *Voucher Incentive Program* which provides financial assistance to qualifying Santee families to participate in recreation activities.

The Santee Park and Recreation Committee is made up of community volunteers that act in an advisory capacity to the City Council on matters pertaining to municipal recreation programs and City park development.

New Community Services Director

After a nationwide search, the City of Santee welcomed a new Director of Community Services starting June 28, 2010. Bill Maertz (pronounced Mertz) was previously the Parks and Recreation Director for Elk River, Minnesota, a city of 25,000 located about 45 minutes from Minneapolis. Bill had been in this position for six years and facilitated construction of a new library, several trail systems and 10 new parks. Prior to that he served as Parks and Public Works Director in Falcon Heights, a smaller community close to the University of Minnesota. Bill has a B.A. degree from the University of Minnesota and a Masters in Public Administration from Hamline University in Minneapolis.


Bill, Maertz, Director of Community Services

Bill and his wife of more than 20 years, have a son in his freshman year of high school and a daughter starting her freshman year in college.



Santee Sheriff Rolls Out Campaign to Educate Teen Drivers

A teenage driver's first year behind the wheel is the most dangerous. While a teenager is killed in a traffic collision every 70 minutes nationwide, approximately 375,000 teenagers are injured in traffic collisions annually, either while driving or as a passenger. Developed for new drivers, ages 15½ to 20 years old, the Start Smart Program focuses on the responsibilities and consequences of driving. The free, two-hour course is offered by the San Diego County Sheriff's Department. Santee Traffic Deputy Dan Wilson will instruct local classes at the Santee station.

Descriptions, testimonies and video of actual tragic situations set the serious tone of the class, as students develop safe driving habits and tips to avoid collisions. Participants learn the often devastating consequences of making a poor choice behind the wheel. Many parents who accompany their children have expressed that they also learn important facts.

Complementing the Start Smart Program is the County Teen Drinking and Driving Campaign which promotes alcohol and substance-free driving.

In conjunction with the trainings, School Resource Officers and Traffic Deputies have joined forces to conduct traffic details at local high schools to help integrate the message of safe driving in the schools.

The goal of these efforts is to eliminate deaths and injuries caused by teen drivers who are inattentive, inexperienced, or under the influence of alcohol or drugs. By emphasizing the responsibilities of both parents and teen drivers, this goal can come closer to reality with support from law enforcement, the community and schools.

Don't Text and Drive

The use of cell phones and text messaging has grown exponentially in recent years. Unfortunately, the dangers of texting while driving have also grown.

Texting has increasingly become the way to communicate for many people and the impulse to quickly read and respond to messages, even while driving, can be tempting. The statistics on the risks of texting and driving are clear -- when drivers send electronic text messages while driving, their attention is diverted from the road, making them 23 times more likely to be involved in an accident, according to the Virginia Tech Transportation Institute. A recent study found that 26% of American teen drivers admit they have texted while driving, and 48% of teens ages 12 to 17 say they have been a passenger while a driver has sent a text message.[1]

Texting while driving not only poses a hazard to other drivers, passengers and pedestrians, it is illegal. The message to all wireless users is simple: Don't text and drive! The City of Santee encourages everyone to take the following pledge:

- **Be smart.** Don't text and drive. No text message is worth getting into an accident.
- **Be in control.** You decide if and when to send and read a text message so take control. Consider turning off your phone, setting it to silent or set it aside before hitting the road.
- **Be caring.** Don't send a text message to someone who you know is driving.
- **Be an example.** Don't send the wrong signal by texting while you drive. Others will follow your example.

[1] Mary Madden and Amanda Lenhart, "Teens and Distracted Drivers," Pew Internet & American Life Project, November 2009. Available at: *http://www.pewinternet.org/Reports/2009/Teens-and-Distracted-Driving.aspx*





Social Host Ordinance Designed to Prevent Underage Drinking

Underage drinking can have devastating consequences, including alcohol-related traffic crashes, assaults and violence. Unfortunately, many of these incidents occur at private parties or when teenagers get in their cars to drive home after leaving a party where alcohol was consumed.

The City of Santee recently adopted a new social host ordinance, which imposes a duty on any person, parent or guardian who hosts a party or gathering to take reasonable steps to ensure that minors are not consuming alcohol, using marijuana or taking any other controlled substances.

This means adults will be cited if they furnish alcohol to minors at a gathering or if they observe minors drinking alcohol or using marijuana and do nothing to stop it. If someone shows up to your home with alcohol, marijuana or another controlled substance, or is intoxicated, you should contact the Sheriff's Department immediately by calling the dispatch center at (858) 565-5200.

Awards Recognize Community Assistance in Crime Prevention

Members of the City's Community Oriented Policing Committee (COMPOC) regularly acknowledge community members within Santee who demonstrate a strong commitment toward crime prevention. Certificates of appreciation over the past year have been awarded to:

- The City's Public Services Division who quickly respond and are dedicated to working with the Sheriff's Department on graffiti abatement.
- The Santee Costco for diligent enforcement of rules by employees regarding the sale of cigarettes and alcohol to individuals under the legal age.
- Michaels' Arts & Crafts store for adhering to requirements for securing spray paint to assist with preventing graffiti.
- Buck Wise Pawn Shop for assisting the Sheriff's Department in apprehending suspects of a stolen property investigation.
- Devan Henselmeier and Wyatt Smith, 5th grade students at Cajon Park Middle School, for their initiative to volunteer over spring break assisting the City in its efforts to identify and mitigate graffiti.

The City of Santee and COMPOC encourage citizens to be proactive and help prevent crime. For more information about COMPOC, visit the City's web page at *www.ci.santee.ca.us*. To report grafitti or vandalim in public spaces call (619) 258-4195.



12th Annual Pancake Breakfast

Hosted by the Santee Firefighters and San Diego County Sheriff's Department.

November 5-6 • 7:00 to 10:30 a.m.

Santee Fire Station 4 • 8950 Cottonwood Avenue

$4 for adults • $3 for Seniors 65+ and children under 10

Breakfast includes pancakes, sausage, eggs, coffee and juice

Proceeds go towards Santee families in need

door prizes!





Protecting Your Property from Fire and Erosion

With fire season upon us, the City needs your help in minimizing the risk of major wild fires. Vegetation on open lots should be mowed to a height of approximately four inches, with clippings left on top of the stubble to provide additional fire suppression. Dead shrubs, trees or limbs, and debris should be removed. Property owners should implement these measures a distance of one hundred feet from any structure and up to thirty feet along each side of roadways or driveways.

Completely removing vegetation is unattractive and unnecessary. Bare soil will wash away (erode) during winter storms causing loss of the top layer of rich organic matter that provides nutrients to plant life. Once topsoil has been removed, it will be difficult for plants to grow without the addition of soil amendments. Additionally, erosion can result in damage of property downgradient and potential pollution through the discharge of sediment to the river through the storm drain system. Blockages of the storm drain system may result in property damage and are costly to remove.

Mowing vegetation allows the plant roots to help hold the soil in place minimizing erosion. Protect your property from fire and erosion by ensuring that vegetation is mowed and not completely removed.

Warm Weather Brings Out Rattlesnakes

The warm temperatures in Santee means rattlesnakes are out of hibernation and most likely resting in bushes. Watch your step, especially when hiking near bushes and rocks, because startled rattlesnakes will strike.

To prevent snakebites keep children close by and dogs on a leash, especially when walking on trails. Never attempt to pick up a snake even if it looks dead.

Rattlesnakes are important members of the ecosystem as they help reduce the amount of mice, rats and other small animals. If they are disrupted or cornered, they will defend themselves, so give them space and respect.

Some interesting facts about rattlesnakes:

- They do not lay eggs like other snakes, but have their babies live.
- They are known to strike at distances of up to two-thirds their body length.
- If a rattlesnakes rattle absorbs enough water in wet weather, it will not make noise, which makes them even more dangerous.

Remember a bite from a rattlesnake is life threatening. If bitten, seek medical care immediately.



Hypodermic Needles Must be Properly Disposed

Since September 2008, home generated hypodermic needles, or sharps, have been forbidden in waste containers. The law prohibits the disposal of needles in any household trash can, including recycling or green waste bins. All home-generated sharps waste must be transported in an approved container and managed by a permitted hazardous or medical waste facility, or managed as part of a mail back program.

Waste Management, the City's franchise trash collector, has authorized containers at the Buyback Center in El Cajon for Santee residents to drop off sharps/needles free of charge. The Buyback Center is located at 925 O'Connor Street, located just southwest of the intersection of Bradley Avenue and Johnson Avenue. Residents can transport these items in their own containers to this location and then place them into the authorized containers during normal business hours, Monday through Friday, 8:00 a.m. to 2:00 p.m. Waste Management employees are not authorized or allowed to handle the sharps.

Another option of disposal is through a mail back system. Sharps mail-back programs provide individuals with a safe and convenient way of disposing used hypodermic needles through prepaid postage shipping containers delivered safely by the United States Postal Service to a certified medical waste facility where it is destroyed. Check with your local pharmacy or drug store for containers.

For more information, call Ed Ruiz, Senior Management Analyst at (619) 258-4100 ext. 128.



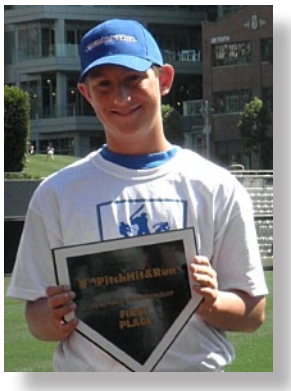
Local Youth Participated in Major League Baseball Competition

This past spring, 55 boys and girls ages 7 to 14 years old participated in the City of Santee Aquafina Pitch, Hit & Run competition at West Hills Park. The program is the official skills competition of Major League Baseball and is designed to provide youth with an opportunity to be recognized for the individual excellence in core baseball skills.

Thirteen finalists advanced from the local Santee competition, including Keegan Valdisera, Liam Dougherty, Abby Farr, Andrew Ritayik, Joseph Lopez, Matthew Ireland, Paul Anderson, Bradley Harris, Jared Bryant, Cody Pedrero, Nathan Temple, Shane Whittaker and Spencer Moyer.

A special congratulation goes out to Matthew Ireland and Nathan Temple who went on to finish first and third respectively, in their age divisions at the Padres Team Championship held at PETCO Park!

The local Aquafina Pitch, Hit & Run competition is hosted by the City of Santee Community Services Department each spring. For more information, contact (619) 258-4100 ext. 258.



First place winner Matthew Ireland

City and School District Work Together to Improve Chet F. Harritt Ball Field

The Santee School District recently completed the first phase of improvements on the Chet F. Harritt ball field complex in anticipation of the Santee Pioneer Little League move from the old Santee School site.

The project constructed a new ball field with sports field lighting that allows for a seamless connection to Chet F. Harritt School and diagonal parking off Mesa Road. The City contributed $274,000 towards the project through Community Development Block Grant funds. Following the completion of future phases to improve the existing ball fields and for school modernization, the facility will be linked to the adjacent Big Rock Park with accessible paths of travel providing access to recreational experiences not currently available at Big Rock Park.



The City of Santee and Waste Management Present

Community Holiday Lighting Celebration

Friday November 19 • 5:30 to 8:30 p.m.

Santee Trolley Square

9884 Mission Gorge Road • Santee, CA 92071

Join us in celebrating the City's 30th anniversary at the 8th annual Holiday Lighting Celebration at Santee Trolley Square. The event will be held on Friday, November 19 from 5:30 to 8:30 p.m. The event will include a tree lighting ceremony, ice skating attraction, a variety of free holiday festivities and entertainment for the entire family.

City of Santee Holiday Lighting & 30th Anniversary Celebration

1980-2010 City of Santee California Incorporated 1980 Celebrating 30 years of Progress

WM Waste Management





FREE!

For more information call the Special Event Hotline at **(619) 258-4100 ext. 201** or visit our website at **www.ci.santee.ca.us**.

Santee Trolley Square





Friends of Santee's River Park Day of Community Service

The Friends of Santee's River Park, a chapter of The San Diego River Park Foundation, hosted a conservation project and river cleanup at Town Center Community Park as part of the National Public Lands Day and Coastal Cleanup Day on September 25.

Tamarisk, also known as Salt Cedar, is an invasive nonnative tree that is damaging to our local ecosystem and provides little benefit to the birds and wildlife that live along the river. Tamarisk also poses a fire risk with its highly combustible needles and branches. At past events, volunteers have worked towards removing Tamarisk from the riverbed in Mast Park. This year efforts focused on the new Town Center Community Park.

At the same time, river clean up took place. According to Rob Hutsel, Executive Director of the River Park Foundation, "nearly 80% of the trash and debris found in the ocean or along the coast originates from a land based source. Trash and debris can enter into a creek or a river and eventually wash down to the ocean. Trash not only negatively affects our water quality but also degrades our quality of life and the overall health of our community."

East County residents joined the event to help remove detrimental invasive plants, trash and debris from the San Diego River in Santee.

About The San Diego River Park Foundation

The San Diego River Park Foundation's mission is to engage people to work toward a better future for the San Diego River and the creation of a 52 mile river parkway from the mountains to the ocean. The River Park Foundation is a non-profit community-based organization that was founded in 2001. Since its founding, it has grown in membership to more than 3,000 people and annually organizes volunteers who contribute more than 20,000 hours of service to the San Diego River corridor.

For more information please call the River Park Foundation office at (619) 297-7380 or email *volunteer@sandiegoriver.org*.

Community Native Planting Event

The Friends of Santee's River Park and the Santee Historical Society are asking for the community's help in planting a native plant garden on Saturday, November 20th at the Historic Edgemoor Polo Barn. Using plants and shrubs donated by Recon Native Plant Nursery, participants can help to improve the site with plantings that were commonly used by Santee's original residents and our local Native American tribes.

During San Diego River Days last May, over 300 volunteers worked to clear weeds and dead vegetation from the Barn property and prepare the site for a fall planting event.

The Historical Society is in the process of creating a museum, in the barn that is dedicated to the fascinating and colorful history of Santee. Through a partnership with the Santee Historical Society, the County of San Diego and City of Santee, the Friends of Santee's River Park will also utilize the barn as a meeting and community space, in return for helping to care for and maintain the grounds and landscaping around the Barn.

This fun, family friendly event will help preserve and enhance an important piece of our local history. All East County residents are welcomed to join in. To RSVP or for more information please call (619) 297-7380 or email *richard@sandiegoriver.org*.

The City of Santee is here to serve you. If you need information or have concerns, please feel free to contact us, either by phone or via the website.

Also, plan on attending a Council meeting. Santee's City Council typically meets the second and fourth Wednesday of every month at 7 p.m. in the Council Chamber located at City Hall. Meetings will be held on the second Wednesday in November and December.

City Council Highlights

February through July 2010

- Appointed Frank Bathrick to the Manufactured Home Fair Practices Commission, and Jessica Engelman to the Santee Park and Recreation Committee.
- Adopted a new Social Host Ordinance which requires hosts at all parties or gatherings to take all reasonable steps to ensure that minors do not consume alcoholic beverages, use marijuana or other controlled substances. The new ordinance also increases the penalties per violation to a minimum fine of $1,000 for first offense.
- Approved the following public service agencies for Community Development Block Grant (CDBG) funding: Santee Food Bank, Meals-on-Wheels, ElderHelp, YMCA, Crisis House, AYSO, Project Safe House, Santee Boys and Girls Club, Santee Santas, and Youth Football and Cheer.
- Adjourned in memory of Ken Collier, Santee Sheriff's Deputy, who died in the line of duty.
- Approved construction improvements adding concrete pathways, picnic table concrete pads, and a complete irrigation system for Town Center Community Park West.
- Adjourned in memory of Pastor Donald C. Hamer, Chairman of the Santee Human Relations Advisory Board.
- Presented a Proclamation to the Santana High School Academic League Varsity Team and West Hills High School Academic League Junior Varsity Team for each achieving a perfect record of ten wins and zero losses for the 2009-2010 season.
- Introduced 2010 Miss Santee Kimberly Swank and Miss Santee Teen Taylor Shelton.
- Received a Proclamation from the California Department of Forestry and Fire Protection recognizing the City of Santee as a Tree City USA for 2009, making it the eighth year Santee has received this national recognition.
- Proclaimed May as Drowning Prevention Month.
- Designated the week of May 17, 2010 as Bike to Work Week and May 21, 2010 as Bike to Work Day.
- Adopted an amendment to the juvenile curfew Ordinance changing curfew hours to 10:00 p.m. year round.
- Adjourned in memory of Carole Elizabeth Montague.
- Adopted a Resolution promoting safe driving in the City of Santee and educating the public about the dangers of texting while driving.
- Approved the installation of stop signs on Crystal Springs Road at Collinwood Drive; De Vos Drive at Wethersfield Road and Kaschube Way; and Settle Road at Carrie Ellen Court, Fenway Road, and Penmar Road.
- Proclaimed July as Parks and Recreation month.
- Adopted an Ordinance extending an interim Urgency Ordinance, which imposes a moratorium on the establishment and operation of medical marijuana dispensaries for an additional 12 months.

The City of
Santee

City Hall
10601 Magnolia Ave.
Santee, CA 92071
(619) 258-4100
www.ci.santee.ca.us

We honor the public trust and inspire pride in our community by providing quality services and programs to promote economic prosperity, safety, social well being and a healthy environment.

The City of Santee does not discriminate on the basis of race, color, religion, national origin, sex, sexual orientation, disability, marital status, pregnancy, or age with regard to admission, access to, treatment, or employment in City programs or activities.

ATTACHMENT 12.1

ADDITIONAL STUDY

CITY OF SANTEE
2010 ADDITIONAL STUDY
RIVERS AND CREEKS






Submitted to:

City of Santee
Development Services
10601 Magnolia Avenue
Santee, CA 92071-1266

Prepared by:

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D-MAX Engineering, Inc.

Consultants in Water & Environmental Sciences

March 7, 2011
Project No. 201022W-4

Ms. Helen Perry
Storm Water Program Manager
City of Santee
10601 Magnolia Avenue
Santee, CA 92107-1266

Re: City of Santee 2010 Additional Study, Rivers and Creeks

Dear Ms. Perry:

Enclosed please find our report for the City of Santee 2010 Additional Study. This report presents the results of two round of monitoring conducted at five river and creek locations in the City of Santee during the 2010 dry weather season. The contents include field screening data and analytical laboratory test results, historical data, and photographs of sampling locations.

Review comments from the draft report submitted to the City have been incorporated into this final report. It has been our pleasure working with the City of Santee on this project.

Sincerely,
D-MAX Engineering, Inc.



Sara Dadkhah
Assistant Project Scientist

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Table of Contents

Section **Page**

EXECUTIVE SUMMARY ..... **ES**

1 INTRODUCTION **1**
1.1 Objective 1
1.2 Geographical Setting 1
1.3 303(d) Listings 1
1.4 Monitoring Locations 1

2 FIELD AND LABORATORY ANALYTICAL METHODS **4**
2.1 Field Screening Procedures 4
2.2 Laboratory Analytical Methods 5

3 FIELD SCREENING RESULTS **7**
3.1 Qualitative Observations 7
3.2 Field Analytical Results 9

4 LABORATORY ANALYTICAL RESULTS **12**
4.1 Summary 12

5 DATA ANALYSIS **15**

6 REFERENCES **20**

TABLES
1-1 2010 River and Creek Monitoring Stations
2-1 Field Analytical Methods
2-2 Laboratory Analytical Methods
3-1 Field Observations – Round One
3-2 Field Observations – Round Two
3-3 Statistical Summary of Field Analytical Results – Round One
3-4 Statistical Summary of Field Analytical Results – Round Two
3-5 Field Analytical Results – Round One
3-6 Field Analytical Results – Round Two
4-1 Laboratory Analytical Results – Round One
4-2 Laboratory Analytical Results – Round Two

FIGURES
1-1 City of Santee 2010 Additional Study Sampling Location Map
5-1 Additional Study Data: pH
5-2 Additional Study Data: Fecal Coliform Forester Creek
5-3 Additional Study Data: Fecal Coliform San Diego River
5-4 Additional Study Data: Fecal Coliform Sycamore Creek

APPENDICES
A Historical Monitoring Data
B Photographs of Sampling Locations
C Laboratory Analytical Reports
D Field Data and Trash Assessment Sheets

EXECUTIVE SUMMARY

The purpose of the City of Santee Rivers and Creeks Additional Study is to evaluate water quality in the City's major receiving waters, and to assess changes in water quality as flow passes through urbanized areas. The City has monitored five receiving water sites, including Forester Creek Downstream and Upstream, San Diego River Downstream and Upstream, and Sycamore Creek Downstream, twice per year since 2002.

Several enhancements were made to the program in 2010:

- A project-specific Quality Assurance Project Plan was developed to ensure compatibility of collected data with the State's Surface Water Ambient Monitoring Program.
- In light of proposed Clean Water Act Section 303(d) listings, the City elected to monitor receiving waters for selenium. Water samples from each site were analyzed for total selenium concentrations using two different methods. Results from all selenium analyses were below San Diego Basin Plan water quality objective (WQO).
- Sulfate testing was also added to the program based on findings that sulfate concentrations displaying an effect on the availability and toxicity of selenium in water. All sulfate results were below the WQO.

Notable findings from this year's program include:

- Total dissolved solids (TDS) exceeded the WQO at both Forester Creek sites and at the San Diego River Downstream site during the two rounds of sampling. Sycamore Creek Downstream also had a TDS exceedance during Round Two.
- *Enterococcus* and fecal bacteria were above WQOs at Forester Creek Upstream during both rounds of sampling. Only Enterococcus was elevated at Forester Creek Downstream during one round of sampling. These data indicate that bacteria levels decrease in Forester Creek after traveling through the City of Santee.
- Concurrent with historical findings, no pH values exceeded WQOs at any of the water bodies assessed.

1 INTRODUCTION

1.1 Objective

The objective of the City of Santee Rivers and Creeks Additional Study (Additional Study) is to evaluate water quality in the San Diego River, Forester Creek, and Sycamore Creek within the City of Santee (City) and to assess any changes in water quality as the waterbodies flow through urbanized areas of the City. This Additional Study is not performed in response to any specific regulatory requirement. However, water samples taken from these receiving waterbodies will be compared to the pertinent water quality objectives (WQO), as listed in the Water Quality Control Plan for the San Diego Basin 9 (Basin Plan)

The City has conducted a study of its receiving waterbodies twice each year since 2002 to establish a baseline historical data set against which to compare future monitoring results to help comply with total maximum daily loads and other applicable requirements. Historical monitoring data is included as Appendix A to this report. Two rounds of Additional Study monitoring were conducted concurrently with the 2010 Dry Weather Field Screening and Analytical Monitoring Program in May and September of 2010.

1.2 Geographical Setting

The City of Santee is located entirely within the San Diego River Watershed, Hydrologic Unit (HU) 907. The largest receiving waterbody in the City is the San Diego River, which enters the City in the east and flows west towards the Pacific Ocean. Other major receiving waterbodies include Forester Creek and Sycamore Creek, both of which eventually drain to the San Diego River. Forester Creek enters the City from the southeast and drains into the San Diego River at a location west of Carlton Hills Boulevard. Sycamore Creek enters the City from the north, flows southward, entering the San Diego River just west of Santee Recreation Lakes. All storm water drainage in the City of Santee is routed either directly or indirectly to these creeks and ultimately to the San Diego River. The entire City of Santee, along with the whole of the City of El Cajon and portions of the cities of La Mesa, San Diego, and Poway, lie within the Lower San Diego River Hydrologic Area (HA) 907.1.

1.3 303(d) Listings

Portions of the San Diego River and Forester Creek have been placed on the Clean Water Act Section 303(d) list of impaired waters. In November 2010, the State Water Resources Control Board adopted the 2008 Section 303(d) list identifying parts of the lower San Diego River as impaired for *Enterococcus*, fecal coliform, low dissolved oxygen, manganese, nitrogen, phosphorus, total dissolved solids, and toxicity. Portions of Forester Creek have been listed for fecal coliform, selenium, total dissolved solids, and pH. These listings still require approval by the Environmental Protection Agency.

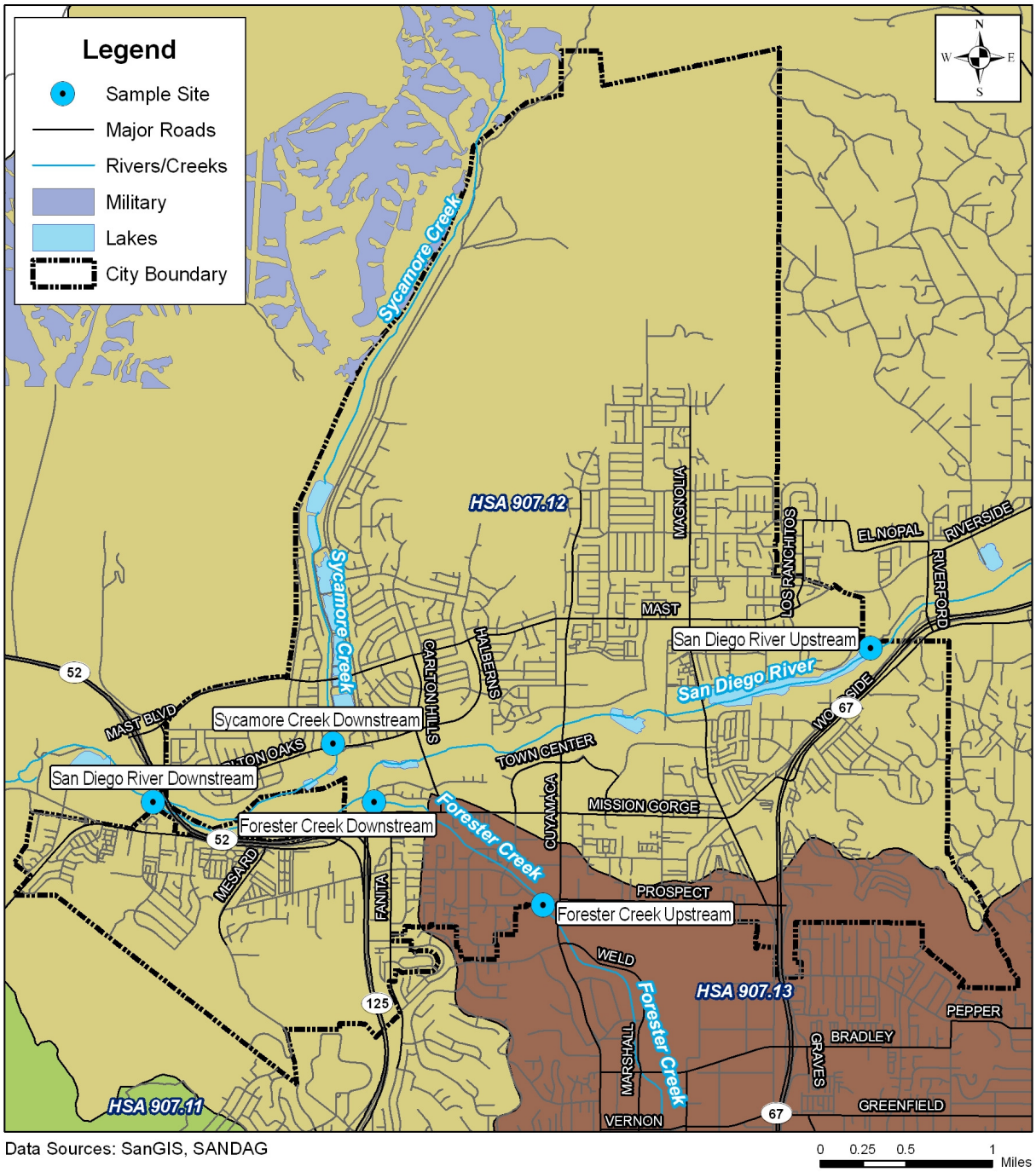
1.4 Monitoring Locations

The five monitoring sites selected for the Additional Study are presented in Table 1-1. The table provides the site number, location, conveyance configuration, land uses, hydrologic subarea, and GPS coordinates of each sampling locations. A map of sampling locations is included as Figure 1-1. Photographs of sampling locations are included in Appendix B.

TABLE 1-1
2010 RIVER AND CREEK MONITORING STATIONS

Site Name	Location	Conveyance	Primary Land Use	Secondary Land Use	Hydrologic Subarea	Latitude	Longitude
Forester Creek Downstream	Approximately 200 feet north of the Mission Gorge Road and Fanita Drive intersection, east of Fanita Creek	Natural Creek	Open	Commercial	907.12	32.83953	-117.00241
Forester Creek Upstream	Beneath the Prospect Avenue bridge, west of Cuyamaca Street	Concrete Channel	Industrial	Commercial	907.13	32.83093	-116.98543
San Diego River Downstream	Beneath the West Hills Parkway bridge	Natural Creek	Open	Residential	907.12	32.83936	-117.02450
San Diego River Upstream	Approximately 200 feet downstream of the rock dam at the east end of the RCP service road.	Natural Creek	Open	Industrial	907.12	32.85282	-116.95281
Sycamore Creek Downstream	Beneath the Carlton Oaks Drive bridge, west of the Santee Recreation Lakes	Natural Creek	Open	Residential	907.12	32.84441	-117.00652

FIGURE 1-1
CITY OF SANTEE 2010 ADDITIONAL STUDY SAMPLING LOCATION MAP



2 FIELD AND LABORATORY ANALYTICAL METHODS

2.1 Field Screening Procedures

Field screening techniques consist of qualitative field observations, flow measurement, and quantitative field analyses of selected water quality parameters. Weather conditions and time since last rainfall are recorded as well. Specific observations and results of the field water quality analyses are documented on field data sheets, which serve as a record of the field visit and are included in Appendix D.

A Quality Assurance Project Plan (QAPP) was developed in 2010 describing the Quality Assurance/Quality Control (QA/QC) procedures associated with the project. The QAPP helps ensure that sampling is compatible with the State of California Surface Waters Ambient Monitoring Program (SWAMP) requirements for data quality.

Field screening and analyses were conducted according to the following procedures and methods.

Qualitative Observations

Qualitative field observations include a general site assessment and description of water odor, clarity, the presence of floatable materials, visible deposits or stains, and organisms. Each field screening location is photographed to document site conditions. Photographs are included in Appendix B.

Flow Measurement

Flow measurements can be used to estimate pollutant mass loading. The field method used to estimate the flow rate in this study will consist of measuring the velocity, depth, and width of the flowing water, where feasible.

Field Water Quality Analyses

At each site, water samples were collected and analyzed in the field for the following constituents:

- Temperature
- pH
- Specific Conductance
- Dissolved Oxygen

The methods used to perform the above field analyses, along with the reporting limit, range, and accuracy of each method, are listed in Table 2-1.

TABLE 2-1
FIELD ANALYTICAL METHODS

Parameter	Method*	Method Reporting Limit	Range	Accuracy
Temperature	Hanna Instruments HI 991301 Portable pH/EC/TDS/Temperature Meter	0.1°C	0.0°C – 60.0°C	± 0.5°C
pH	Hanna Instruments HI 991301 Portable pH/EC/TDS/Temperature Meter	0.01	0.00 – 14.00	± 0.01
Specific Conductance	Hanna Instruments HI 991301 Portable pH/EC/TDS/Temperature Meter	0.01 mS/cm	0 – 20 mS/cm	± 2% of FS[1]
Dissolved Oxygen	Hanna Instruments HI 9145 Portable Dissolved Oxygen Meter	0.00 mg/L	0.00 to 45.00 mg/L	± 1.5% of range

Notes:
EC = electrical conductivity
TDS = total dissolved solids
mS/cm = millisiemens per centimeter
°C = Degrees Celsius
[1] Functional sensitivity (FS) represents the lowest limit at which quantitative information is reliable. FS is estimated as the mean concentration for a spiked sample whose coefficient of variance (CV) is 20%. CV is the standard deviation divided by the mean.
*Test method information taken from Hanna Instruments manuals, available online at www.hannainst.com.

2.2 Laboratory Analytical Methods

At each site, samples were collected in sterile bottles for transport to the laboratory for analysis. Samples were submitted to EnviroMatrix Analytical, Inc, a laboratory certified by the California Department of Health Services, for analysis of the following constituents:

- Nitrate/Nitrite as N
- Total Kjeldahl Nitrogen
- Total Nitrogen
- Orthophosphate as P
- Total Phosphorus
- Total Dissolved Solids
- Sulfate
- Total Selenium
- Total Coliform bacteria
- Fecal Coliform bacteria
- *Enterococcus* bacteria

The methods used to perform each of the above analyses along with method reporting limits and holding times are listed in Table 2-2. Water samples were collected, placed on ice in a cooler, and then submitted to the analytical laboratory within four hours of sampling to ensure that water samples for total coliform, fecal coliform, and *Enterococcus* tests met standard bacteria holding time requirements.

TABLE 2-2
LABORATORY ANALYTICAL METHODS

Analyte	Analytical Method	Method Reporting Limit	Maximum Holding Time
Nitrate/Nitrite as N	SM4500 NO_3 E	0.05 mg/L	48 hours
Total Kjeldahl Nitrogen	SM4500 N C	0.5 mg/L	28 days
Total Nitrogen	Calculation*	0.5 mg/L	na
Orthophosphate as P	SM4500 P E	0.05 mg/L	48 hours
Total Phosphorus	SM4500 P B, E	0.05 mg/L	28 days
Total Dissolved Solids	SM2540 C	20 mg/L	7 days
Sulfate	SM4500 SO_4 E	5.0 mg/L	28 days
Total Selenium	EPA 200.8	0.5 µg/L	6 months
Total Coliforms	SM 9221 B, E	2 MPN/100 mL	6 hours
Fecal Coliforms	SM 9221 B, E	2 MPN/100 mL	6 hours
Enterococcus	SM 9230 A, B	2 MPN/100 mL	6 hours

Notes:
MPN/100 mL = most probable number (of colony-forming units) per 100 milliliters
na = not applicable
EPA = Environmental Protection Agency
* Total Nitrogen is calculated as the sum of Nitrate/Nitrite as N and Total Kjeldahl Nitrogen

For the 2010 Additional Study, total selenium was prepared, digested, and analyzed twice: once per standard EPA Method 200.8 and once using a modified method in which only nitric acid is used in the digestion (i.e., without hydrochloric acid). An analysis was conducted to identify if differences between the methods were statistically significant. The results of this analysis are discussed in Section 5.

3 FIELD SCREENING RESULTS

3.1 Qualitative Observations

Round One

During Round One, all site visits were performed under overcast conditions. All water samples collected were clear, odorless, and colorless. Trash was only observed floating on the surface of the water at Forester Creek Downstream. Normal vegetation was observed at all sites except Forester Creek Upstream, which is concrete-lined and therefore lacks vegetation. Algae were present at Forester Creek Upstream and at Sycamore Creek Downstream, and insects were observed at San Diego River Upstream. No additional biota was observed during Round One.

Qualitative observations made during Round One are presented in Table 3-1.

Round Two

Light conditions were sunny during all site visits in Round Two. Again, all water samples were clear, odorless, and colorless. Forester Creek Upstream was the only site with bubbles/foam floating on the surface of the water. Normal vegetation was observed at all sites except Forester Creek Upstream (lined with concrete) and San Diego River Downstream, which both lacked vegetation. Aquatic organisms were present at all sites and included combinations of insects, algae, fish, and crayfish.

Qualitative observations made during Round Two are presented in Table 3-2.

TABLE 3-1
FIELD OBSERVATIONS – ROUND ONE

Site	Date	Time	Light Conditions	Odor	Color	Clarity	Floatables	Deposits	Vegetation	Biology
Forester Creek Downstream	5/17/10	14:50	Overcast	None	None	Clear	Trash	Sediment, Fine Particulates	Normal	None
Forester Creek Upstream	5/17/10	12:30	Overcast	None	None	Clear	None	Fine Particulates	None	Algae
San Diego River Downstream	5/17/10	13:45	Overcast	None	None	Clear	None	Sediment, Gravel	Normal	None
San Diego River Upstream	5/17/10	10:50	Overcast	None	None	Clear	None	Sediment, Gravel	Normal	Insects
Sycamore Creek Downstream	5/17/10	15:40	Overcast	None	None	Clear	None	Sediment, Gravel	Normal	Algae

TABLE 3-2
FIELD OBSERVATIONS – ROUND TWO

Site	Date	Time	Light Conditions	Odor	Color	Clarity	Floatables	Deposits	Vegetation	Biology
Forester Creek Downstream	9/15/10	11:50	Sunny	None	None	Clear	None	Sediment, Gravel, Fine Particulates	Normal	Algae, Fish
Forester Creek Upstream	9/15/10	11:00	Sunny	None	None	Clear	Bubbles, Foam	Sediment, Gravel, Fine Particulates	None	Algae, Crayfish
San Diego River Downstream	9/15/10	12:30	Sunny	None	None	Clear	None	Sediment, Gravel, Fine Particulates	None	Insects, Algae
San Diego River Upstream	9/15/10	9:50	Sunny	None	None	Clear	None	Sediment, Gravel, Fine Particulates	Normal	Insects, Algae
Sycamore Creek Downstream	9/16/10	9:25	Sunny	None	None	Clear	None	Sediment, Gravel, Fine Particulates	Normal	Insects, Algae

3.2 Field Analytical Results

Descriptions of the field constituents measured during field monitoring are provided below.

Flow measurements can help estimate pollutant mass loading. Field methods include measuring the velocity, depth, and width of the flowing water to calculate the flow rate.

Water temperature is needed to assess the significance of other parameters, such as pH and conductivity. Also, the aquatic habitat must remain within a certain temperature range in order to sustain sensitive aquatic life.

The **pH** is an expression of acidity or alkalinity of a water sample. The pH of an aquatic system will affect a variety of chemical reactions, including the availability of nutrients and the solubility of chemical substances, particularly heavy metals.

Specific Conductance (Conductivity) measurements indicate the total concentration of ions in an aquatic system and the ability of the water to conduct electricity. This parameter can be used to assess the mineral content of water and potentially indicate the presence of dissolved pollutants.

Dissolved Oxygen measurements indicate the amount of gaseous oxygen (O_2) dissolved in the water. Photosynthesis by aquatic biota and diffusion from the surrounding air are the processes responsible for oxygen input. Oxygen depletion can be detrimental to aquatic life and is often caused by the decomposition of organic material. Excessive algal growth due to nutrient enrichment is frequently the source of decomposing material. Higher values of dissolved oxygen often correspond with lower temperatures.

Statistical summaries of field analytical data are presented in Table 3-3 for Round One data and 3-4 for Round Two data. Complete field analytical results are presented in Table 3-5 for Round One data and Table 3-6 for Round Two data.

TABLE 3-3
STATISTICAL SUMMARY OF FIELD ANALYTICAL RESULTS – ROUND ONE

Parameter	Maximum	Minimum	Mean	Median
Flow (gpm)	1212	166	575.6	586.0
Temperature (°C)	21.0	19.0	20.3	20.5
pH	8.3	7.8	7.9	7.8
Specific Conductance (mS/cm)	2.76	1.09	2.03	2.05
Dissolved Oxygen (mg/L)	9.68	6.10	7.78	7.89

TABLE 3-4
STATISTICAL SUMMARY OF FIELD ANALYTICAL RESULTS – ROUND TWO

Parameter	Maximum	Minimum	Mean	Median
Flow (gpm)	188.5	25	78	58
Temperature (°C)	28.9	20.1	23.0	21.3
pH	8.0	7.0	7.4	7.4
Specific Conductance (mS/cm)	2.83	1.89	2.42	2.71
Dissolved Oxygen (mg/L)	7.72	5.12	6.28	5.66

.

TABLE 3-5
FIELD ANALYTICAL RESULTS – ROUND ONE

Site	Date	Time	Flow (gpm)	Temp. (ºC)	pH	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)
Forester Creek Downstream	5/17/10	14:50	654	20.5	7.8	2.76	7.89
Forester Creek Upstream	5/17/10	12:30	586	20.2	8.3	2.73	9.68
San Diego River Downstream	5/17/10	13:45	1212	19.0	7.8	2.05	6.95
San Diego River Upstream	5/17/10	10:50	166	21.0	7.9	1.50	8.27
Sycamore Creek Downstream	5/17/10	15:40	260	20.7	7.8	1.09	6.10
Water Quality Objective (WQO)			*	*	**> 6.5, < 9.0**	**20**	**5.0**

Note: * No established WQO

TABLE 3-6
FIELD ANALYTICAL RESULTS – ROUND TWO

Site	Date	Time	Flow (gpm)	Temp. (ºC)	pH	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)
Forester Creek Downstream	9/15/10	11:50	69	20.8	7.6	2.75	5.66
Forester Creek Upstream	9/15/10	11:00	49	28.9	8.0	2.71	7.72
San Diego River Downstream	9/15/10	12:30	188.5	21.3	7.4	2.83	5.12
San Diego River Upstream	9/15/10	9:50	25	23.8	7.2	1.89	7.68
Sycamore Creek Downstream	9/16/10	9:25	58	20.1	7.0	1.93	5.21
Water Quality Objective			*	*	**> 6.5, < 9.0**	**20**	**5.0**

Note: * No established WQO

4 LABORATORY ANALYTICAL RESULTS

4.1 Summary

Descriptions of the laboratory constituents for analytical monitoring conducted during both rounds are shown below.

Nitrate/Nitrite as N is the form of nitrogen most available for uptake in chemical reactions. Nitrate/nitrite as N is a component of the total nitrogen.

Total Kjeldahl Nitrogen (TKN) is composed of organic nitrogen, ammonia, and ammonium and encompasses all components of the total nitrogen not available as nitrate or nitrite.

Total Nitrogen is the sum of nitrate/nitrite as N and total Kjeldahl nitrogen, described above. High levels of nitrogen may be indicative of nutrient pollution from agricultural or household fertilizer runoff. High nitrate levels can contribute to excessive algal growth, resulting in oxygen depletion as algae decomposes, and may eventually suffocate other aquatic life.

Orthophosphate-phosphorus (orthophosphate-P) can also be an indicator of nutrient pollution from agricultural or household fertilizer runoff. Similar to nitrate/nitrite as N, orthophosphate-P pollution can cause nutrient enrichment, stimulate algal growth, and thus deplete oxygen in the water to levels that are dangerous for aquatic life. Even low levels of orthophosphate-P can cause significant algal growth, as it is commonly the limiting nutrient in plant growth.

Total Phosphorus is the total amount of phosphorus, including both orthophosphate and less reactive forms.

Total Dissolved Solids (TDS) measurements quantify the amount of dissolved minerals in water. Dissolved solids may originate from natural sources or be indicative of anthropogenic contribution. High levels of TDS can be toxic to aquatic life. In southern California, imported water may also be a source of TDS.

Sulfate is naturally occurring in most waterbodies. Within the San Diego region, sulfate primarily originates from the gypsiferous deposits and sulfide minerals associated with crystalline rocks. Sulfate is also a component of TDS.

Selenium is a naturally occurring element that can be toxic to aquatic life at high concentrations. Fish and invertebrates are primarily exposed to selenium through their diet, which bioaccumulates and can be passed to higher trophic levels, such as birds.

Coliform bacteria are relatively harmless to humans and are present in mammalian digestive tracts, most surface waters, and soils. Testing water samples for total coliform bacteria is a standard practice in public health. Total coliform is measured as an indicator of other more harmful pathogens, since these pathogens are generally present in much smaller quantities and are difficult to detect.

Fecal coliform, a subset of coliform bacteria, and ***Enterococcus*** are found primarily in the gastro-intestinal tracts of humans and animals and are commonly used as indicators of water contamination by fecal matter. Without the use of significantly more expensive methods, such as ribotyping, it is not possible to determine whether the source of fecal material is human or animal. Human fecal material is known to contain pathogens dangerous to humans, but the relationship between animal waste and threat to human health is less certain.

Complete laboratory analytical results are presented in Table 3-7 for Round One data and Table 3-8 for Round Two data. Laboratory reports are included in Appendix C.

TABLE 4-1
LABORATORY ANALYTICAL RESULTS – ROUND ONE

Site	Date	Time	Nitrate/Nitrite as N (mg/L)	Total Kjeldahl Nitrogen (mg/L)	Total Nitrogen (mg/L)	Orthophosphate as P (mg/L)	Total Phosphorus (mg/L)	Total Dissolved Solid (mg/L)	Sulfate (mg/L)	Total Selenium* (µg/L)	Total Selenium Modified* (µg/L)	Total Coliform (MPN/100 mL)	Fecal Coliform (MPN/100 mL)	*Enterococcus* (MPN/100 mL)
Forester Creek Downstream	5/17/10	14:50	4.3	1.2	5.5	0.09	0.21	**1,710**	446	2	2	17,000	300	40
Forester Creek Upstream	5/17/10	12:30	7.36	0.8	8.2	0.34	0.35	**1,660**	383	2	2	3,000	**2,300**	**500**
San Diego River Downstream	5/17/10	13:45	1.12	0.5	1.6	0.11	0.27	**1,280**	248	0.7	0.5	5,000	170	20
San Diego River Upstream	5/17/10	10:50	0.16	0.7	0.9	0.17	0.61	891	188	2	1	500	nd	20
Sycamore Creek Downstream	5/17/10	15:40	0.18	1.0	1.2	0.08	0.2	645	157	0.1 J	0.1 J	3,000	**1,100**	**170**
Reporting Limit			0.05	0.5	0.5	0.05	0.05	20	5.0	0.5	0.5	20[1]	20[1]	20[1]
Water Quality Objective			**10**[2]	[2]	[2]	[2]	[2]	**1,500/ 1,000**[3]	**500**	**5**	**5**	[4]	**400**[5]	**151**

Notes:
Bold font = at or above WQO
*Total selenium was analyzed twice: once per EPA Method 200.8 and once per EPA Method 200.8 modified. The modified EPA method did not use hydrochloric acid.
nd = not detected
J = Value reported is below the reporting limit; measurements have an increased percent error.
[1] The reporting limit for bacterial indicators was 20 MPN/100 mL (not 2 MPN/100 mL) during Round One only due to a laboratory miscommunication.
[2] Regional guidance suggests using the EPA's nutrient endpoint tool to determine the Water Quality Objective (WQO). This tool requires more data than what has been collected within the scope of this study.
[3] WQO varies by watershed. WQO for Forester Creek and San Diego River Upstream is 1,500 mg/L. WQO for San Diego River Downstream and Sycamore Creek Downstream is 1,000 mg/L.
[4] No established limit.
[5] All sites have a REC-1 beneficial use.

TABLE 4-2
LABORATORY ANALYTICAL RESULTS – ROUND TWO

Site	Date	Time	Nitrate/Nitrite as N (mg/L)	Total Kjeldahl Nitrogen (mg/L)	Total Nitrogen (mg/L)	Orthophosphate as P (mg/L)	Total Phosphorus (mg/L)	Total Dissolved Solid (mg/L)	Sulfate (mg/L)	Total Selenium* (µg/L)	Total Selenium Modified* (µg/L)	Total Coliform (MPN/100 mL)	Fecal Coliform (MPN/100 mL)	*Enterococcus* (MPN/100 mL)
Forester Creek Downstream	9/15/10	11:50	2.7	1.7	4.4	0.36	0.37	**1,740**	170	1	2	2,200	230	**800**
Forester Creek Upstream	9/15/10	11:00	6.28	1.8	8.1	0.1	0.12	**1,720**	165	2	2	5,000	**1,100**	**500**
San Diego River Downstream	9/15/10	12:30	0.93	1.7	2.6	0.21	0.22	**1,740**	354	0.7	0.6	5,000	50	13
San Diego River Upstream	9/15/10	9:50	0.1	1.1	1.2	0.1	0.2	1,150	265	2	3	170	2	2
*San Diego River ** Upstream Duplicate*	*9/15/10*	*10:00*	*0.12*	*1.3*	*1.4*	*0.09*	*0.15*	*1,190*	*264*	*2*	*3*	*800*	*nd*	*4*
Sycamore Creek Downstream	9/16/10	9:25	0.08	0.8	0.9	0.06	0.11	**1,140**	349	0.2 J	0.3 J	23,000	33	130
Reporting Limit			0.05	0.5	0.5	0.05	0.05	20	5.0	0.5	0.5	2	2	2
Water Quality Objective			**10**[1]	[1]	[1]	[1]	[1]	**1,500/ 1,000**[2]	**500**	**5**	**5**	[3]	**400**[4]	**151**

Notes:
Bold font = at or above WQO
☐ QA/QC duplicate sample
*Total selenium was analyzed twice: once per EPA Method 200.8 and once per EPA Method 200.8 modified. The modified EPA method did not use hydrochloric acid.
**Relative percent differences (RPD) for all laboratory constituents were within 25% RPD as indicated in the QAPP, with the exception of total phosphorus at 28.6%
nd = not detected
J = Value reported is below the reporting limit; measurements have an increased percent error.
[1] Regional guidance suggests using the EPA's nutrient endpoint tool to determine the WQO. This tool requires more data than what has been collected within the scope of this study.
[2] WQO varies by watershed. WQO for Forester Creek and San Diego River Upstream is 1,500 mg/L. WQO for San Diego River Downstream and Sycamore Creek Downstream is 1,000 mg/L.
[3] No established limit.
[4] All sites have a REC-1 beneficial use.

5 DATA ANALYSIS

This section provides an overall evaluation of historical trends for the Additional Study.

A portion of Forester Creek outside of the City of Santee has been listed as impaired for pH; however, no samples in the history of the Additional Study have had pH values exceeding the Basin Plan WQO. A graph of historical pH results at the receiving water locations is provided in Figure 5-1.

Figures 5-2, 5-3, and 5-4 present historical fecal coliform measurements for Forester Creek, San Diego River, and Sycamore Creek collected as part of the Additional Study. The measurements illustrate a decreasing trend in fecal coliform bacteria at all receiving water sites, with lower levels generally measured at downstream locations. These data indicate that the water quality of Forester Creek and San Diego River is improved after traveling through the City of Santee, since pollutant levels are consistently lower in the downstream reach compared to upstream.

Total Selenium Methods

Total selenium results were obtained using the EPA 200.8 method and the modified method. Results from all analyses indicated selenium levels below WQOs at all sampled sites. The differences between results obtained using the two methods were analyzed for statistical significance using the Wilcoxon Signed-Rank Test, a non-parametric statistical analysis, and a paired t-test. Based on the results of 11 paired samples, the statistical analyses identified the differences between samples as not considered statistically significant.

Figure 5-1
Additional Study Data: pH

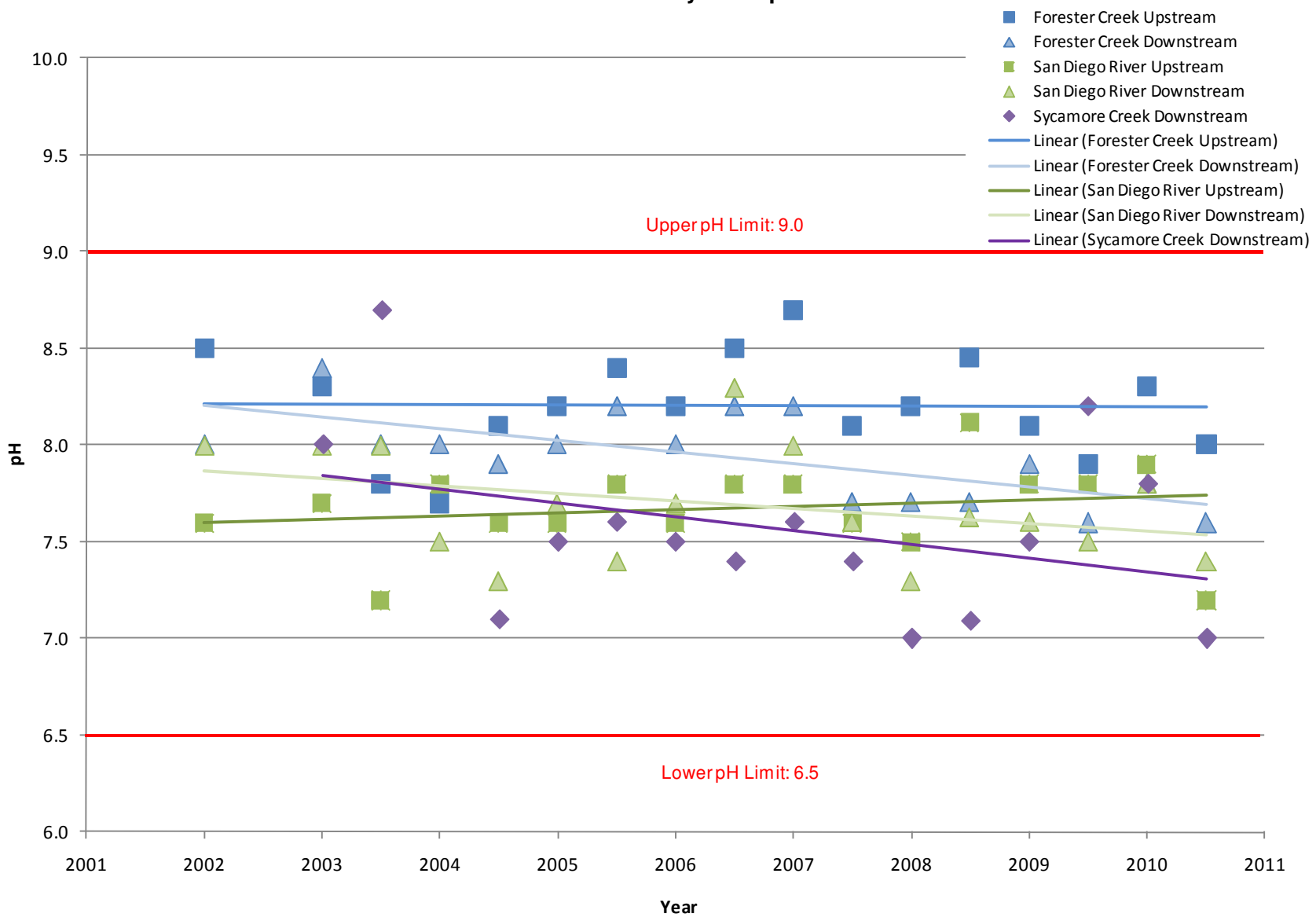


Figure 5-2
Additional Study Data: Fecal Coliform, Forester Creek

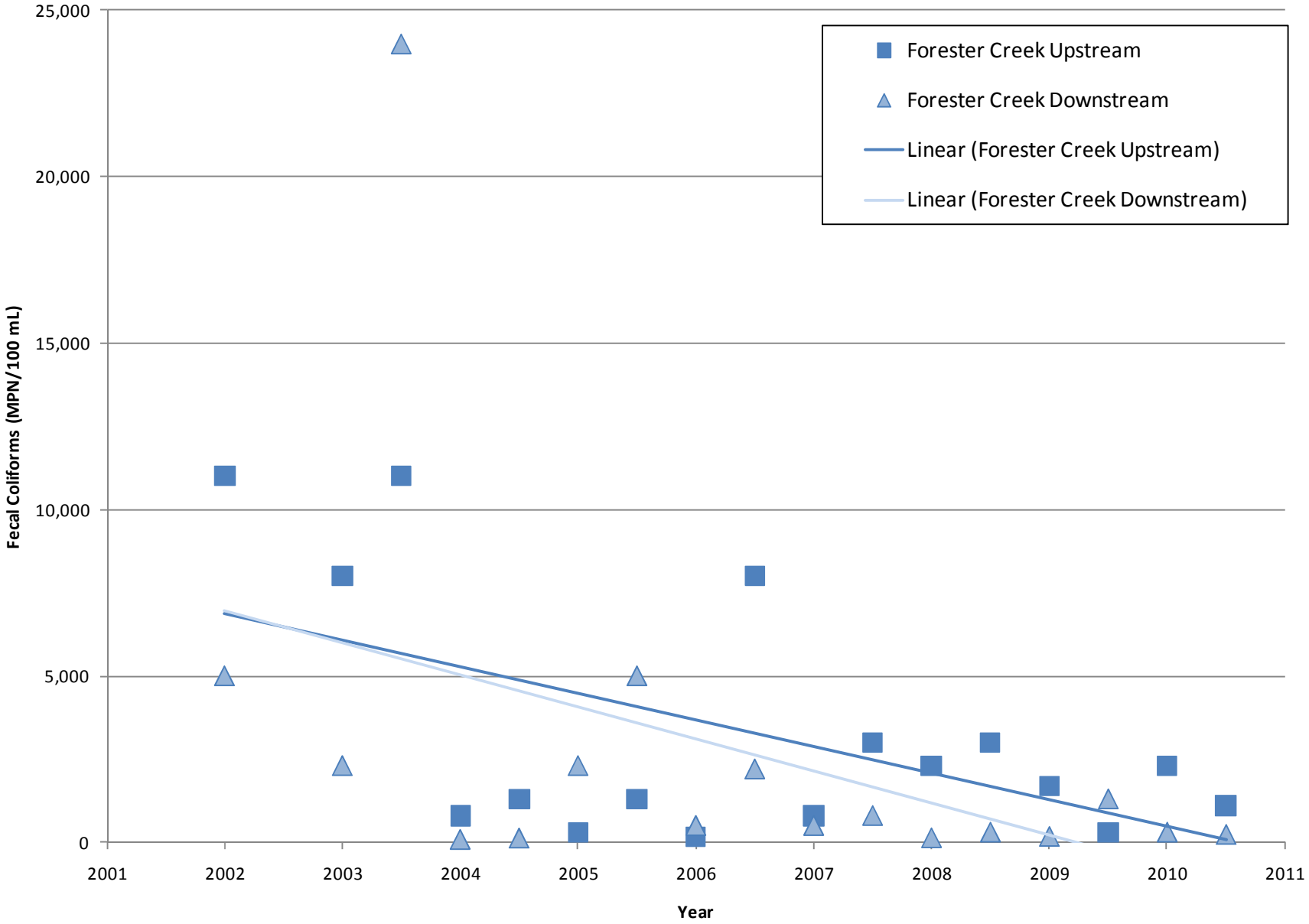


Figure 5-3
Additional Study Data: Fecal Coliform, San Diego River

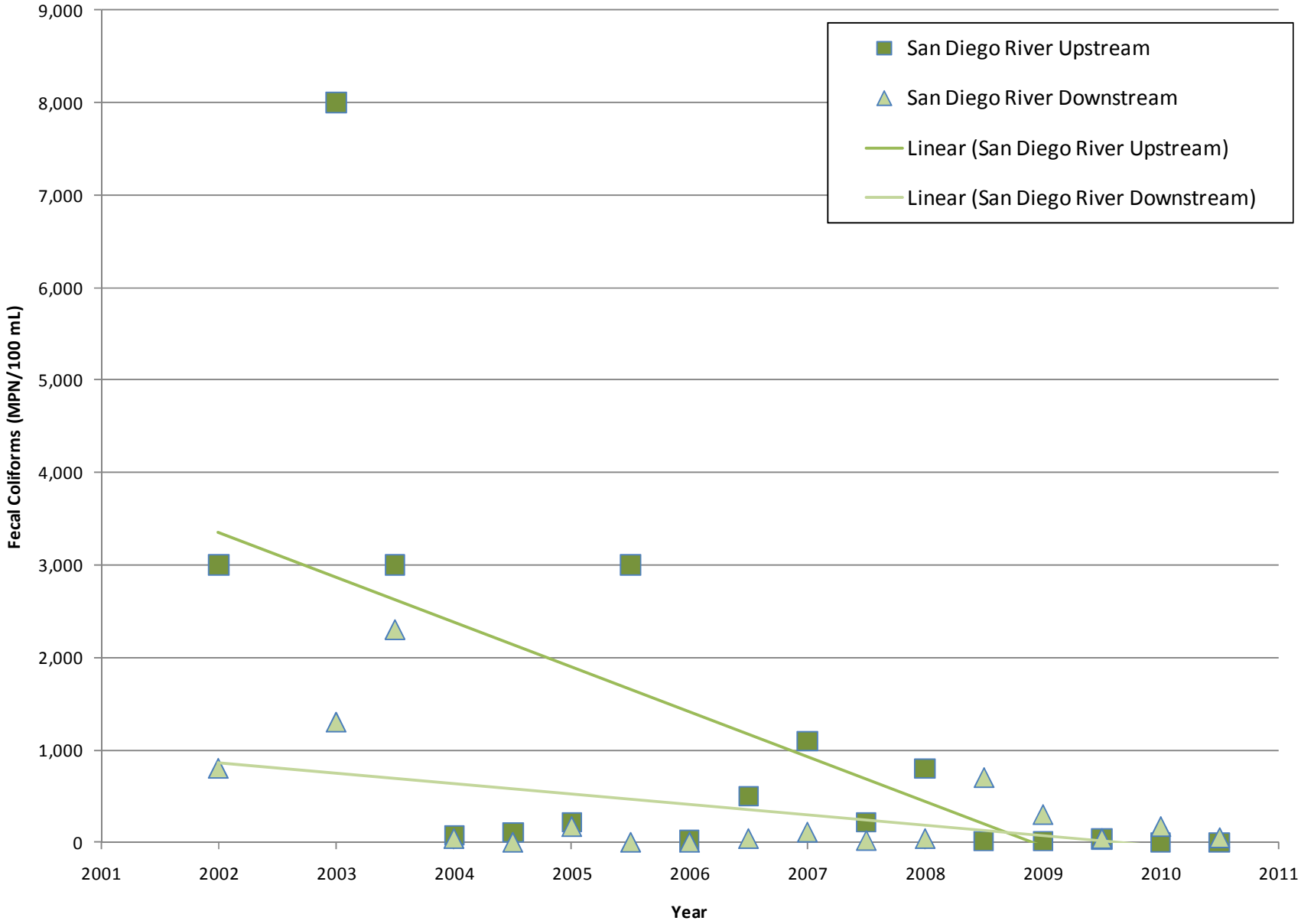
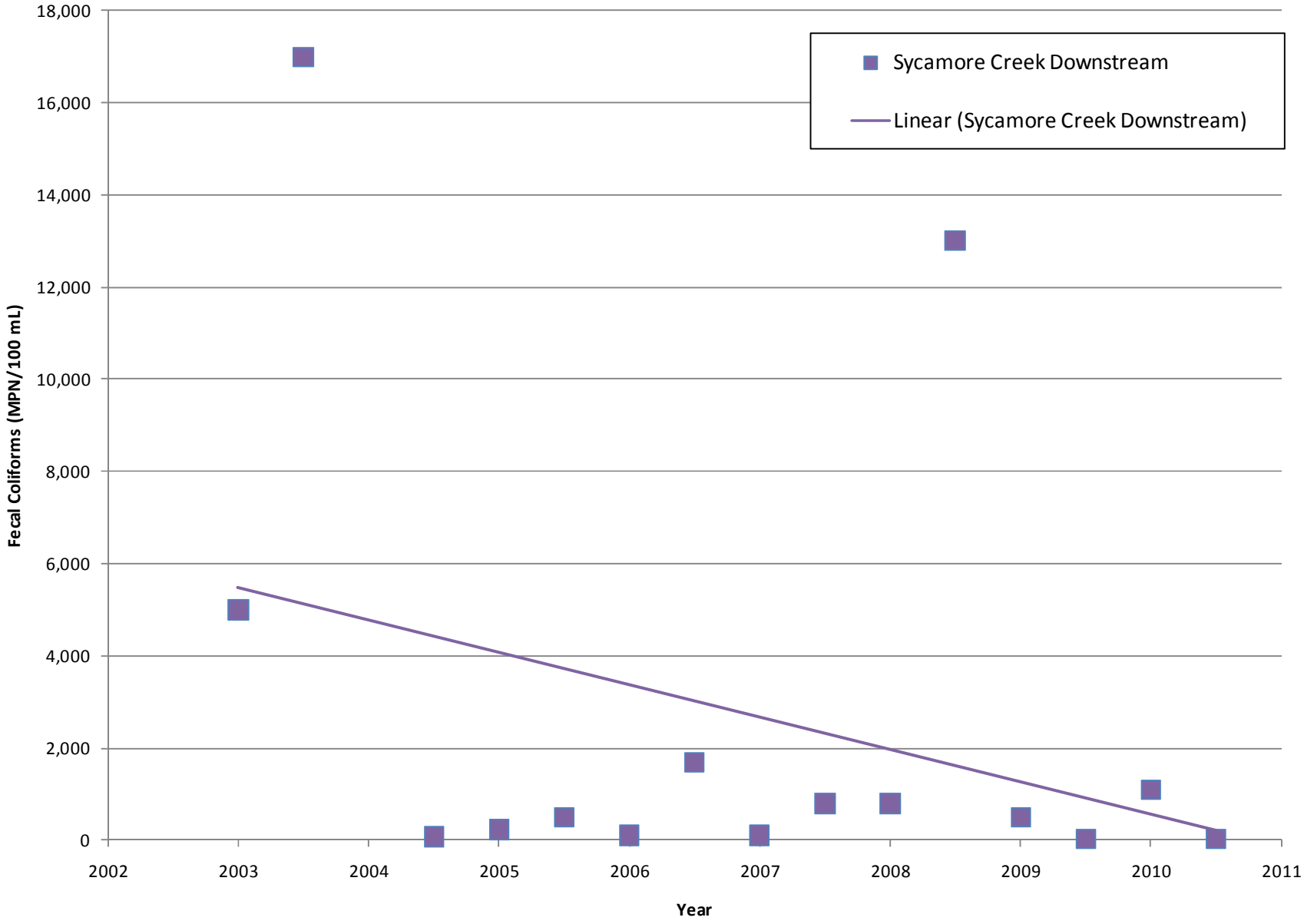


Figure 5-4
Additional Study Data: Fecal Coliform, Sycamore Creek



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State Water Resources Control Board. 2010. *2010 Integrated Report (Clean Water Act Section 303(d) List / 305(b) Report.* http://www.waterboards.ca.gov/water_issues/programs/tmdl/integrated2010.shtml.

VassarStats: Website for Statistical Computation. http://faculty.vassar.edu/lowry/wilcoxon.html.

Appendix A

Historical Monitoring Data

Historical Monitoring Data

Site	Date	Flow* (gpm)	Temp.	pH (°C)	Conductivity (mS/cm)	Turbidity (NTU)	Ammonia-N (mg/L)	Nitrate-N (mg/L)	Orthophosphate (mg/L mg/L PO4)	Orthophosphate-Phosphorus (mg/L PO4-P)	Surfactants- field test (mg/L MBAS)	Oil and Grease (mg/L)	Total Hardness (mg/L CaCO3)	Dissolved Cadmium (mg/L)	Dissolved Copper (mg/L)	Dissolved Lead (mg/L)	Dissolved Zinc (mg/L)	Diazinon (µg/L)	Chlorpyrifos (µg/L)	Total Coliform (MPN/100mL)	Fecal Coliform (MPN/100mL)	*Enterococcus* (MPN/100mL)	Surfactants - Lab test (mg/L MBAS)
2002																							
Forester Creek Downstream	9/3/2002	na	27.0	8.0	2.84	na	na	na	na	na	na	21.0	668	nd	nd	nd	nd	nd	nd	8,000	5,000	130	nd
Forester Creek Upstream	9/3/2002	233	32.0	8.5	2.67	na	na	na	na	na	na	14.0	587	nd	nd	nd	nd	nd	nd	22,000	11,000	170	nd
San Diego River Downstream	9/3/2002	144	25.0	8.0	2.79	na	na	na	na	na	na	22.0	709	nd	nd	nd	0.27	nd	nd	1,700	800	1,700	nd
San Diego River Upstream	9/3/2002	unmeasurable	25.5	7.6	2.11	na	na	na	na	na	na	4.00	557	nd	nd	nd	nd	nd	nd	5,000	3,000	80	nd
Sycamore Creek Downstream	9/4/2002	dry	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
2003 Round 1																							
Forester Creek Downstream	5/22/2003	unmeasurable	23	8.4	3.34	3.2	0.3	2	0.1	0.03	0.5	nd	585	nd	nd	nd	0.03	nd	nd	5,000	2,300	130	nd
Forester Creek Upstream	5/22/2003	548	21	8.3	3.60	0.92	0.2	4	0.1	0.03	0.25	nd	690	nd	nd	nd	0.021	nd	nd	17,000	8,000	130	nd
San Diego River Downstream	5/22/2003	3008	21	8	2.65	3.48	0.2	0.3	0.3	0.10	0.25	nd	549	nd	nd	nd	nd	nd	nd	2,200	1,300	210	nd
San Diego River Upstream	5/22/2003	unmeasurable	21	7.7	2.25	2.05	nd	0.2	0.2	0.07	0.25	nd	436	nd	nd	nd	nd	nd	nd	13,000	8,000	20	nd
Sycamore Creek Downstream	5/21/2003	100	25	8	1.77	0.11	0.1	0.2	0.2	0.07	0.25	15	299	nd	nd	nd	nd	nd	nd	8,000	5,000	70	nd
2003 Round 2																							
Forester Creek Downstream	9/17/2003	457	24	8.0	2.98	9.65	0.6	2.4	0.2	0.07	0.13	1	612	nd	nd	nd	nd	nd	nd	50,000	24,000	1,300	nd
Forester Creek Upstream	9/17/2003	254	21	7.8	2.96	3.98	0.3	8	0.1	0.03	0.25	nd	723	nd	nd	nd	nd	nd	nd	30,000	11,000	8,000	nd
San Diego River Downstream	9/17/2003	673	22.5	8.0	2.94	3.89	0.3	0.6	0.4	0.13	0.13	4	662	nd	nd	nd	nd	nd	nd	3,000	2,300	800	nd
San Diego River Upstream	9/17/2003	unmeasurable	23.5	7.2	2.24	16.66	0.3	0.2	2.0	0.65	0.13	2	609	0.006	nd	nd	nd	nd	nd	8,000	3,000	800	nd
Sycamore Creek Downstream	9/18/2003	187	20	8.7	2.21	4.82	0.3	0.2	0.1	0.03	0.25	2	430	nd	nd	nd	nd	nd	nd	30,000	17,000	1,700	nd
2004 Round 1																							
Forester Creek Downstream	7/15/2004	172	28	8.0	2.66	3.42	0.6	2.5	0.10	0.03	0.25	nd	709.0	nd	nd	nd	0.030	nd	nd	9000.0	80.0	40.0	nd
Forester Creek Upstream	7/15/2004	269	32	7.7	2.47	8.06	0.2	2.5	0.10	0.03	0.25	nd	660	nd	nd	nd	nd	nd	nd	8000	800	110	nd
San Diego River Downstream	7/15/2004	400	29	7.5	1.75	2.47	0.1	1.25	1.50	0.49	0.25	nd	596	nd	nd	nd	nd	nd	nd	2600	40	nd	nd
San Diego River Upstream	7/15/2004	unmeasurable	26	7.8	2.45	9.88	0.80	1.25	0.30	0.10	0.25	nd	694.00	nd	nd	nd	nd	nd	nd	1700.00	80.00	40.00	nd
Sycamore Creek Downstream	7/16/2004	Dry	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
2004 Round 2																							
Forester Creek Downstream	9/24/2004	203	21	7.9	2.87	17.79	0.3	2.5	0.2	0.07	0.25	nd	662	nd	nd	nd	0.026	nd	nd	11,000	120	300	nd
Forester Creek Upstream	9/24/2004	226	23	8.1	2.63	2.04	0.1	5	0.1	0.03	0.38	nd	645	nd	nd	nd	nd	nd	nd	14,000	1,300	270	nd
San Diego River Downstream	9/24/2004	269	20	7.3	2.00	6.3	0.1	nd	3	0.98	0.25	2	610	nd	nd	nd	0.031	nd	nd	700	nd	nd	nd
San Diego River Upstream	9/24/2004	unmeasurable	20	7.6	2.64	5.03	0.3	1.25	0.6	0.2	0.25	1	650	nd	nd	nd	nd	nd	nd	16,000	110	80	nd
Sycamore Creek Downstream	9/27/2004	20	20	7.1	2.09	4.46	0.3	nd	0.1	0.03	0.5	1	404	nd	nd	nd	nd	nd	nd	30,000	80	3,000	nd
2005 Round 1																							
Forester Creek Downstream	5/18/2005	na	21.3	8.0	2.56	7.85	0.2	7.50	0.10	0.03	0.25	nd	805	nd	nd	nd	nd	nd	nd	9,000	2,300	1,100	nd
Forester Creek Upstream	5/18/2005	na	20.6	8.2	2.86	1.48	0.2	6.25	0.10	0.03	0.25	nd	881	nd	nd	nd	nd	nd	nd	5,000	300	300	nd
San Diego River Downstream	5/18/2005	3861	24.0	7.7	1.44	5.70	0.1	1.25	0.10	0.03	0.25	nd	613	nd	nd	nd	nd	nd	nd	1,700	170	20	nd
San Diego River Upstream	5/18/2005	unmeasurable	21.7	7.6	2.22	4.59	0.10	2.50	0.60	0.20	0.25	nd	567	nd	nd	nd	nd	nd	nd	9,000	220	1,300	nd
Sycamore Creek Downstream	5/17/2005	na	22.9	7.5	1.61	8.76	0.2	1.25	0.1	0.03	0.25	nd	282	nd	nd	nd	nd	nd	nd	11,000	230	500	nd
2005 Round 2																							
Forester Creek Downstream	9/22/2005	468	23.4	8.2	2.66	6.68	0.3	5.00	0.10	0.03	0.38	nd	727	nd	nd	nd	nd	nd	nd	1,600,000	5,000	500	nd
Forester Creek Upstream	9/22/2005	316	24.2	8.4	2.65	5.24	0.3	7.5	nd	nd	0.5	nd	772	nd	nd	nd	nd	nd	nd	240,000	1,300	230	nd
San Diego River Downstream	9/22/2005	763	20.7	7.4	2.11	8.58	0.1	1.25	2.00	0.65	0.25	nd	653	0.005	nd	nd	nd	nd	nd	240,000	nd	500	nd
San Diego River Upstream	9/22/2005	unmeasurable	22.4	7.8	2.60	2.27	0.20	1.25	0.40	0.13	0.50	nd	733	nd	nd	nd	nd	nd	nd	80,000	3,000	40	nd
Sycamore Creek Downstream	9/26/2005	50	21.4	7.6	1.83	4.59	0.3	1.25	nd	nd	0.25	nd	373	nd	nd	nd	nd	nd	nd	130,000	500	500	nd
2006 Round 1																							
Forester Creek Downstream	5/18/2006	608	21.3	8.0	2.56	7.85	0.2	7.50	0.10	0.03	0.25	nd	740	nd	nd	nd	nd	nd	nd	80,000	500	170	nd
Forester Creek Upstream	5/18/2006	561	20.6	8.2	2.86	1.48	0.2	6.25	0.10	0.03	0.25	nd	692	nd	nd	nd	nd	nd	nd	6,000	170	20	nd
San Diego River Downstream	5/19/2006	2514	24.0	7.7	1.44	5.70	0.1	1.25	0.10	0.03	0.25	nd	448	nd	nd	nd	nd	nd	nd	13,000	nd	nd	nd
San Diego River Upstream	5/19/2006	unmeasurable	21.7	7.6	2.22	4.59	0.10	2.50	0.60	0.20	0.25	nd	608	nd	nd	nd	nd	nd	nd	50,000	20	40	nd
Sycamore Creek Downstream	5/19/2006	133	22.9	7.5	1.61	8.76	0.2	1.25	0.1	0.03	0.25	nd	370	nd	nd	nd	nd	nd	nd	170,000	110	700	nd
2006 Round 2																							
Forester Creek Downstream	9/25/2006	624	22.6	8.2	2.58	30.23	0.2	5.00	nd	nd	0.25	nd	683	nd	nd	nd	nd	nd	nd	80,000	2,200	1,700	nd
Forester Creek Upstream	9/25/2006	467	24.4	8.5	2.49	4.37	0.2	5	nd	nd	0.25	nd	641	nd	nd	nd	nd	nd	nd	30,000	8000	2300	nd
San Diego River Downstream	9/22/2006	1392	22.3	8.3	1.86	9.28	0.2	1.25	0.30	0.10	0.13	nd	528	nd	nd	nd	nd	nd	nd	800	40	20	nd
San Diego River Upstream	9/22/2006	unmeasurable	20.2	7.8	2.47	4.30	0.20	2.50	0.40	0.14	0.25	nd	614	nd	nd	nd	nd	nd	nd	13,000	500	230	nd
Sycamore Creek Downstream	9/22/2006	20	20.4	7.4	1.85	9.14	0.2	2.5	nd	nd	0.25	nd	345	nd	nd	nd	0.024	nd	nd	50,000	1,700	500	nd
2007 Round 1																							
Forester Creek Downstream	5/22/2007	655	18.1	8.2	2.45	25.94	0.5	4.57	0.30	0.10	0.25	nd	827	nd	nd	nd	nd	nd	nd	8,000	500	500	nd
Forester Creek Upstream	5/22/2007	585	19.3	8.7	2.49	2.55	0.1	4.93	nd	nd	0.25	nd	715	nd	nd	nd	nd	nd	nd	3,000	800	80	nd
San Diego River Downstream	5/22/2007	1392	20.8	8.0	1.69	3.94	nd	0.2	0.30	0.10	0.25	nd	601	nd	nd	nd	nd	nd	nd	1,700	110	nd	nd
San Diego River Upstream	5/22/2007	unmeasurable	18.2	7.8	2.31	8.29	0.20	1.88	0.30	0.10	0.25	nd	673	nd	nd	nd	nd	nd	nd	5,000	1,100	800	nd
Sycamore Creek Downstream	5/23/2007	156	19.7	7.6	1.48	9.57	0.1	0.16	0.2	0.07	0.25	nd	332	nd	nd	nd	nd	nd	nd	23,000	110	230	nd
2007 Round 2																							
Forester Creek Downstream	10/31/2007	234	17.7	7.7	2.66	10.21	0.3	2.31	0.50	0.16	0.38	nd	664	nd	nd	nd	nd	nd	nd	5,000	800	800	nd
Forester Creek Upstream	10/31/2007	148	16.5	8.1	2.65	1.58	0.1	4.72	0.10	0.03	0.5	nd	758	nd	nd	nd	nd	nd	nd	11,000	3,000	3,000	nd
San Diego River Downstream	10/30/2007	584	20.6	7.6	1.94	0.79	0.1	0.38	1.00	0.33	0.13	nd	567	nd	nd	nd	nd	nd	nd	1,300	20	40	nd
San Diego River Upstream	10/30/2007	unmeasurable	18.8	7.6	2.59	2.06	0.2	1.20	0.80	0.26	0.38	nd	626	nd	nd	nd	nd	nd	nd	1,300	220	700	nd
Sycamore Creek Downstream	10/31/2007	156	17.2	7.4	2.17	4.07	0.1	0.59	0.2	0.07	0.25	nd	448	nd	nd	nd	nd	nd	nd	5,000	800	300	nd

Historical Monitoring Data

Site	Date	Flow* (gpm)	Temp.	pH (°C)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Total Coliform (MPN/100mL)	Fecal Coliform (MPN/100mL)	*Enterococcus* (MPN/100mL)	Nitrate/ Nitrite as N	Total Kjeldahl Nitrogen (mg/L)	Total Nitrogen (mg/L)	Orthophosphate as P (mg/L)	Total Phosphorus (mg/L)	Total Dissolved Solids (mg/L)
2008 Round 1																
Forester Creek Downstream	5/28/2008	281	19.9	7.7	2.77	1.25	6.76	17,000	130	700	3.24	1.9	5.2	0.11	0.11	1760
Forester Creek Upstream	5/28/2008	213	23.0	8.2	2.53	16.20	9.30	30,000	2,300	500	5.16	2.7	7.8	0.05	0.06	1590
San Diego River Downstream	5/28/2008	1212	20.5	7.5	2.46	0.01	6.60	5,000	800	700	0.84	1.9	2.8	0.16	0.16	1510
San Diego River Upstream	5/28/2008	unmeasurable	18.2	7.3	1.84	2.40	7.44	500	40	nd	nd	1.5	1.5	0.18	0.19	1130
Sycamore Creek Downstream	5/29/2008	56	15.1	7.0	1.40	0.69	7.42	5,000	800	5,000	0.13	2.2	2.4	0.11	0.11	941
2008 Round 2																
Forester Creek Downstream	9/9/2008	359	22.9	7.7	2.78	7.98	6.46	13,000	300	2,300	0.99	2.1	3.1	0.32	0.33	1690
Forester Creek Upstream	9/4/2008	397	31.5	8.5	2.73	4.71	7.00	17,000	3,000	70	3.72	2.2	5.9	0.32	0.36	1650
San Diego River Downstream	9/4/2008	449	25.9	7.6	2.79	2.03	5.94	13,000	700	500	0.42	2.5	3	0.25	0.3	1790
San Diego River Upstream	9/4/2008	unmeasurable	30.8	8.1	1.87	7.62	8.56	300	nd	20	nd	2.9	2.9	0.08	0.08	1180
Sycamore Creek Downstream	9/9/2008	Ponded	28.4	7.1	2.70	31.71	5.51	130,000	80	130,000	nd	7.6	7.6	0.36	0.42	1700
2009 Round 1																
Forester Creek Downstream	5/19/2009	468	23.8	7.9	2.60	31.55	5.76	2,800	170	500	0.7	0.8	1.4	0.66	0.67	1560
Forester Creek Upstream	5/19/2009	355	27.9	8.1	2.84	6.14	8.86	3,500	1700	800	4.93	1.1	6	0.33	0.34	1830
San Diego River Downstream	5/19/2009	1,392*	22.0	7.6	2.60	5.89	6.28	30,000	300	130	1.93	0.8	2.7	0.09	0.1	1680
San Diego River Upstream	5/19/2009	Unmeasureable*	24.6	7.8	1.73	10.76	7.95	1,300	nd	20	nd	2.5	2.5	0.13	0.32	1230
Sycamore Creek Downstream	5/20/2009	Ponded	20.5	7.5	1.34	4.41	5.25	11,000	500	1,400	0.23	3.9	4.1	0.19	0.28	767
2009 Round 2																
Forester Creek Downstream	9/2/2009	94	26.6	7.6	2.97	7.61	5.56	11,000	1300	500	1.32	nd	1.6	0.12	0.25	1900
Forester Creek Upstream	9/2/2009	107	31.5	7.9	2.81	3.9	8.73	2,300	300	40	3.36	0.6	4	0.05	0.28	1850
San Diego River Downstream	9/2/2009	135*	26.8	7.5	2.98	2.8	5.89	2,300	40	80	0.44	0.6	1	0.12	0.14	1920
San Diego River Upstream	9/2/2009	Unmeasurable*	27.5	7.8	1.88	10.3	7.91	600	40	20	0.43	0.8	1.2	nd	0.2	1240
Sycamore Creek Downstream	9/3/2009	78	27.7	8.2	1.99	5.83	5.21	8,000	20	220	nd	3.3	3.3	0.1	0.27	1230

Notes:

nd = not detected

ns = not sampled (dry site)

na = not analyzed

* The accuracy of manual flow estimation techniques decreases as flow volume increases. Because of high flow rates in the San Diego River, the United States Geological Service (USGS) flow gauge data has been used in this report. The USGS flow gauge is located in proximity to the San Diego River downstream sampling location; however no gauge exists near the San Diego River upstream sampling location. Thus the upstream flow has been reported as unmeasurable.

Appendix B

Photographs of Sampling Locations

Forester Creek Downstream	
Forester Creek Upstream	
San Diego River Downstream	

San Diego River Upstream	
Sycamore Creek Downstream	

Appendix C

Laboratory Analytical Reports

Round One

EnviroMatrix Analytical, Inc.

26 May 2010

D-Max Engineering
Attn: Arsalan Dadkhah
7220 Trade Street, Suite 119
San Diego, California 92121

EMA Log #: 10E0433

Project Name: Santee Receiving Waters/201022W-4

Enclosed are the results of analyses for samples received by the laboratory on 05/17/10 14:28. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that this data is in compliance both technically and for completeness.

Dan Verdon
Laboratory Director

CA ELAP Certification #: 2564

4340 Viewridge Avenue, Suite A - San Diego, California 92123 - (858) 560-7717 - Fax (858) 560-7763
Analytical Chemistry Laboratory

Client Name: D-Max Engineering **EMA Log #: 10E0433**
Project Name: Santee Receiving Waters/201022W-4

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
San Diego River Upstream	10E0433-01	Stormwater	05/17/10 10:50	05/17/10 14:28
Forester Creek Upstream	10E0433-02	Stormwater	05/17/10 12:30	05/17/10 14:28
San Diego River Downstream	10E0433-03	Stormwater	05/17/10 13:45	05/17/10 14:28

NOTE: Per client request Selenium was prepared/digested/analyzed twice; once per EPA Method 200.8 (seen as RE1, Batched in #0052114) and once per EPA Method 200.8 modified (seen as RE2, Batched in #0052535). Modified EPA 200.8 method deleted all use of HCl.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 10E0433**
Project Name: Santee Receiving Waters/201022W-4

Total Metals by EPA 200 Series Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
San Diego River Upstream (10E0433-01RE1) Stormwater Sampled: 05/17/10 10:50 Received: 05/17/10 14:28										
Selenium	**0.002**	0.00005	0.0005	mg/l	1	0052114	05/21/10	05/24/10	EPA 200.8	
San Diego River Upstream (10E0433-01RE2) Stormwater Sampled: 05/17/10 10:50 Received: 05/17/10 14:28										
Selenium	**0.001**	0.00005	0.0005	mg/l	1	0052535	05/24/10	05/25/10	EPA 200.8	
Forester Creek Upstream (10E0433-02RE1) Stormwater Sampled: 05/17/10 12:30 Received: 05/17/10 14:28										
Selenium	**0.002**	0.00005	0.0005	mg/l	1	0052114	05/21/10	05/24/10	EPA 200.8	
Forester Creek Upstream (10E0433-02RE2) Stormwater Sampled: 05/17/10 12:30 Received: 05/17/10 14:28										
Selenium	**0.002**	0.00005	0.0005	mg/l	1	0052535	05/24/10	05/25/10	EPA 200.8	
San Diego River Downstream (10E0433-03RE1) Stormwater Sampled: 05/17/10 13:45 Received: 05/17/10 14:28										
Selenium	**0.0007**	0.00005	0.0005	mg/l	1	0052114	05/21/10	05/24/10	EPA 200.8	
San Diego River Downstream (10E0433-03RE2) Stormwater Sampled: 05/17/10 13:45 Received: 05/17/10 14:28										
Selenium	**0.0005**	0.00005	0.0005	mg/l	1	0052535	05/24/10	05/25/10	EPA 200.8	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 10E0433**
Project Name: Santee Receiving Waters/201022W-4

Conventional Chemistry Parameters by Standard/EPA Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
San Diego River Upstream (10E0433-01) Stormwater Sampled: 05/17/10 10:50 Received: 05/17/10 14:28										
Nitrate/Nitrite as N	**0.16**	0.009	0.05	mg/l	1	0051719	05/18/10	05/18/10	SM4500 NO3 E	
Total Kjeldahl Nitrogen	**0.7**	0.3	0.5	"	"	0052004	05/21/10	05/21/10	SM4500 N C	
Total Nitrogen	**0.9**	0.5	0.5	"	"	0052125	05/21/10	05/21/10	Calculation	
Orthophosphate as P	**0.17**	0.007	0.05	"	"	0051930	05/19/10	05/19/10	SM4500 P E	
Phosphorus, Total	**0.61**	0.02	0.05	"	"	0051940	05/19/10	05/19/10	SM4500 P B, E	
Total Dissolved Solids	**891**	1.0	20.0	"	"	0052120	05/21/10	05/24/10	SM2540 C	
Sulfate as SO4	**188**	10.0	50.0	"	10	0051846	05/19/10	05/19/10	SM4500 SO4 E	
Forester Creek Upstream (10E0433-02) Stormwater Sampled: 05/17/10 12:30 Received: 05/17/10 14:28										
Nitrate/Nitrite as N	**7.36**	0.09	0.50	mg/l	10	0051719	05/18/10	05/18/10	SM4500 NO3 E	
Total Kjeldahl Nitrogen	**0.8**	0.3	0.5	"	1	0052004	05/21/10	05/21/10	SM4500 N C	
Total Nitrogen	**8.2**	0.5	0.5	"	"	0052125	05/21/10	05/21/10	Calculation	
Orthophosphate as P	**0.34**	0.007	0.05	"	"	0051930	05/19/10	05/19/10	SM4500 P E	
Phosphorus, Total	**0.35**	0.02	0.05	"	"	0051940	05/19/10	05/19/10	SM4500 P B, E	
Total Dissolved Solids	**1660**	1.0	20.0	"	"	0052120	05/21/10	05/24/10	SM2540 C	
Sulfate as SO4	**383**	10.0	50.0	"	10	0051846	05/19/10	05/19/10	SM4500 SO4 E	
San Diego River Downstream (10E0433-03) Stormwater Sampled: 05/17/10 13:45 Received: 05/17/10 14:28										
Nitrate/Nitrite as N	**1.12**	0.04	0.25	mg/l	5	0051719	05/18/10	05/18/10	SM4500 NO3 E	
Total Kjeldahl Nitrogen	**0.5**	0.3	0.5	"	1	0052004	05/21/10	05/21/10	SM4500 N C	
Total Nitrogen	**1.6**	0.5	0.5	"	"	0052125	05/21/10	05/21/10	Calculation	
Orthophosphate as P	**0.11**	0.007	0.05	"	"	0051930	05/19/10	05/19/10	SM4500 P E	
Phosphorus, Total	**0.27**	0.02	0.05	"	"	0051940	05/19/10	05/19/10	SM4500 P B, E	
Total Dissolved Solids	**1280**	1.0	20.0	"	"	0052120	05/21/10	05/24/10	SM2540 C	
Sulfate as SO4	**248**	10.0	50.0	"	10	0051846	05/19/10	05/19/10	SM4500 SO4 E	

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Client Name: D-Max Engineering **EMA Log #: 10E0433**
Project Name: Santee Receiving Waters/201022W-4

Microbiological Parameters by Standard Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
San Diego River Upstream (10E0433-01) Stormwater Sampled: 05/17/10 10:50 Received: 05/17/10 14:28										
Total Coliforms	**500**	20	20	MPN/100 ml	10	0051831	05/17/10	05/21/10	SM 9221 B, E	
Fecal Coliforms	ND	20	20	"	"	"	"	05/20/10	"	
Enterococcus	**20**	20	20	"	"	0051832	"	05/21/10	SM 9230 A, B	
Forester Creek Upstream (10E0433-02) Stormwater Sampled: 05/17/10 12:30 Received: 05/17/10 14:28										
Total Coliforms	**3000**	200	200	MPN/100 ml	100	0051831	05/17/10	05/21/10	SM 9221 B, E	
Fecal Coliforms	**2300**	200	200	"	"	"	"	05/20/10	"	
Enterococcus	**500**	20	20	"	10	0051832	"	05/21/10	SM 9230 A, B	
San Diego River Downstream (10E0433-03) Stormwater Sampled: 05/17/10 13:45 Received: 05/17/10 14:28										
Total Coliforms	**5000**	200	200	MPN/100 ml	100	0051831	05/17/10	05/21/10	SM 9221 B, E	
Fecal Coliforms	**170**	20	20	"	10	"	"	05/20/10	"	
Enterococcus	**20**	20	20	"	"	0051832	"	05/21/10	SM 9230 A, B	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 10E0433**
Project Name: Santee Receiving Waters/201022W-4

Total Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0052114											
Blank (0052114-BLK1)					Prepared: 05/21/10		Analyzed: 05/22/10				
Selenium	ND	0.00005	0.0005	mg/l							
LCS (0052114-BS1)					Prepared: 05/21/10		Analyzed: 05/22/10				
Selenium	0.099	0.00005	0.0005	mg/l	0.100		99	75-125			
LCS Dup (0052114-BSD1)					Prepared: 05/21/10		Analyzed: 05/22/10				
Selenium	0.094	0.00005	0.0005	mg/l	0.100		94	75-125	5	20	
Duplicate (0052114-DUP1)			**Source: 10E0361-01RE1**		Prepared: 05/21/10		Analyzed: 05/24/10				
Selenium	0.005	0.00005	0.0005	mg/l		0.005			4	20	
Matrix Spike (0052114-MS1)			**Source: 10E0361-01RE1**		Prepared: 05/21/10		Analyzed: 05/24/10				
Selenium	0.090	0.00005	0.0005	mg/l	0.100	0.005	84	75-125			
Matrix Spike (0052114-MS2)			**Source: 10E0361-02RE1**		Prepared: 05/21/10		Analyzed: 05/24/10				
Selenium	0.094	0.00005	0.0005	mg/l	0.100	0.005	89	75-125			
Matrix Spike Dup (0052114-MSD1)			**Source: 10E0361-01RE1**		Prepared: 05/21/10		Analyzed: 05/24/10				
Selenium	0.091	0.00005	0.0005	mg/l	0.100	0.005	86	75-125	2	20	
Batch 0052535											
Blank (0052535-BLK1)					Prepared: 05/24/10		Analyzed: 05/25/10				
Selenium	ND	0.00005	0.0005	mg/l							
LCS (0052535-BS1)					Prepared: 05/24/10		Analyzed: 05/25/10				
Selenium	0.091	0.00005	0.0005	mg/l	0.100		91	75-125			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 10E0433**
Project Name: Santee Receiving Waters/201022W-4

Total Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0052535											
LCS Dup (0052535-BSD1)					Prepared: 05/24/10		Analyzed: 05/25/10				
Selenium	0.100	0.00005	0.0005	mg/l	0.100		100	75-125	9	20	
Duplicate (0052535-DUP1)			**Source: 10E0433-02RE2**		Prepared: 05/24/10		Analyzed: 05/25/10				
Selenium	0.002	0.00005	0.0005	mg/l		0.002			17	20	
Matrix Spike (0052535-MS1)			**Source: 10E0433-02RE2**		Prepared: 05/24/10		Analyzed: 05/25/10				
Selenium	0.097	0.00005	0.0005	mg/l	0.100	0.002	94	75-125			
Matrix Spike Dup (0052535-MSD1)			**Source: 10E0433-02RE2**		Prepared: 05/24/10		Analyzed: 05/25/10				
Selenium	0.097	0.00005	0.0005	mg/l	0.100	0.002	95	75-125	0.7	20	

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Client Name: D-Max Engineering **EMA Log #: 10E0433**
Project Name: Santee Receiving Waters/201022W-4

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0051719											
Blank (0051719-BLK1)					Prepared & Analyzed: 05/17/10						
Nitrate/Nitrite as N	ND	0.009	0.05	mg/l							
LCS (0051719-BS1)					Prepared & Analyzed: 05/17/10						
Nitrate/Nitrite as N	0.54	0.009	0.05	mg/l	0.500		107	80-120			
LCS Dup (0051719-BSD1)					Prepared & Analyzed: 05/17/10						
Nitrate/Nitrite as N	0.53	0.009	0.05	mg/l	0.500		105	80-120	2	20	
Duplicate (0051719-DUP1)			**Source: 10E0376-04**		Prepared & Analyzed: 05/17/10						
Nitrate/Nitrite as N	0.02	0.009	0.05	mg/l		0.02			4	20	J
Matrix Spike (0051719-MS1)			**Source: 10E0376-04**		Prepared & Analyzed: 05/17/10						
Nitrate/Nitrite as N	0.55	0.009	0.05	mg/l	0.500	0.02	104	80-120			
Matrix Spike Dup (0051719-MSD1)			**Source: 10E0376-04**		Prepared & Analyzed: 05/17/10						
Nitrate/Nitrite as N	0.56	0.009	0.05	mg/l	0.500	0.02	108	80-120	3	20	
Reference (0051719-SRM1)					Prepared & Analyzed: 05/17/10						
Nitrate/Nitrite as N	0.39	0.009	0.05	mg/l	0.375		104	91.4-106.9			
Batch 0051846											
Blank (0051846-BLK1)					Prepared & Analyzed: 05/18/10						
Sulfate as SO4	ND	1.0	5.0	mg/l							
LCS (0051846-BS1)					Prepared & Analyzed: 05/18/10						
Sulfate as SO4	8.4	1.0	5.0	mg/l	10.0		84	80-120			

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Client Name: D-Max Engineering **EMA Log #: 10E0433**
Project Name: Santee Receiving Waters/201022W-4

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0051846											
LCS Dup (0051846-BSD1)					Prepared & Analyzed: 05/18/10						
Sulfate as SO4	8.9	1.0	5.0	mg/l	10.0		89	80-120	6	20	
Duplicate (0051846-DUP1)			**Source: 10E0244-01**		Prepared & Analyzed: 05/18/10						
Sulfate as SO4	210	10.0	50.0	mg/l		206			1	20	
Matrix Spike (0051846-MS1)			**Source: 10E0244-01**		Prepared & Analyzed: 05/18/10						
Sulfate as SO4	294	10.0	50.0	mg/l	100	206	87	80-120			
Matrix Spike Dup (0051846-MSD1)			**Source: 10E0244-01**		Prepared & Analyzed: 05/18/10						
Sulfate as SO4	297	10.0	50.0	mg/l	100	206	91	80-120	1	20	
Batch 0051930											
Blank (0051930-BLK1)					Prepared & Analyzed: 05/19/10						
Orthophosphate as P	ND	0.007	0.05	mg/l							
LCS (0051930-BS1)					Prepared & Analyzed: 05/19/10						
Orthophosphate as P	0.58	0.007	0.05	mg/l	0.500		115	80-120			
LCS Dup (0051930-BSD1)					Prepared & Analyzed: 05/19/10						
Orthophosphate as P	0.57	0.007	0.05	mg/l	0.500		114	80-120	0.9	20	
Duplicate (0051930-DUP1)			**Source: 10E0469-01**		Prepared & Analyzed: 05/19/10						
Orthophosphate as P	0.16	0.007	0.05	mg/l		0.14			10	20	
Matrix Spike (0051930-MS1)			**Source: 10E0469-01**		Prepared & Analyzed: 05/19/10						
Orthophosphate as P	0.72	0.007	0.05	mg/l	0.500	0.14	116	80-120			

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Client Name: D-Max Engineering **EMA Log #: 10E0433**
Project Name: Santee Receiving Waters/201022W-4

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0051930											
Matrix Spike Dup (0051930-MSD1)			**Source: 10E0469-01**		Prepared & Analyzed: 05/19/10						
Orthophosphate as P	0.71	0.007	0.05	mg/l	0.500	0.14	113	80-120	2	20	
Batch 0051940											
Blank (0051940-BLK1)					Prepared & Analyzed: 05/19/10						
Phosphorus, Total	ND	0.02	0.05	mg/l							
LCS (0051940-BS1)					Prepared & Analyzed: 05/19/10						
Phosphorus, Total	0.59	0.02	0.05	mg/l	0.500		117	80-120			
LCS Dup (0051940-BSD1)					Prepared & Analyzed: 05/19/10						
Phosphorus, Total	0.57	0.02	0.05	mg/l	0.500		114	80-120	3	20	
Duplicate (0051940-DUP1)			**Source: 10E0437-01**		Prepared & Analyzed: 05/19/10						
Phosphorus, Total	0.18	0.02	0.05	mg/l		0.18			2	20	
Matrix Spike (0051940-MS1)			**Source: 10E0437-01**		Prepared & Analyzed: 05/19/10						
Phosphorus, Total	0.74	0.02	0.05	mg/l	0.500	0.18	111	80-120			
Matrix Spike Dup (0051940-MSD1)			**Source: 10E0437-01**		Prepared & Analyzed: 05/19/10						
Phosphorus, Total	0.76	0.02	0.05	mg/l	0.500	0.18	116	80-120	4	20	
Batch 0052004											
Blank (0052004-BLK1)					Prepared & Analyzed: 05/20/10						
Total Kjeldahl Nitrogen	ND	0.3	0.5	mg/l							

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Client Name: D-Max Engineering **EMA Log #: 10E0433**
Project Name: Santee Receiving Waters/201022W-4

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0052004											
LCS (0052004-BS1)					Prepared & Analyzed: 05/20/10						
Total Kjeldahl Nitrogen	4.7	0.3	0.5	mg/l	4.10		114	80-120			
LCS Dup (0052004-BSD1)					Prepared & Analyzed: 05/20/10						
Total Kjeldahl Nitrogen	4.8	0.3	0.5	mg/l	4.10		117	80-120	2	20	
Duplicate (0052004-DUP1)			**Source: 10E0482-01**		Prepared & Analyzed: 05/20/10						
Total Kjeldahl Nitrogen	ND	0.5	0.5	mg/l		0.3				20	
Matrix Spike (0052004-MS1)			**Source: 10E0482-01**		Prepared & Analyzed: 05/20/10						
Total Kjeldahl Nitrogen	4.6	0.5	0.5	mg/l	4.10	0.3	103	80-120			
Matrix Spike Dup (0052004-MSD1)			**Source: 10E0482-01**		Prepared & Analyzed: 05/20/10						
Total Kjeldahl Nitrogen	4.4	0.5	0.5	mg/l	4.10	0.3	100	80-120	2	20	
Batch 0052120											
Blank (0052120-BLK1)					Prepared: 05/21/10 Analyzed: 05/24/10						
Total Dissolved Solids	ND	1.0	20.0	mg/l							
Duplicate (0052120-DUP1)			**Source: 10E0433-02**		Prepared: 05/21/10 Analyzed: 05/24/10						
Total Dissolved Solids	1650	1.0	20.0	mg/l		1660			0.5	20	
Reference (0052120-SRM1)					Prepared: 05/21/10 Analyzed: 05/24/10						
Total Dissolved Solids	288	1.0	20.0	mg/l	269		107	87-113			

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Client Name: D-Max Engineering **EMA Log #: 10E0433**
Project Name: Santee Receiving Waters/201022W-4

Notes and Definitions

J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
ND	Analyte NOT DETECTED at or above the reporting limit (or method detection limit when specified)
NR	Not Reported
dry	Sample results reported on a dry weight basis (if indicated in units column)
RPD	Relative Percent Difference
MDL	Method detection limit (indicated per client's request)

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CHAIN-OF-CUSTODY RECORD

– EnviroMatrix Analytical, Inc. —
4340 Viewridge Ave., Ste. A - San Diego, CA 92123 - Phone (858) 560-7717 - Fax (858) 560-7763

EMA LOG #: 10E0433

Client: D-Max Engineering, Inc
Attn: Arsalan Dadkhah
Samplers(s): Manouchehr Dadkhah / Annika Kubischta
Address: 7220 Trade St Ste 119
San Diego, CA 92121
Phone: (858) 586-6600 Fax: (858) 586-6614
Email:
Billing Address: Same

Project ID: Santee Receiving Waters
Project #: 20102CW-4 PO #:

ID #	Client Sample ID	Sample Date	Sample Time	Sample Matrix	Container # / Type
1	San Diego River Upstream	5/17/10	10:50	SW	6/p
2	Forester Creek Upstream	5/17/10	12:30	SW	6/p
3	San Diego River Downstream	5/17/10	13:45	SW	6/p
4					
5					
6					
7					
8					
9					
10					

Requested Analysis

ID #	Oil & Grease □ 413.1 □ 413.2 □ 1664	8015B (TPH) □ Gas □ Diesel □ Ext	624/8260 (VOC) Full BTXE MTBE Oxy Nap	625 / 8270 (SVOC) □ PAH only	608 / 8081 (Organochlorine Pesticides)	608 / 8082 (Polychlorinated Biphenyls)	8141 (Organophosphorus Pesticides)	TBT (Organotin Compounds)	□ pH □ EC □ TSS ☒ TDS	□ Nitrate □ Nitrite □ TKN □ NH3	CAC Title 22/CAM17 Metals □ TTLC □ STLC	TCLP (RCRA) □ Metals □ Organics	Cd Cr Cu Pb Ni Ag Zn □ Dissolved	Coliform, ☒ Total (MTF) ☒ Fecal (MTF)	Colilert, T+E.Coli □ P/A □ Enumeration	Enterococcus, ☒ MTF □ Enterolert	Heterotrophic Plate Count (HPC)	Sulfate	Total Selenium (See note)	Total Phosphorus	Orthophosphate – Phosphorus	Total Nitrogen
1									X					X		X		X	X	X	X	X
2									X					X		X		X	X	X	X	X
3									X					X		X		X	X	X	X	X
4																						
5																						
6																						
7																						
8																						
9																						
10																						

Matrix Codes: A = Air, DW = Drinking Water, GW = Groundwater, SW = Storm Water
WW = Wastewater, S = Soil, SED = Sediment, SD = Solid, T = Tissue, O = Oil, L = Liquid

Shipped By: ☒ Courier □ UPS □ FedEx □ USPS □ Client Drop Off □ Other

[1]**Turn-Around-Time:** □ Same Day □ 24 hr □ 48 hr □ 3 day □ 4 day ☒ 5 day □ STD (7 day)

[1]**Reporting Requirements:** □ Fax □ PDF □ Excel □ Geotracker/EDF □ Hard Copy □ EDT

[1]**Sample Disposal:** □ By Laboratory □ [2]Return to Client: P/U or Delivery □ Archive

Sample Integrity

Correct Containers: Yes No N/A	Containers Properly Preseved: Yes No N/A
Custody Seals Intact: Yes No N/A	Temp @ Receipt:
COC/Labels Agree: Yes No N/A	Sampled By: Client EMA Autosampler

RELINQUISHED BY	DATE/TIME	RECEIVED BY
Signature [signature]	5/17/10 14:15	Signature [signature]
Print Annika Kubischta		Print Louis Lewis
Company: D-Max Engineering		Company: EMA
Signature [signature]	5-17-10 14:28	Signature [signature]
Print Louis Lewis		Print [signature]
Company: EMA		Company: EMA
Signature		Signature
Print		Print
Company:		Company:

Project/Sample Comments:

Please run selenium tests twice:
1) once using **EPA 200.8**
2) once using a **modified method in which only nitric acid is used in the digestion**

Zonia

[1]Additional costs may apply, consult a
[2]EMA reserves the right to return any

White- EMA Canary - Accounting Pink - Client (w/report) Gold - Client (Relinquish)

NOTE: By relinquishing samples to EMA, client agrees to pay for the services requested on this COC form and any additional analyses performed on this project. Payment for services is due within 30 days from date of invoice. Samples will be disposed of after 30 days unless otherwise noted. All work is subject to EMA's terms and conditions.

EnviroMatrix Analytical, Inc.

26 May 2010

D-Max Engineering
Attn: Arsalan Dadkhah
7220 Trade Street, Suite 119
San Diego, California 92121

EMA Log #: 10E0446

Project Name: Santee Receiving Waters/201022W-4

Enclosed are the results of analyses for samples received by the laboratory on 05/17/10 16:19. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that this data is in compliance both technically and for completeness.

Dan Verdon
Laboratory Director

CA ELAP Certification #: 2564

4340 Viewridge Avenue, Suite A - San Diego, California 92123 - (858) 560-7717 - Fax (858) 560-7763
Analytical Chemistry Laboratory

Client Name: D-Max Engineering **EMA Log #: 10E0446**
Project Name: Santee Receiving Waters/201022W-4

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Forester Creek Downstream	10E0446-01	Stormwater	05/17/10 14:50	05/17/10 16:19
Sycamore Creek Downstream	10E0446-02	Stormwater	05/17/10 15:40	05/17/10 16:19

NOTE: Per client request Selenium was prepared/digested/analyzed twice; once per EPA Method 200.8 (designated as RE1, Batched in #0052114) and once per EPA Method 200.8 modified (designated as RE2, Batched in #0052535). Modified EPA 200.8 method deleted all use of HCl.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 10E0446**
Project Name: Santee Receiving Waters/201022W-4

Total Metals by EPA 200 Series Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Forester Creek Downstream (10E0446-01RE1) Stormwater Sampled: 05/17/10 14:50 Received: 05/17/10 16:19										
Selenium	**0.002**	0.00005	0.0005	mg/l	1	0052114	05/21/10	05/24/10	EPA 200.8	
Forester Creek Downstream (10E0446-01RE2) Stormwater Sampled: 05/17/10 14:50 Received: 05/17/10 16:19										
Selenium	**0.002**	0.00005	0.0005	mg/l	1	0052535	05/24/10	05/25/10	EPA 200.8	
Sycamore Creek Downstream (10E0446-02RE1) Stormwater Sampled: 05/17/10 15:40 Received: 05/17/10 16:19										
Selenium	**0.0001**	0.00005	0.0005	mg/l	1	0052114	05/21/10	05/24/10	EPA 200.8	J
Sycamore Creek Downstream (10E0446-02RE2) Stormwater Sampled: 05/17/10 15:40 Received: 05/17/10 16:19										
Selenium	**0.0001**	0.00005	0.0005	mg/l	1	0052535	05/24/10	05/25/10	EPA 200.8	J

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 10E0446**
Project Name: Santee Receiving Waters/201022W-4

Conventional Chemistry Parameters by Standard/EPA Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Forester Creek Downstream (10E0446-01) Stormwater Sampled: 05/17/10 14:50 Received: 05/17/10 16:19										
Nitrate/Nitrite as N	**4.30**	0.04	0.25	mg/l	5	0051719	05/18/10	05/18/10	SM4500 NO3 E	
Total Kjeldahl Nitrogen	**1.2**	0.3	0.5	"	1	0052004	05/21/10	05/21/10	SM4500 N C	
Total Nitrogen	**5.5**	0.5	0.5	"	"	0052125	05/21/10	05/21/10	Calculation	
Orthophosphate as P	**0.09**	0.007	0.05	"	"	0051930	05/19/10	05/19/10	SM4500 P E	
Phosphorus, Total	**0.21**	0.02	0.05	"	"	0051940	05/19/10	05/19/10	SM4500 P B, E	
Total Dissolved Solids	**1710**	1.0	20.0	"	"	0052120	05/21/10	05/24/10	SM2540 C	
Sulfate as SO4	**446**	25.0	125	"	25	0051846	05/19/10	05/19/10	SM4500 SO4 E	
Sycamore Creek Downstream (10E0446-02) Stormwater Sampled: 05/17/10 15:40 Received: 05/17/10 16:19										
Nitrate/Nitrite as N	**0.18**	0.009	0.05	mg/l	1	0051719	05/18/10	05/18/10	SM4500 NO3 E	
Total Kjeldahl Nitrogen	**1.0**	0.3	0.5	"	"	0052004	05/21/10	05/21/10	SM4500 N C	
Total Nitrogen	**1.2**	0.5	0.5	"	"	0052125	05/21/10	05/21/10	Calculation	
Orthophosphate as P	**0.08**	0.007	0.05	"	"	0051930	05/19/10	05/19/10	SM4500 P E	
Phosphorus, Total	**0.20**	0.02	0.05	"	"	0051940	05/19/10	05/19/10	SM4500 P B, E	
Total Dissolved Solids	**645**	1.0	20.0	"	"	0052120	05/21/10	05/24/10	SM2540 C	
Sulfate as SO4	**157**	10.0	50.0	"	10	0051846	05/19/10	05/19/10	SM4500 SO4 E	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 10E0446**
Project Name: Santee Receiving Waters/201022W-4

Microbiological Parameters by Standard Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Forester Creek Downstream (10E0446-01) Stormwater Sampled: 05/17/10 14:50 Received: 05/17/10 16:19										
Total Coliforms	**17000**	200	200	MPN/100 ml	100	0051834	05/17/10	05/21/10	SM 9221 B, E	
Fecal Coliforms	**300**	20	20	"	10	"	"	05/20/10	"	
Enterococcus	**40**	20	20	"	"	0051835	"	05/21/10	SM 9230 A, B	
Sycamore Creek Downstream (10E0446-02) Stormwater Sampled: 05/17/10 15:40 Received: 05/17/10 16:19										
Total Coliforms	**3000**	200	200	MPN/100 ml	100	0051834	05/17/10	05/21/10	SM 9221 B, E	
Fecal Coliforms	**1100**	20	20	"	10	"	"	05/20/10	"	
Enterococcus	**170**	20	20	"	"	0051835	"	05/21/10	SM 9230 A, B	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 10E0446**
Project Name: Santee Receiving Waters/201022W-4

Total Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0052114											
Blank (0052114-BLK1)					Prepared: 05/21/10		Analyzed: 05/22/10				
Selenium	ND	0.00005	0.0005	mg/l							
LCS (0052114-BS1)					Prepared: 05/21/10		Analyzed: 05/22/10				
Selenium	0.099	0.00005	0.0005	mg/l	0.100		99	75-125			
LCS Dup (0052114-BSD1)					Prepared: 05/21/10		Analyzed: 05/22/10				
Selenium	0.094	0.00005	0.0005	mg/l	0.100		94	75-125	5	20	
Duplicate (0052114-DUP1)			**Source: 10E0361-01RE1**		Prepared: 05/21/10		Analyzed: 05/24/10				
Selenium	0.005	0.00005	0.0005	mg/l		0.005			4	20	
Matrix Spike (0052114-MS1)			**Source: 10E0361-01RE1**		Prepared: 05/21/10		Analyzed: 05/24/10				
Selenium	0.090	0.00005	0.0005	mg/l	0.100	0.005	84	75-125			
Matrix Spike (0052114-MS2)			**Source: 10E0361-02RE1**		Prepared: 05/21/10		Analyzed: 05/24/10				
Selenium	0.094	0.00005	0.0005	mg/l	0.100	0.005	89	75-125			
Matrix Spike Dup (0052114-MSD1)			**Source: 10E0361-01RE1**		Prepared: 05/21/10		Analyzed: 05/24/10				
Selenium	0.091	0.00005	0.0005	mg/l	0.100	0.005	86	75-125	2	20	
Batch 0052535											
Blank (0052535-BLK1)					Prepared: 05/24/10		Analyzed: 05/25/10				
Selenium	ND	0.00005	0.0005	mg/l							
LCS (0052535-BS1)					Prepared: 05/24/10		Analyzed: 05/25/10				
Selenium	0.091	0.00005	0.0005	mg/l	0.100		91	75-125			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 10E0446**
Project Name: Santee Receiving Waters/201022W-4

Total Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0052535											
LCS Dup (0052535-BSD1)					Prepared: 05/24/10		Analyzed: 05/25/10				
Selenium	0.100	0.00005	0.0005	mg/l	0.100		100	75-125	9	20	
Duplicate (0052535-DUP1)			**Source: 10E0433-02RE2**		Prepared: 05/24/10		Analyzed: 05/25/10				
Selenium	0.002	0.00005	0.0005	mg/l		0.002			17	20	
Matrix Spike (0052535-MS1)			**Source: 10E0433-02RE2**		Prepared: 05/24/10		Analyzed: 05/25/10				
Selenium	0.097	0.00005	0.0005	mg/l	0.100	0.002	94	75-125			
Matrix Spike Dup (0052535-MSD1)			**Source: 10E0433-02RE2**		Prepared: 05/24/10		Analyzed: 05/25/10				
Selenium	0.097	0.00005	0.0005	mg/l	0.100	0.002	95	75-125	0.7	20	

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Client Name: D-Max Engineering **EMA Log #: 10E0446**
Project Name: Santee Receiving Waters/201022W-4

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0051719											
Blank (0051719-BLK1)					Prepared & Analyzed: 05/17/10						
Nitrate/Nitrite as N	ND	0.009	0.05	mg/l							
LCS (0051719-BS1)					Prepared & Analyzed: 05/17/10						
Nitrate/Nitrite as N	0.54	0.009	0.05	mg/l	0.500		107	80-120			
LCS Dup (0051719-BSD1)					Prepared & Analyzed: 05/17/10						
Nitrate/Nitrite as N	0.53	0.009	0.05	mg/l	0.500		105	80-120	2	20	
Duplicate (0051719-DUP1)			**Source: 10E0376-04**		Prepared & Analyzed: 05/17/10						
Nitrate/Nitrite as N	0.02	0.009	0.05	mg/l		0.02			4	20	J
Matrix Spike (0051719-MS1)			**Source: 10E0376-04**		Prepared & Analyzed: 05/17/10						
Nitrate/Nitrite as N	0.55	0.009	0.05	mg/l	0.500	0.02	104	80-120			
Matrix Spike Dup (0051719-MSD1)			**Source: 10E0376-04**		Prepared & Analyzed: 05/17/10						
Nitrate/Nitrite as N	0.56	0.009	0.05	mg/l	0.500	0.02	108	80-120	3	20	
Reference (0051719-SRM1)					Prepared & Analyzed: 05/17/10						
Nitrate/Nitrite as N	0.39	0.009	0.05	mg/l	0.375		104	91.4-106.9			
Batch 0051846											
Blank (0051846-BLK1)					Prepared & Analyzed: 05/18/10						
Sulfate as SO4	ND	1.0	5.0	mg/l							
LCS (0051846-BS1)					Prepared & Analyzed: 05/18/10						
Sulfate as SO4	8.4	1.0	5.0	mg/l	10.0		84	80-120			

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Client Name: D-Max Engineering **EMA Log #: 10E0446**
Project Name: Santee Receiving Waters/201022W-4

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0051846											
LCS Dup (0051846-BSD1)					Prepared & Analyzed: 05/18/10						
Sulfate as SO4	8.9	1.0	5.0	mg/l	10.0		89	80-120	6	20	
Duplicate (0051846-DUP1)			**Source: 10E0244-01**		Prepared & Analyzed: 05/18/10						
Sulfate as SO4	210	10.0	50.0	mg/l		206			1	20	
Matrix Spike (0051846-MS1)			**Source: 10E0244-01**		Prepared & Analyzed: 05/18/10						
Sulfate as SO4	294	10.0	50.0	mg/l	100	206	87	80-120			
Matrix Spike Dup (0051846-MSD1)			**Source: 10E0244-01**		Prepared & Analyzed: 05/18/10						
Sulfate as SO4	297	10.0	50.0	mg/l	100	206	91	80-120	1	20	
Batch 0051930											
Blank (0051930-BLK1)					Prepared & Analyzed: 05/19/10						
Orthophosphate as P	ND	0.007	0.05	mg/l							
LCS (0051930-BS1)					Prepared & Analyzed: 05/19/10						
Orthophosphate as P	0.58	0.007	0.05	mg/l	0.500		115	80-120			
LCS Dup (0051930-BSD1)					Prepared & Analyzed: 05/19/10						
Orthophosphate as P	0.57	0.007	0.05	mg/l	0.500		114	80-120	0.9	20	
Duplicate (0051930-DUP1)			**Source: 10E0469-01**		Prepared & Analyzed: 05/19/10						
Orthophosphate as P	0.16	0.007	0.05	mg/l		0.14			10	20	
Matrix Spike (0051930-MS1)			**Source: 10E0469-01**		Prepared & Analyzed: 05/19/10						
Orthophosphate as P	0.72	0.007	0.05	mg/l	0.500	0.14	116	80-120			

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Client Name: D-Max Engineering **EMA Log #: 10E0446**
Project Name: Santee Receiving Waters/201022W-4

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0051930											
Matrix Spike Dup (0051930-MSD1)			**Source: 10E0469-01**		Prepared & Analyzed: 05/19/10						
Orthophosphate as P	0.71	0.007	0.05	mg/l	0.500	0.14	113	80-120	2	20	
Batch 0051940											
Blank (0051940-BLK1)					Prepared & Analyzed: 05/19/10						
Phosphorus, Total	ND	0.02	0.05	mg/l							
LCS (0051940-BS1)					Prepared & Analyzed: 05/19/10						
Phosphorus, Total	0.59	0.02	0.05	mg/l	0.500		117	80-120			
LCS Dup (0051940-BSD1)					Prepared & Analyzed: 05/19/10						
Phosphorus, Total	0.57	0.02	0.05	mg/l	0.500		114	80-120	3	20	
Duplicate (0051940-DUP1)			**Source: 10E0437-01**		Prepared & Analyzed: 05/19/10						
Phosphorus, Total	0.18	0.02	0.05	mg/l		0.18			2	20	
Matrix Spike (0051940-MS1)			**Source: 10E0437-01**		Prepared & Analyzed: 05/19/10						
Phosphorus, Total	0.74	0.02	0.05	mg/l	0.500	0.18	111	80-120			
Matrix Spike Dup (0051940-MSD1)			**Source: 10E0437-01**		Prepared & Analyzed: 05/19/10						
Phosphorus, Total	0.76	0.02	0.05	mg/l	0.500	0.18	116	80-120	4	20	
Batch 0052004											
Blank (0052004-BLK1)					Prepared & Analyzed: 05/20/10						
Total Kjeldahl Nitrogen	ND	0.3	0.5	mg/l							

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Client Name: D-Max Engineering **EMA Log #: 10E0446**
Project Name: Santee Receiving Waters/201022W-4

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0052004											
LCS (0052004-BS1)					Prepared & Analyzed: 05/20/10						
Total Kjeldahl Nitrogen	4.7	0.3	0.5	mg/l	4.10		114	80-120			
LCS Dup (0052004-BSD1)					Prepared & Analyzed: 05/20/10						
Total Kjeldahl Nitrogen	4.8	0.3	0.5	mg/l	4.10		117	80-120	2	20	
Duplicate (0052004-DUP1)			**Source: 10E0482-01**		Prepared & Analyzed: 05/20/10						
Total Kjeldahl Nitrogen	ND	0.5	0.5	mg/l		0.3				20	
Matrix Spike (0052004-MS1)			**Source: 10E0482-01**		Prepared & Analyzed: 05/20/10						
Total Kjeldahl Nitrogen	4.6	0.5	0.5	mg/l	4.10	0.3	103	80-120			
Matrix Spike Dup (0052004-MSD1)			**Source: 10E0482-01**		Prepared & Analyzed: 05/20/10						
Total Kjeldahl Nitrogen	4.4	0.5	0.5	mg/l	4.10	0.3	100	80-120	2	20	
Batch 0052120											
Blank (0052120-BLK1)					Prepared: 05/21/10 Analyzed: 05/24/10						
Total Dissolved Solids	ND	1.0	20.0	mg/l							
Duplicate (0052120-DUP1)			**Source: 10E0433-02**		Prepared: 05/21/10 Analyzed: 05/24/10						
Total Dissolved Solids	1650	1.0	20.0	mg/l		1660			0.5	20	
Reference (0052120-SRM1)					Prepared: 05/21/10 Analyzed: 05/24/10						
Total Dissolved Solids	288	1.0	20.0	mg/l	269		107	87-113			

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Notes and Definitions

J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
ND	Analyte NOT DETECTED at or above the reporting limit (or method detection limit when specified)
NR	Not Reported
dry	Sample results reported on a dry weight basis (if indicated in units column)
RPD	Relative Percent Difference
MDL	Method detection limit (indicated per client's request)

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CHAIN-OF-CUSTODY RECORD

– EnviroMatrix Analytical, Inc. —

4340 Viewridge Ave., Ste. A - San Diego, CA 92123 - Phone (858) 560-7717 - Fax (858) 560-7763

EMA LOG #: 1010446

Client: D-Max Engineering, INC

Attn: Arsalan Dadkhah

Samplers(s): Manouchehr Dadkhah / Annika Kubischta

Address: 7220 Trade St Ste 119
San Diego, CA 92121

Phone: (858) 586-1600 Fax (858) 586-1644

Email:

Billing Address: Same

Project ID: Santee Receiving Waters

Project #: 20102W-4 PO #:

MAY 17'10 16:32

Requested Analysis

ID #	Client Sample ID	Sample Date	Sample Time	Sample Matrix	Container # / Type
1	Forester Creek Downstream	5/17/10	14:50	SW	6/p
2	Sycamore Creek Downstream	5/17/10	15:40	SW	6/p
3					
4					
5					
6					
7					
8					
9					
10					

Oil & Grease □ 413.1 □ 413.2 □ 1664	8015B (TPH) □ Gas □ Diesel □ Ext	624/8260 (VOC) Full BTXE MTBE Oxy Nap	625 / 8270 (SVOC) □ PAH only	608 / 8081 (Organochlorine Pesticides)	608 / 8082 (Polychlorinated Biphenyls)	8141 (Organophosphorus Pesticides)	TBT (Organotin Compounds)	□ pH □ EC □ TSS ☒TDS	□ Nitrate □ Nitrite □ TKN □NH3	CAC Title 22/CAM17 Metals □ TTLC □ STLC	TCLP (RCRA) □ Metals □ Organics	Cd Cr Cu Pb Ni Ag Zn □ Dissolved	Coliform, ☒Total (MTF) ☒Fecal (MTF)	Colilert, T+E.Coli □ P/A □ Enumeration	Enterococcus, ☒MTF □ Enterolert	Heterotrophic Plate Count (HPC)	Sulfate	Total Selenium (see note)	Total Phosphorus	Orthophosphate-Phosphorus	Total Nitrogen
								X					X		X		X	X	X	X	X
								X					X		X		X	X	X		X

Matrix Codes: A = Air, DW = Drinking Water, GW = Groundwater, SW = Storm Water
WW = Wastewater, S = Soil, SED = Sediment, SD = Solid, T = Tissue, O = Oil, L = Liquid

Shipped By: □ Courier □ UPS □ FedEx □ USPS ☒Client Drop Off □ Other

[1]**Turn-Around-Time:** □ Same Day □ 24 hr □ 48 hr □ 3 day □ 4 day ☒5 day □ STD (7 day)

[1]**Reporting Requirements:** □ Fax □ PDF □ Excel □ Geotracker/EDF □ Hard Copy □ EDT

[1]**Sample Disposal:** □ By Laboratory □ [2]Return to Client: P/U or Delivery □ Archive

Sample Integrity

Correct Containers: Yes No N/A	Containers Properly Preseved: Yes No N/A
Custody Seals Intact: Yes No N/A	Temp @ Receipt:
COC/Labels Agree: Yes No N/A	Sampled By: Client EMA Autosampler

	RELINQUISHED BY	DATE/TIME	RECEIVED BY
Signature	Annika Kubischta	5/17/10 1619	Signature
Print	Annika Kubischta		Print Matt Snyder
Company:	D-Max Engineering		Company: EMA
Signature			Signature
Print			Print
Company:			Company:
Signature			Signature
Print			Print
Company:			Company:

Project/Sample Comments:

Please **run selenium tests twice**:
1) once using **EPA 200.8**
2) once using a **modified method in which only nitric acid is used in the digestion**

11 each

[1]Additional costs may apply, consult

[2]EMA reserves the right to return an

White- EMA Canary - Accounting Pink - Client (w/report) Gold - Client (Relinquish)

NOTE: By relinquishing samples to EMA, Inc., client agrees to pay for the services requested on this COC form and any additional analyses performed on this project. Payment for services is due within 30 days from date of invoice. Samples will be disposed of after 30 days unless otherwise noted. All work is subject to EMA's terms and conditions.

Round Two

EnviroMatrix Analytical, Inc.

23 September 2010

D-Max Engineering
Attn: Arsalan Dadkhah
7220 Trade Street, Suite 119
San Diego, California 92121

EMA Log #: 10I0362

Project Name: Santee Receiving Waters Study
Project Desc./#: 201022W-4

Enclosed are the results of analyses for samples received by the laboratory on 09/15/10 13:14. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that this data is in compliance both technically and for completeness.

Dan Verdon
Laboratory Director

CA ELAP Certification #: 2564

Client Name: D-Max Engineering **EMA Log #: 10I0362**
Project Name: Santee Receiving Waters Study

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
San Diego R. Upstream	10I0362-01	Stormwater	09/15/10 09:50	09/15/10 13:14
San Diego R. Upstream-1	10I0362-02	Stormwater	09/15/10 10:00	09/15/10 13:14
Forester CR. Upstream	10I0362-03	Stormwater	09/15/10 11:00	09/15/10 13:14
Forester CR. Downstream	10I0362-04	Stormwater	09/15/10 11:50	09/15/10 13:14
San Diego R. Downstream	10I0362-05	Stormwater	09/15/10 12:30	09/15/10 13:14

NOTE: Per client request Selenium was prepared/digested/analyzed twice; once per EPA Method 200.8 (Batched in #0092020) and once per EPA Method 200.8 modified (seen as RE1, Batched in #0092021). Modified EPA 200.8 method deleted all use of HCl.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 10I0362**
Project Name: Santee Receiving Waters Study

Total Metals by EPA 200 Series Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
San Diego R. Upstream (10I0362-01) Stormwater Sampled: 09/15/10 09:50 Received: 09/15/10 13:14										
Selenium	**0.002**	0.00005	0.0005	mg/l	1	0092020	09/20/10	09/21/10	EPA 200.8	
San Diego R. Upstream (10I0362-01RE1) Stormwater Sampled: 09/15/10 09:50 Received: 09/15/10 13:14										
Selenium	**0.003**	0.00005	0.0005	mg/l	1	0092021	09/20/10	09/21/10	EPA 200.8	
San Diego R. Upstream-1 (10I0362-02) Stormwater Sampled: 09/15/10 10:00 Received: 09/15/10 13:14										
Selenium	**0.002**	0.00005	0.0005	mg/l	1	0092020	09/20/10	09/21/10	EPA 200.8	
San Diego R. Upstream-1 (10I0362-02RE1) Stormwater Sampled: 09/15/10 10:00 Received: 09/15/10 13:14										
Selenium	**0.003**	0.00005	0.0005	mg/l	1	0092021	09/20/10	09/21/10	EPA 200.8	
Forester CR. Upstream (10I0362-03) Stormwater Sampled: 09/15/10 11:00 Received: 09/15/10 13:14										
Selenium	**0.002**	0.00005	0.0005	mg/l	1	0092020	09/20/10	09/21/10	EPA 200.8	
Forester CR. Upstream (10I0362-03RE1) Stormwater Sampled: 09/15/10 11:00 Received: 09/15/10 13:14										
Selenium	**0.002**	0.00005	0.0005	mg/l	1	0092021	09/20/10	09/21/10	EPA 200.8	
Forester CR. Downstream (10I0362-04) Stormwater Sampled: 09/15/10 11:50 Received: 09/15/10 13:14										
Selenium	**0.001**	0.00005	0.0005	mg/l	1	0092020	09/20/10	09/21/10	EPA 200.8	
Forester CR. Downstream (10I0362-04RE1) Stormwater Sampled: 09/15/10 11:50 Received: 09/15/10 13:14										
Selenium	**0.002**	0.00005	0.0005	mg/l	1	0092021	09/20/10	09/21/10	EPA 200.8	
San Diego R. Downstream (10I0362-05) Stormwater Sampled: 09/15/10 12:30 Received: 09/15/10 13:14										
Selenium	**0.0007**	0.00005	0.0005	mg/l	1	0092020	09/20/10	09/21/10	EPA 200.8	

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Client Name: D-Max Engineering **EMA Log #: 10I0362**
Project Name: Santee Receiving Waters Study

Total Metals by EPA 200 Series Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
San Diego R. Downstream (10I0362-05RE1) Stormwater Sampled: 09/15/10 12:30 Received: 09/15/10 13:14										
Selenium	**0.0006**	0.00005	0.0005	mg/l	1	0092021	09/20/10	09/21/10	EPA 200.8	

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Client Name: D-Max Engineering
Project Name: Santee Receiving Waters Study

EMA Log #: 10I0362

Conventional Chemistry Parameters by Standard/EPA Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
San Diego R. Upstream (10I0362-01) Stormwater Sampled: 09/15/10 09:50 Received: 09/15/10 13:14										
Nitrate/Nitrite as N	**0.10**	0.009	0.05	mg/l	1	0091602	09/16/10	09/16/10	SM4500 NO3 E	
Total Kjeldahl Nitrogen	**1.1**	0.3	0.5	"	"	0092201	09/22/10	09/22/10	SM4500 N C	
Total Nitrogen	**1.2**	0.5	0.5	"	"	0092337	09/22/10	09/22/10	Calculation	
Orthophosphate as P	**0.10**	0.007	0.05	"	"	0091626	09/16/10	09/16/10	SM4500 P E	
Phosphorus, Total	**0.20**	0.02	0.05	"	"	0091627	09/16/10	09/16/10	SM4500 P B, E	
Total Dissolved Solids	**1150**	1.0	20.0	"	"	0091725	09/18/10	09/20/10	SM2540 C	
Sulfate as SO4	**265**	10.0	50.0	"	10	0091625	09/17/10	09/17/10	SM4500 SO4 E	
San Diego R. Upstream-1 (10I0362-02) Stormwater Sampled: 09/15/10 10:00 Received: 09/15/10 13:14										
Nitrate/Nitrite as N	**0.12**	0.009	0.05	mg/l	1	0091602	09/16/10	09/16/10	SM4500 NO3 E	
Total Kjeldahl Nitrogen	**1.3**	0.3	0.5	"	"	0092201	09/22/10	09/22/10	SM4500 N C	
Total Nitrogen	**1.4**	0.5	0.5	"	"	0092337	09/22/10	09/22/10	Calculation	
Orthophosphate as P	**0.09**	0.007	0.05	"	"	0091626	09/16/10	09/16/10	SM4500 P E	
Phosphorus, Total	**0.15**	0.02	0.05	"	"	0091627	09/16/10	09/16/10	SM4500 P B, E	
Total Dissolved Solids	**1190**	1.0	20.0	"	"	0091725	09/18/10	09/20/10	SM2540 C	
Sulfate as SO4	**264**	10.0	50.0	"	10	0091625	09/17/10	09/17/10	SM4500 SO4 E	
Forester CR. Upstream (10I0362-03) Stormwater Sampled: 09/15/10 11:00 Received: 09/15/10 13:14										
Nitrate/Nitrite as N	**6.28**	0.09	0.50	mg/l	10	0091602	09/16/10	09/16/10	SM4500 NO3 E	
Total Kjeldahl Nitrogen	**1.8**	0.3	0.5	"	1	0092201	09/22/10	09/22/10	SM4500 N C	
Total Nitrogen	**8.1**	0.5	0.5	"	"	0092337	09/22/10	09/22/10	Calculation	
Orthophosphate as P	**0.10**	0.007	0.05	"	"	0091626	09/16/10	09/16/10	SM4500 P E	
Phosphorus, Total	**0.12**	0.02	0.05	"	"	0091627	09/16/10	09/16/10	SM4500 P B, E	
Total Dissolved Solids	**1720**	1.0	20.0	"	"	0091725	09/18/10	09/20/10	SM2540 C	
Sulfate as SO4	**165**	10.0	50.0	"	10	0091625	09/17/10	09/17/10	SM4500 SO4 E	

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Client Name: D-Max Engineering **EMA Log #: 10I0362**
Project Name: Santee Receiving Waters Study

Conventional Chemistry Parameters by Standard/EPA Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Forester CR. Downstream (10I0362-04) Stormwater Sampled: 09/15/10 11:50 Received: 09/15/10 13:14										
Nitrate/Nitrite as N	**2.70**	0.09	0.50	mg/l	10	0091602	09/16/10	09/16/10	SM4500 NO3 E	
Total Kjeldahl Nitrogen	**1.7**	0.3	0.5	"	1	0092201	09/22/10	09/22/10	SM4500 N C	
Total Nitrogen	**4.4**	0.5	0.5	"	"	0092337	09/22/10	09/22/10	Calculation	
Orthophosphate as P	**0.36**	0.007	0.05	"	"	0091626	09/16/10	09/16/10	SM4500 P E	
Phosphorus, Total	**0.37**	0.02	0.05	"	"	0091627	09/16/10	09/16/10	SM4500 P B, E	
Total Dissolved Solids	**1740**	1.0	20.0	"	"	0091725	09/18/10	09/20/10	SM2540 C	
Sulfate as SO4	**170**	10.0	50.0	"	10	0091625	09/17/10	09/17/10	SM4500 SO4 E	
San Diego R. Downstream (10I0362-05) Stormwater Sampled: 09/15/10 12:30 Received: 09/15/10 13:14										
Nitrate/Nitrite as N	**0.93**	0.09	0.50	mg/l	10	0091602	09/16/10	09/16/10	SM4500 NO3 E	
Total Kjeldahl Nitrogen	**1.7**	0.3	0.5	"	1	0092201	09/22/10	09/22/10	SM4500 N C	
Total Nitrogen	**2.6**	0.5	0.5	"	"	0092337	09/22/10	09/22/10	Calculation	
Orthophosphate as P	**0.21**	0.007	0.05	"	"	0091626	09/16/10	09/16/10	SM4500 P E	
Phosphorus, Total	**0.22**	0.02	0.05	"	"	0091627	09/16/10	09/16/10	SM4500 P B, E	
Total Dissolved Solids	**1740**	1.0	20.0	"	"	0091725	09/18/10	09/20/10	SM2540 C	
Sulfate as SO4	**354**	10.0	50.0	"	10	0091625	09/17/10	09/17/10	SM4500 SO4 E	

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Client Name: D-Max Engineering **EMA Log #: 10I0362**
Project Name: Santee Receiving Waters Study

Microbiological Parameters by Standard Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
San Diego R. Upstream (10I0362-01) Stormwater Sampled: 09/15/10 09:50 Received: 09/15/10 13:14										
Total Coliforms	**170**	2	2	MPN/100 ml	1	0091614	09/15/10	09/19/10	SM 9221 B, E	
Fecal Coliforms	**2**	2	2	"	"	"	"	09/18/10	"	
Enterococcus	**2**	2	2	"	"	0091615	"	09/19/10	SM 9230 A, B	
San Diego R. Upstream-1 (10I0362-02) Stormwater Sampled: 09/15/10 10:00 Received: 09/15/10 13:14										
Total Coliforms	**800**	20	20	MPN/100 ml	10	0091614	09/15/10	09/19/10	SM 9221 B, E	
Fecal Coliforms	ND	2	2	"	1	"	"	09/18/10	"	
Enterococcus	**4**	2	2	"	"	0091615	"	09/19/10	SM 9230 A, B	
Forester CR. Upstream (10I0362-03) Stormwater Sampled: 09/15/10 11:00 Received: 09/15/10 13:14										
Total Coliforms	**5000**	200	200	MPN/100 ml	100	0091614	09/15/10	09/19/10	SM 9221 B, E	
Fecal Coliforms	**1100**	20	20	"	10	"	"	09/18/10	"	
Enterococcus	**500**	20	20	"	"	0091615	"	09/19/10	SM 9230 A, B	
Forester CR. Downstream (10I0362-04) Stormwater Sampled: 09/15/10 11:50 Received: 09/15/10 13:14										
Total Coliforms	**2200**	20	20	MPN/100 ml	10	0091614	09/15/10	09/19/10	SM 9221 B, E	
Fecal Coliforms	**230**	20	20	"	"	"	"	09/18/10	"	
Enterococcus	**800**	20	20	"	"	0091615	"	09/19/10	SM 9230 A, B	
San Diego R. Downstream (10I0362-05) Stormwater Sampled: 09/15/10 12:30 Received: 09/15/10 13:14										
Total Coliforms	**5000**	200	200	MPN/100 ml	100	0091614	09/15/10	09/19/10	SM 9221 B, E	
Fecal Coliforms	**50**	2	2	"	1	"	"	09/18/10	"	
Enterococcus	**13**	2	2	"	"	0091615	"	09/19/10	SM 9230 A, B	

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Client Name: D-Max Engineering **EMA Log #: 10I0362**
Project Name: Santee Receiving Waters Study

Total Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0092020											
Blank (0092020-BLK1)					Prepared: 09/20/10		Analyzed: 09/21/10				
Selenium	ND	0.00005	0.0005	mg/l							
LCS (0092020-BS1)					Prepared: 09/20/10		Analyzed: 09/21/10				
Selenium	0.095	0.00005	0.0005	mg/l	0.100		95	75-125			
LCS Dup (0092020-BSD1)					Prepared: 09/20/10		Analyzed: 09/21/10				
Selenium	0.095	0.00005	0.0005	mg/l	0.100		95	75-125	0.7	20	
Duplicate (0092020-DUP1)			**Source: 10I0362-01**		Prepared: 09/20/10		Analyzed: 09/21/10				
Selenium	0.003	0.00005	0.0005	mg/l		0.002			9	20	
Matrix Spike (0092020-MS1)			**Source: 10I0362-01**		Prepared: 09/20/10		Analyzed: 09/21/10				
Selenium	0.098	0.00005	0.0005	mg/l	0.100	0.002	95	75-125			
Matrix Spike Dup (0092020-MSD1)			**Source: 10I0362-01**		Prepared: 09/20/10		Analyzed: 09/21/10				
Selenium	0.100	0.00005	0.0005	mg/l	0.100	0.002	97	75-125	2	20	
Batch 0092021											
Blank (0092021-BLK1)					Prepared: 09/20/10		Analyzed: 09/21/10				
Selenium	ND	0.00005	0.0005	mg/l							
LCS (0092021-BS1)					Prepared: 09/20/10		Analyzed: 09/21/10				
Selenium	0.093	0.00005	0.0005	mg/l	0.100		93	75-125			
LCS Dup (0092021-BSD1)					Prepared: 09/20/10		Analyzed: 09/21/10				
Selenium	0.112	0.00005	0.0005	mg/l	0.100		112	75-125	19	20	

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Client Name: D-Max Engineering **EMA Log #: 10I0362**
Project Name: Santee Receiving Waters Study

Total Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0092021											
Duplicate (0092021-DUP1)			**Source: 10I0362-02RE1**		Prepared: 09/20/10		Analyzed: 09/21/10				
Selenium	0.002	0.00005	0.0005	mg/l		0.003			9	20	
Matrix Spike (0092021-MS1)			**Source: 10I0362-02RE1**		Prepared: 09/20/10		Analyzed: 09/21/10				
Selenium	0.096	0.00005	0.0005	mg/l	0.100	0.003	93	75-125			
Matrix Spike Dup (0092021-MSD1)			**Source: 10I0362-02RE1**		Prepared: 09/20/10		Analyzed: 09/21/10				
Selenium	0.100	0.00005	0.0005	mg/l	0.100	0.003	98	75-125	4	20	

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Client Name: D-Max Engineering **EMA Log #: 10I0362**
Project Name: Santee Receiving Waters Study

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0091602											
Blank (0091602-BLK1)					Prepared & Analyzed: 09/16/10						
Nitrate/Nitrite as N	ND	0.009	0.05	mg/l							
LCS (0091602-BS1)					Prepared & Analyzed: 09/16/10						
Nitrate/Nitrite as N	0.50	0.009	0.05	mg/l	0.500		101	80-120			
LCS Dup (0091602-BSD1)					Prepared & Analyzed: 09/16/10						
Nitrate/Nitrite as N	0.51	0.009	0.05	mg/l	0.500		103	80-120	2	20	
Duplicate (0091602-DUP1)			**Source: 10I0362-01**		Prepared & Analyzed: 09/16/10						
Nitrate/Nitrite as N	0.11	0.009	0.05	mg/l		0.10			12	20	
Matrix Spike (0091602-MS1)			**Source: 10I0362-01**		Prepared & Analyzed: 09/16/10						
Nitrate/Nitrite as N	0.59	0.009	0.05	mg/l	0.500	0.10	98	80-120			
Matrix Spike Dup (0091602-MSD1)			**Source: 10I0362-01**		Prepared & Analyzed: 09/16/10						
Nitrate/Nitrite as N	0.62	0.009	0.05	mg/l	0.500	0.10	105	80-120	6	20	
Reference (0091602-SRM1)					Prepared & Analyzed: 09/16/10						
Nitrate/Nitrite as N	0.45	0.009	0.05	mg/l	0.442		102	4.16-115.1			
Batch 0091625											
Blank (0091625-BLK1)					Prepared & Analyzed: 09/16/10						
Sulfate as SO4	ND	1.0	5.0	mg/l							
LCS (0091625-BS1)					Prepared & Analyzed: 09/16/10						
Sulfate as SO4	10.9	1.0	5.0	mg/l	10.0		109	80-120			

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Client Name: D-Max Engineering **EMA Log #: 10I0362**
Project Name: Santee Receiving Waters Study

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0091625											
LCS Dup (0091625-BSD1)					Prepared & Analyzed: 09/16/10						
Sulfate as SO4	10.4	1.0	5.0	mg/l	10.0		104	80-120	4	20	
Duplicate (0091625-DUP1)			**Source: 10I0349-01**		Prepared & Analyzed: 09/16/10						
Sulfate as SO4	279	10.0	50.0	mg/l		284			2	20	
Matrix Spike (0091625-MS1)			**Source: 10I0349-01**		Prepared & Analyzed: 09/16/10						
Sulfate as SO4	387	10.0	50.0	mg/l	100	284	104	80-120			
Matrix Spike Dup (0091625-MSD1)			**Source: 10I0349-01**		Prepared & Analyzed: 09/16/10						
Sulfate as SO4	380	10.0	50.0	mg/l	100	284	96	80-120	2	20	
Batch 0091626											
Blank (0091626-BLK1)					Prepared & Analyzed: 09/16/10						
Orthophosphate as P	ND	0.007	0.05	mg/l							
LCS (0091626-BS1)					Prepared & Analyzed: 09/16/10						
Orthophosphate as P	0.42	0.007	0.05	mg/l	0.500		83	80-120			
LCS Dup (0091626-BSD1)					Prepared & Analyzed: 09/16/10						
Orthophosphate as P	0.45	0.007	0.05	mg/l	0.500		90	80-120	7	20	
Duplicate (0091626-DUP1)			**Source: 10I0366-01**		Prepared & Analyzed: 09/16/10						
Orthophosphate as P	0.10	0.007	0.05	mg/l		0.10			2	20	
Matrix Spike (0091626-MS1)			**Source: 10I0366-01**		Prepared & Analyzed: 09/16/10						
Orthophosphate as P	0.57	0.007	0.05	mg/l	0.500	0.10	94	80-120			

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Client Name: D-Max Engineering **EMA Log #: 10I0362**
Project Name: Santee Receiving Waters Study

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0091626											
Matrix Spike Dup (0091626-MSD1)			**Source: 10I0366-01**		Prepared & Analyzed: 09/16/10						
Orthophosphate as P	0.57	0.007	0.05	mg/l	0.500	0.10	94	80-120	0.4	20	
Batch 0091627											
Blank (0091627-BLK1)					Prepared & Analyzed: 09/16/10						
Phosphorus, Total	ND	0.02	0.05	mg/l							
LCS (0091627-BS1)					Prepared & Analyzed: 09/16/10						
Phosphorus, Total	0.48	0.02	0.05	mg/l	0.500		96	80-120			
LCS Dup (0091627-BSD1)					Prepared & Analyzed: 09/16/10						
Phosphorus, Total	0.48	0.02	0.05	mg/l	0.500		95	80-120	0.8	20	
Duplicate (0091627-DUP1)			**Source: 10I0367-02**		Prepared & Analyzed: 09/16/10						
Phosphorus, Total	0.24	0.02	0.05	mg/l		0.24			1	20	
Matrix Spike (0091627-MS1)			**Source: 10I0367-02**		Prepared & Analyzed: 09/16/10						
Phosphorus, Total	0.65	0.02	0.05	mg/l	0.500	0.24	82	80-120			
Matrix Spike Dup (0091627-MSD1)			**Source: 10I0367-02**		Prepared & Analyzed: 09/16/10						
Phosphorus, Total	0.68	0.02	0.05	mg/l	0.500	0.24	89	80-120	5	20	
Batch 0091725											
Blank (0091725-BLK1)					Prepared: 09/18/10 Analyzed: 09/20/10						
Total Dissolved Solids	ND	1.0	20.0	mg/l							

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Client Name: D-Max Engineering **EMA Log #: 10I0362**
Project Name: Santee Receiving Waters Study

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0091725											
Duplicate (0091725-DUP1)			**Source: 10I0362-01**		Prepared: 09/18/10 Analyzed: 09/20/10						
Total Dissolved Solids	1140	1.0	20.0	mg/l		1150			0.7	20	
Reference (0091725-SRM1)					Prepared: 09/18/10 Analyzed: 09/20/10						
Total Dissolved Solids	348	1.0	20.0	mg/l	288		121	75-125			
Batch 0092201											
Blank (0092201-BLK1)					Prepared & Analyzed: 09/22/10						
Total Kjeldahl Nitrogen	ND	0.3	0.5	mg/l							
LCS (0092201-BS1)					Prepared & Analyzed: 09/22/10						
Total Kjeldahl Nitrogen	4.8	0.3	0.5	mg/l	4.10		118	80-120			
LCS Dup (0092201-BSD1)					Prepared & Analyzed: 09/22/10						
Total Kjeldahl Nitrogen	4.2	0.3	0.5	mg/l	4.10		102	80-120	14	20	
Duplicate (0092201-DUP1)			**Source: 10I0362-05**		Prepared & Analyzed: 09/22/10						
Total Kjeldahl Nitrogen	2.0	0.3	0.5	mg/l		1.7			16	20	
Matrix Spike (0092201-MS1)			**Source: 10I0362-05**		Prepared & Analyzed: 09/22/10						
Total Kjeldahl Nitrogen	5.2	0.3	0.5	mg/l	4.10	1.7	85	80-120			
Matrix Spike Dup (0092201-MSD1)			**Source: 10I0362-05**		Prepared & Analyzed: 09/22/10						
Total Kjeldahl Nitrogen	5.6	0.3	0.5	mg/l	4.10	1.7	96	80-120	8	20	

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Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit (or method detection limit when specified)
NR	Not Reported
dry	Sample results reported on a dry weight basis (if indicated in units column)
RPD	Relative Percent Difference
MDL	Method detection limit (indicated per client's request)

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CHAIN-OF-CUSTODY RECORD

– EnviroMatrix EMA Analytical, Inc. ——

4340 Viewridge Ave., Ste. A - San Diego, CA 92123 - Phone (858) 560-7717 - Fax (858) 560-7763

VOL. 10 - Page 1278

EMA LOG #: 10I0316-2

Client: D-Max Engineering Inc.
Attn: Arsalan Dadkhah
Samplers(s): MD/JR
Address: 7220 Trade Street, Suite 119
San Diego, CA 92121
Phone: 858-586-6600 Fax: 858-586-6644
Email:
Billing Address: Same

Project ID: Santee Receiving Water study
Project #: 201022W-4 PO #:

Requested Analysis

ID #	Client Sample ID	Sample Date	Sample Time	Sample Matrix	Container # / Type	Oil & Grease □ 413.1 □ 413.2 □ 1664	8015B (TPH) □ Gas □ Diesel □ Ext	624/8260 (VOC) Full BTXE MTBE Oxy Nap	625 / 8270 (SVOC) □ PAH only	608 / 8081 (Organochlorine Pesticides)	608 / 8082 (Polychlorinated Biphenyls)	8141 (Organophosphorus Pesticides)	TBT (Organotin Compounds)	□ pH □ EC □ TSS ☒ TDS	□ Nitrate □ Nitrite □ TKN □ NH3	CAC Title 22/CAM17 Metals □ TTLC □ STLC	TCLP (RCRA) □ Metals □ Organics	Cd Cr Cu Pb Ni Ag Zn □ Dissolved	Coliform. ☒ Total (MTF) ☒ Fecal (MTF)	Coliert, T+E.Coli □ P/A □ Enumeration	Enterococcus. ☒ MTF □ Enterolert	Heterotrophic Plate Count (HPC)	□ BOD □ COD □ Cyanide	Total Nitrogen	Total phosphorus	Total selenium	Sulfate	orthophosphate-Phosphorus
1	San Diego R. Upstream	9/15/10	9:50	SW	6P									X					X		X			X	X	X	X	X
2	San Diego R. Upstream-1	"	10:00	SW	"									X					X		X			X	X	X	X	X
3	Forester Cr. upstream	"	11:00	SW	"									X					X		X			X	X	X	X	X
4	Forester Cr downstream	"	11:50	SW	"									X					X		X			X	X	X	X	X
5	San Diego R downstream	"	12:30	SW	"									X					X		X			X	X	X	X	X
6																												
7																												
8																												
9																												
10																												

Matrix Codes: A = Air, DW = Drinking Water, GW = Groundwater, SW = Storm Water
WW = Wastewater, S = Soil, SED = Sediment, SD = Solid, T = Tissue, O = Oil, L = Liquid

Shipped By: □ Courier □ UPS □ FedEx □ USPS □ Client Drop Off □ Other

[1]**Turn-Around-Time:** □ Same Day □ 24 hr □ 48 hr □ 3 day □ 4 day □ 5 day □ STD (7 day)

[1]**Reporting Requirements:** □ Fax □ PDF □ Excel □ Geotracker/EDF □ Hard Copy □ EDT

[1]**Sample Disposal:** □ By Laboratory □ [2]Return to Client: P/U or Delivery □ Archive

Sample Integrity

Correct Containers: Yes No N/A | Containers Properly Preseved: Yes No N/A
Custody Seals Intact: Yes No N/A | Temp @ Receipt:
COC Labels Agree: Yes No N/A | Sampled By: Client EMA Autosampler

	RELINQUISHED BY	DATE/TIME	RECEIVED BY
Signature	Manouchehr Dadkhah	9/15/10 1:00	Signature
Print	Manouchehr Dadkhah		Print Heidi Thompson
Company:	D-Max Eng.		Company: EMA
Signature	Heidi Thompson	9/15/10 13:14	Signature
Print	Heidi Thompson		Print
Company:	EMA		Company:
Signature			Signature
Print			Print
Company:			Company:

Project/Sample Comments: Please run selenium Tests Twice:
1) Once Using EPA 200.8
2) Once Using a modified method in which only nitric acid is used in the digestion

[1]Additional costs may apply, consult a project manager for details.

[2]EMA reserves the right to return any samples that do not match our waste profile.

NOTE: By relinquishing samples to EMA, Inc., client agrees to pay for the services requested on this COC form and any additional analyses performed on this project. Payment for services is due within 30 days from date of invoice. Samples will be disposed of 7 days after report has been finalized unless otherwise noted. All work is subject to EMA's terms and conditions.

8°C

01 October 2010

D-Max Engineering
Attn: Arsalan Dadkhah
7220 Trade Street, Suite 119
San Diego, California 92121

EMA Log #: 10I0394

Project Name: Santee Receiving Waters Study
Project Desc./#: 201022W-4

Enclosed are the results of analyses for samples received by the laboratory on 09/16/10 13:12. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that this data is in compliance both technically and for completeness.

Dan Verdon
Laboratory Director

CA ELAP Certification #: 2564

Client Name: D-Max Engineering **EMA Log #: 10I0394**
Project Name: Santee Receiving Waters Study

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Sycamore CR. Downstream	10I0394-01	Stormwater	09/16/10 09:25	09/16/10 13:12

NOTE: Per client request Selenium was prepared/digested/analyzed twice; once per EPA Method 200.8 (Batched in #0092323) and once per EPA Method 200.8 modified (seen as RE1, Batched in #0092324). Modified EPA 200.8 method deleted all use of HCl.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 10I0394**
Project Name: Santee Receiving Waters Study

Total Metals by EPA 200 Series Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sycamore CR. Downstream (10I0394-01) Stormwater Sampled: 09/16/10 09:25 Received: 09/16/10 13:12										
Selenium	**0.0002**	0.00005	0.0005	mg/l	1	0092323	09/22/10	09/23/10	EPA 200.8	J
Sycamore CR. Downstream (10I0394-01RE1) Stormwater Sampled: 09/16/10 09:25 Received: 09/16/10 13:12										
Selenium	**0.0003**	0.00005	0.0005	mg/l	1	0092324	09/22/10	09/23/10	EPA 200.8	J

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 10I0394**
Project Name: Santee Receiving Waters Study

Conventional Chemistry Parameters by Standard/EPA Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sycamore CR. Downstream (10I0394-01) Stormwater			**Sampled: 09/16/10 09:25**		**Received: 09/16/10 13:12**					
Nitrate/Nitrite as N	**0.08**	0.009	0.05	mg/l	1	0091701	09/17/10	09/17/10	SM4500 NO3 E	
Total Kjeldahl Nitrogen	**0.8**	0.3	0.5	"	"	0093001	09/27/10	09/27/10	SM4500 N C	
Total Nitrogen	**0.9**	0.5	0.5	"	"	0100117	09/27/10	09/27/10	Calculation	
Orthophosphate as P	**0.06**	0.007	0.05	"	"	0091626	09/17/10	09/17/10	SM4500 P E	
Phosphorus, Total	**0.11**	0.02	0.05	"	"	0092224	09/22/10	09/22/10	SM4500 P B, E	
Total Dissolved Solids	**1140**	1.0	20.0	"	"	0091725	09/18/10	09/20/10	SM2540 C	
Sulfate as SO4	**349**	10.0	50.0	"	10	0091625	09/17/10	09/17/10	SM4500 SO4 E	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 10I0394**
Project Name: Santee Receiving Waters Study

Microbiological Parameters by Standard Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sycamore CR. Downstream (10I0394-01) Stormwater Sampled: 09/16/10 09:25 Received: 09/16/10 13:12										
Total Coliforms	**23000**	2000	2000	MPN/100 ml	1000	0091713	09/16/10	09/20/10	SM 9221 B, E	
Fecal Coliforms	**33**	2	2	"	1	"	"	09/19/10	"	
Enterococcus	**130**	2	2	"	"	0091714	"	09/20/10	SM 9230 A, B	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 10I0394**
Project Name: Santee Receiving Waters Study

Total Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0092323											
Blank (0092323-BLK1)					Prepared: 09/22/10		Analyzed: 09/23/10				
Selenium	ND	0.00005	0.0005	mg/l							
LCS (0092323-BS1)					Prepared: 09/22/10		Analyzed: 09/23/10				
Selenium	0.095	0.00005	0.0005	mg/l	0.100		95	75-125			
LCS Dup (0092323-BSD1)					Prepared: 09/22/10		Analyzed: 09/23/10				
Selenium	0.099	0.00005	0.0005	mg/l	0.100		99	75-125	4	20	
Duplicate (0092323-DUP1)			**Source: 10I0394-01**		Prepared: 09/22/10		Analyzed: 09/23/10				
Selenium	0.0002	0.00005	0.0005	mg/l		0.0002			36	20	QR-04, J
Matrix Spike (0092323-MS1)			**Source: 10I0394-01**		Prepared: 09/22/10		Analyzed: 09/23/10				
Selenium	0.106	0.00005	0.0005	mg/l	0.100	0.0002	106	75-125			
Batch 0092324											
Blank (0092324-BLK1)					Prepared: 09/22/10		Analyzed: 09/23/10				
Selenium	ND	0.00005	0.0005	mg/l							
LCS (0092324-BS1)					Prepared: 09/22/10		Analyzed: 09/23/10				
Selenium	0.097	0.00005	0.0005	mg/l	0.100		97	75-125			
LCS Dup (0092324-BSD1)					Prepared: 09/22/10		Analyzed: 09/23/10				
Selenium	0.100	0.00005	0.0005	mg/l	0.100		100	75-125	3	20	
Duplicate (0092324-DUP1)			**Source: 10I0394-01RE1**		Prepared: 09/22/10		Analyzed: 09/23/10				
Selenium	0.0001	0.00005	0.0005	mg/l		0.0003			73	20	QR-04, J

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 10I0394**
Project Name: Santee Receiving Waters Study

Total Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0092324											
Matrix Spike (0092324-MS1)			**Source: 10I0394-01RE1**		Prepared: 09/22/10		Analyzed: 09/23/10				
Selenium	0.098	0.00005	0.0005	mg/l	0.100	0.0003	97	75-125			
Matrix Spike Dup (0092324-MSD1)			**Source: 10I0394-01RE1**		Prepared: 09/22/10		Analyzed: 09/23/10				
Selenium	0.096	0.00005	0.0005	mg/l	0.100	0.0003	95	75-125	2	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 10I0394**
Project Name: Santee Receiving Waters Study

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0091625											
Blank (0091625-BLK1)					Prepared & Analyzed: 09/16/10						
Sulfate as SO4	ND	1.0	5.0	mg/l							
LCS (0091625-BS1)					Prepared & Analyzed: 09/16/10						
Sulfate as SO4	10.9	1.0	5.0	mg/l	10.0		109	80-120			
LCS Dup (0091625-BSD1)					Prepared & Analyzed: 09/16/10						
Sulfate as SO4	10.4	1.0	5.0	mg/l	10.0		104	80-120	4	20	
Duplicate (0091625-DUP1)			**Source: 10I0349-01**		Prepared & Analyzed: 09/16/10						
Sulfate as SO4	279	10.0	50.0	mg/l		284			2	20	
Matrix Spike (0091625-MS1)			**Source: 10I0349-01**		Prepared & Analyzed: 09/16/10						
Sulfate as SO4	387	10.0	50.0	mg/l	100	284	104	80-120			
Matrix Spike Dup (0091625-MSD1)			**Source: 10I0349-01**		Prepared & Analyzed: 09/16/10						
Sulfate as SO4	380	10.0	50.0	mg/l	100	284	96	80-120	2	20	
Batch 0091626											
Blank (0091626-BLK1)					Prepared & Analyzed: 09/16/10						
Orthophosphate as P	ND	0.007	0.05	mg/l							
LCS (0091626-BS1)					Prepared & Analyzed: 09/16/10						
Orthophosphate as P	0.42	0.007	0.05	mg/l	0.500		83	80-120			
LCS Dup (0091626-BSD1)					Prepared & Analyzed: 09/16/10						
Orthophosphate as P	0.45	0.007	0.05	mg/l	0.500		90	80-120	7	20	

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Client Name: D-Max Engineering **EMA Log #: 10I0394**
Project Name: Santee Receiving Waters Study

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0091626											
Duplicate (0091626-DUP1)			**Source: 10I0366-01**		Prepared & Analyzed: 09/16/10						
Orthophosphate as P	0.10	0.007	0.05	mg/l		0.10			2	20	
Matrix Spike (0091626-MS1)			**Source: 10I0366-01**		Prepared & Analyzed: 09/16/10						
Orthophosphate as P	0.57	0.007	0.05	mg/l	0.500	0.10	94	80-120			
Matrix Spike Dup (0091626-MSD1)			**Source: 10I0366-01**		Prepared & Analyzed: 09/16/10						
Orthophosphate as P	0.57	0.007	0.05	mg/l	0.500	0.10	94	80-120	0.4	20	
Batch 0091701											
Blank (0091701-BLK1)					Prepared & Analyzed: 09/17/10						
Nitrate/Nitrite as N	ND	0.009	0.05	mg/l							
LCS (0091701-BS1)					Prepared & Analyzed: 09/17/10						
Nitrate/Nitrite as N	0.51	0.009	0.05	mg/l	0.500		103	80-120			
LCS Dup (0091701-BSD1)					Prepared & Analyzed: 09/17/10						
Nitrate/Nitrite as N	0.50	0.009	0.05	mg/l	0.500		100	80-120	3	20	
Duplicate (0091701-DUP1)			**Source: 10I0394-01**		Prepared & Analyzed: 09/17/10						
Nitrate/Nitrite as N	0.08	0.009	0.05	mg/l		0.08			4	20	
Matrix Spike (0091701-MS1)			**Source: 10I0394-01**		Prepared & Analyzed: 09/17/10						
Nitrate/Nitrite as N	0.53	0.009	0.05	mg/l	0.500	0.08	90	80-120			
Matrix Spike Dup (0091701-MSD1)			**Source: 10I0394-01**		Prepared & Analyzed: 09/17/10						
Nitrate/Nitrite as N	0.56	0.009	0.05	mg/l	0.500	0.08	98	80-120	7	20	

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Client Name: D-Max Engineering **EMA Log #: 10I0394**
Project Name: Santee Receiving Waters Study

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0091725											
Blank (0091725-BLK1)					Prepared: 09/18/10 Analyzed: 09/20/10						
Total Dissolved Solids	ND	1.0	20.0	mg/l							
Duplicate (0091725-DUP1)			**Source: 10I0362-01**		Prepared: 09/18/10 Analyzed: 09/20/10						
Total Dissolved Solids	1140	1.0	20.0	mg/l		1150			0.7	20	
Reference (0091725-SRM1)					Prepared: 09/18/10 Analyzed: 09/20/10						
Total Dissolved Solids	348	1.0	20.0	mg/l	288		121	75-125			
Batch 0092224											
Blank (0092224-BLK1)					Prepared & Analyzed: 09/22/10						
Phosphorus, Total	ND	0.02	0.05	mg/l							
LCS (0092224-BS1)					Prepared & Analyzed: 09/22/10						
Phosphorus, Total	0.51	0.02	0.05	mg/l	0.500		102	80-120			
LCS Dup (0092224-BSD1)					Prepared & Analyzed: 09/22/10						
Phosphorus, Total	0.50	0.02	0.05	mg/l	0.500		99	80-120	3	20	
Duplicate (0092224-DUP1)			**Source: 10I0500-01**		Prepared & Analyzed: 09/22/10						
Phosphorus, Total	0.53	0.02	0.05	mg/l		0.53			0.8	20	
Matrix Spike (0092224-MS1)			**Source: 10I0500-01**		Prepared & Analyzed: 09/22/10						
Phosphorus, Total	1.04	0.02	0.05	mg/l	0.500	0.53	102	80-120			
Matrix Spike Dup (0092224-MSD1)			**Source: 10I0500-01**		Prepared & Analyzed: 09/22/10						
Phosphorus, Total	1.00	0.02	0.05	mg/l	0.500	0.53	95	80-120	3	20	

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Client Name: D-Max Engineering **EMA Log #: 10I0394**
Project Name: Santee Receiving Waters Study

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 0093001											
Blank (0093001-BLK1)					Prepared & Analyzed: 09/27/10						
Total Kjeldahl Nitrogen	ND	0.3	0.5	mg/l							
LCS (0093001-BS1)					Prepared & Analyzed: 09/27/10						
Total Kjeldahl Nitrogen	4.0	0.3	0.5	mg/l	4.10		96	80-120			
LCS Dup (0093001-BSD1)					Prepared & Analyzed: 09/27/10						
Total Kjeldahl Nitrogen	3.5	0.3	0.5	mg/l	4.10		86	80-120	12	20	
Duplicate (0093001-DUP1)			**Source: 10I0375-05**		Prepared & Analyzed: 09/27/10						
Total Kjeldahl Nitrogen	0.6	0.3	0.5	mg/l		0.5			16	20	
Matrix Spike (0093001-MS1)			**Source: 10I0375-05**		Prepared & Analyzed: 09/27/10						
Total Kjeldahl Nitrogen	3.9	0.3	0.5	mg/l	4.10	0.5	84	80-120			
Matrix Spike Dup (0093001-MSD1)			**Source: 10I0375-05**		Prepared & Analyzed: 09/27/10						
Total Kjeldahl Nitrogen	4.3	0.3	0.5	mg/l	4.10	0.5	94	80-120	10	20	

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Notes and Definitions

QR-04	The RPD between the sample and sample duplicate is not valid since both results are below the reporting limit for this analyte.
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
ND	Analyte NOT DETECTED at or above the reporting limit (or method detection limit when specified)
NR	Not Reported
dry	Sample results reported on a dry weight basis (if indicated in units column)
RPD	Relative Percent Difference
MDL	Method detection limit (indicated per client's request)

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CHAIN-OF-CUSTODY RECORD

– EnviroMatrix EMA Analytical, Inc. ——

4340 Viewridge Ave., Ste. A - San Diego, CA 92123 - Phone (858) 560-7717 - Fax (858) 560-7763

EMA LOG #: 10I0394

Client: D. Max Engineering Inc.

Attn: Arsalan Dadkhah

Samplers(s): MD/JR

Address: 7220 Trade street, Suite 119
San Diego, CA 92121

Phone: 858-586-6600 Fax: 858-586-6644

Email:

Billing Address: Same

Project ID: Santee Receiving water study

Project #: 201022W-4 PO #:

Requested Analysis

ID #	Client Sample ID	Sample Date	Sample Time	Sample Matrix	Container # / Type	Oil & Grease □ 413.1 □ 413.2 □ 1664	8015B (TPH) □ Gas □ Diesel □ Ext	624/8260 (VOC) Full BTXE MTBE Oxy Nap	625 / 8270 (SVOC) □ PAH only	608 / 8081 (Organochlorine Pesticides)	608 / 8082 (Polychlorinated Biphenyls)	8141 (Organophosphorus Pesticides)	TBT (Organotin Compounds)	□ pH □ EC □ TSS X TDS	□ Nitrate □ Nitrite □ TKN □ NH3	CAC Title 22/CAM17 Metals □ TTLC □ STLC	TCLP (RCRA) □ Metals □ Organics	Cd Cr Cu Pb Ni Ag Zn □ Dissolved	Coliform. X Total (MTF) X Fecal (MTF)	Colilert, T+E.Coli □ P/A □ Enumeration	Enterococcus, X MTF □ Enterolert	Heterotrophic Plate Count (HPC)	□ BOD □ COD □ Cyanide	Total Nitrogen	Total Phosphorus	Total Selenium	Sulfate	Orthophosphate-Phosphorus
1	Sycamore Cr. downstream	9/16/10	9:25	SW	6P									X					X		X			X	X	X	X	X
2																												
3																												
4																												
5																												
6																												
7																												
8																												
9																												
10																												

SEP 16 '10 13:26

Matrix Codes: A = Air, DW = Drinking Water, GW = Groundwater, SW = Storm Water
WW = Wastewater, S = Soil, SED = Sediment, SD = Solid, T = Tissue, O = Oil, L = Liquid

Shipped By: □ Courier □ UPS □ FedEx □ USPS □ Client Drop Off □ Other

[1]**Turn-Around-Time:** □ Same Day □ 24 hr □ 48 hr □ 3 day □ 4 day □ 5 day □ STD (7 day)

[1]**Reporting Requirements:** □ Fax □ PDF □ Excel □ Geotracker/EDF □ Hard Copy □ EDT

[1]**Sample Disposal:** □ By Laboratory □ [2]Return to Client: P/U or Delivery □ Archive

Sample Integrity

Correct Containers: Yes No N/A	Containers Properly Preseved: Yes No N/A
Custody Seals Intact: Yes No N/A	Temp @ Receipt:
COC Labels Agree: Yes No N/A	Sampled By: Client EMA Autosampler

	RELINQUISHED BY	DATE/TIME	RECEIVED BY
Signature	Manouchehr Dadkhah	9/16/10	Kelly Leyden
Print	Manouchehr Dadkhah	13:00	Kelly Leyden
Company:	D. Max Eng		EMA
Signature	Kelly Leyden	9/16/10	
Print	Kelly Leyden	13:12	
Company:	EMA		
Signature			
Print			
Company:			

Project/Sample Comments: Please run selenium Test Twice:
1-Once using EPA 200.8
2-Once using a modified method in which only nitric acid is used in the digestion
Dont run an initial dilution on Sycamore Creek bacteria tests (RL=2 MPN/100mL)

T= 5 °C on ice

[1]Additional costs may apply, consult a project manager for details.

[2]EMA reserves the right to return any samples that do not match our waste profile.

NOTE: By relinquishing samples to EMA, Inc., client agrees to pay for the services requested on this COC form and any additional analyses performed on this project. Payment for services is due within 30 days from date of invoice. Samples will be disposed of 7 days after report has been finalized unless otherwise noted. All work is subject to EMA's terms and conditions.

Appendix D

Field Data Sheets

Round One

LC

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☐ MS4 ☒ Receiving Water

Site ID	Forester Creek Downstream		**Latitude**	32.83953	**Watershed**	**Hydrologic Unit**	907
Location	Approximately 200 feet north of the Mission Gorge Road and Fanita Drive intersection, east of Fanita Creek		**Longitude**	-117.00291		**Hydrologic Area**	907.1
			TB Page	1231-B6		**Hydrologic Subarea** (Optional)	907.12
Date	5/17/10	**Time** 14:50	**Observer**	MD/AK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☒ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☒ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☒ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☐ Sunny ☐ Partly Cloudy ☒ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☐ None	☒ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☒ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☒ Normal	☐ Excessive		☐ Other
Biology	☒ None	☐ Insects ☐ Algae ☐ Fish ☐ Snails		☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 8-11

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	20.5	NH_3-N (mg/L)	NA	NO_3 (mg/L)	NA	Ortho-PO_4 (mg/L)	NA
pH (pH units)	7.8	TURB (NTU)	NA	NO_3-N (mg/L)	NA	Ortho-PO_4 -P (mg/L)	NA
COND (mS/cm)	2.76	MBAS (mg/L)	NA	DO (mg/L)	7.89		

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width	70	in
Depth	10	in
Velocity	0.30	ft/sec
Flow	654	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

LC

San Diego Stormwater Copermittees

City of Santee

Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☐ MS4 ☒ Receiving Water

Site ID	Forester Creek Upstream		**Latitude**	32.83093	**Watershed**	**Hydrologic Unit**	907
Location	Beneath the Prospect Avenue bridge, west of Cuyamaca Street		**Longitude**	-116.98543		**Hydrologic Area**	907.1
			TB Page	1251-C7		**Hydrologic Subarea** (Optional)	907.13
Date	5/17/10	**Time** 12:30	**Observer**	MD/AK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☐ Commercial ☒ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☒ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☐ Outlet ☒ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☐ Sunny ☐ Partly Cloudy ☒ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor ☒ None ☐ Musty ☐ Rotten Eggs ☐ Chemical ☐ Sewage ☐ Other

Color ☒ None ☐ Yellow ☐ Brown ☐ White ☐ Gray ☐ Other

Clarity ☒ Clear ☐ Slightly Cloudy ☐ Opaque ☐ Other

Floatables ☒ None ☐ Trash ☐ Bubbles/Foam ☐ Sheen ☐ Fecal Matter ☐ Other

Deposits ☐ None ☐ Sediment/Gravel ☒ Fine Particulates ☐ Stains ☐ Oily Deposits ☐ Other

Vegetation ☒ None ☐ Limited ☐ Normal ☐ Excessive ☐ Other

Biology ☐ None ☐ Insects ☒ Algae ☐ Fish ☒ Snails ☐ Mussels/ Barnacles ☐ Insect/ Algae ☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 4-5

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	20.2	NH_3-N (mg/L)	NA	NO_3 (mg/L)	NA	Ortho-PO_4 (mg/L)	NA
pH (pH units)	8.3	TURB (NTU)	NA	NO_3-N (mg/L)	NA	Ortho-PO_4-P (mg/L)	NA
COND (mS/cm)	2.73	MBAS (mg/L)	NA	DO (mg/L)	9.68		

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width	30	in
Depth	4	in
Velocity	1.57	ft/sec
Flow	586	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☐ MS4 ☒ Receiving Water

Site ID	San Diego River Downstream		**Latitude**	32.83936	**Watershed**	**Hydrologic Unit**	907
Location	Beneath the West Hills Parkway bridge		**Longitude**	-117.02450		**Hydrologic Area**	907.1
			TB Page	1230-H6		**Hydrologic Subarea** (Optional)	907.12
Date	5/17/10	**Time** 1345	**Observer**	MD/AK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☒ Open

Land Use (Secondary) (Optional, greater than 10%) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☒ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☐ Sunny ☐ Partly Cloudy ☒ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☒ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☒ Normal	☐ Excessive		☐ Other
Biology	☒ None	☐ Insects ☐ Algae ☐ Fish ☐ Snails		☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 16-7

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	19.0	NH_3-N (mg/L)	NA	NO_3 (mg/L)	NA	Ortho-PO_4 (mg/L)	NA
pH (pH units)	7.8	TURB (NTU)	NA	NO_3-N (mg/L)	NA	Ortho-PO_4 -P (mg/L)	NA
COND (mS/cm)	2.05	MBAS (mg/L)	NA	DO (mg/L)	6.95		

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	* 1212	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: *Flow data from USGS flow gauge

LC

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☐ MS4 ☒ Receiving Water

Site ID	San Diego River Upstream		**Latitude**	32.85282	**Watershed**	**Hydrologic Unit**	907
Location	Approximately 200 feet downstream of the rock dam at the east end of the RCP service road		**Longitude**	-116.95281		**Hydrologic Area**	907.1
			TB Page	1231 - G4		**Hydrologic Subarea** (Optional)	907.12
Date	5/17/10	**Time** 10:50	**Observer**	MD/AK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☒ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☒ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☒ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☐ Sunny ☐ Partly Cloudy ☒ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☒ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☒ Normal	☐ Excessive		☐ Other
Biology	☐ None	☒ Insects ☐ Algae ☐ Fish ☐ Snails		☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 1-3

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	21.0	NH_3-N (mg/L)	NA	NO_3 (mg/L)	NA	Ortho-PO_4 (mg/L)	NA
pH (pH units)	7.9	TURB (NTU)	NA	NO_3-N (mg/L)	NA	Ortho-PO_4 -P (mg/L)	NA
COND (mS/cm)	1.50	MBAS (mg/L)	NA	DO (mg/L)	8.27		

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width	54	in
Depth	4.5	in
Velocity	0.22	ft/sec
Flow	~~Hold~~	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: (160)

LC

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☐ MS4 ☒ Receiving Water

Site ID	Sycamore Creek Downstream		**Latitude**	32.84441	**Watershed**	**Hydrologic Unit**	907
Location	Beneath the Carlton Oaks Drive bridge, west of the Santee Recreation Lakes		**Longitude**	-117.00652		**Hydrologic Area**	907.1
			TB Page	1231-A6		**Hydrologic Subarea** (Optional)	907.12
Date	5/17/10	**Time** 1540	**Observer**	MD/AK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☒ Open

Land Use (Secondary) (Optional, greater than 10%) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☒ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☐ Sunny ☐ Partly Cloudy ☒ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☒ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☒ Normal	☐ Excessive		☐ Other

Biology ☐ None ☐ Insects ☒ Algae ☐ Fish ☐ Snails ☐ Mussels/ Barnacles ☐ Insect/ Algae ☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 12-14

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	20.7	NH_3-N (mg/L)	NA	NO_3 (mg/L)	NA	Ortho-PO_4 (mg/L)	NA
pH (pH units)	7.8	TURB (NTU)	NA	NO_3-N (mg/L)	NA	Ortho-PO_4 -P (mg/L)	NA
COND (mS/cm)	1.09	MBAS (mg/L)	NA	DO (mg/L)	6.10		

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width	48	in
Depth	3	in
Velocity	0.58	ft/sec
Flow	260	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

Round Two

JR

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☑ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☐ MS4 ☑ Receiving Water

Site ID	Forester Creek Downstream		**Latitude**	32.83953	Watershed	**Hydrologic Unit**	907
Location	approx. 200ft north of the Mission Gorge Rd and Fanita Dr. intersection, east of Fanita Creek		**Longitude**	-117.00241		**Hydrologic Area**	907.1
			TB Page	1231 A6		**Hydrologic Subarea** (Optional)	907.12
Date	9/15/10	**Time** 11:50	**Observer**	MD/JR		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☑ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☑ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☑ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☑ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☑ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☑ > 72 hours ☐ < 72 hours

Rainfall ☑ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☑ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☑ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☑ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☑ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☑ Sediment/Gravel	☑ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☑ Normal	☐ Excessive		☐ Other
Biology	☐ None	☐ Insects	☑ Algae ☑ Fish ☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☑ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☑ Yes ☐ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☑ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☑ Yes ☐ No **Photo #** 32-35

Field Screening Samples Collected? ☑ Yes ☐ No

Water Temp (°C)	20.8	NH_3-N (mg/L)	NA	NO_3 (mg/L)	NA	Ortho-PO_4 (mg/L)	NA
pH (pH units)	7.6	TURB (NTU)	5.64	NO_3-N (mg/L)	NA	Ortho-PO_4-P (mg/L)	NA
COND (mS/cm)	2.75	MBAS (mg/L)	NA	DO (mg/L)	5.66		

Analytical Lab Samples Collected? ☑ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width	60	in
Depth	1.5	in
Velocity	3.7/15	ft/sec
Flow	609	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: Significant amounts of trash including styrofoam peices, hard packaging and wood planks

JR

San Diego Stormwater Copermittees

City of Santee

Dry Weather Monitoring Field Datasheet

☑ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☐ MS4 ☑ Receiving Water

Site ID	Forester Creek Upstream		**Latitude**	32.83093	**Watershed**	**Hydrologic Unit**	907
Location	Beneath the Prospect Avenue bridge, west of Cuyamaca Street		**Longitude**	-116.98543		**Hydrologic Area**	907.1
			TB Page	1231 C7		**Hydrologic Subarea** (Optional)	907.13
Date	9/15/10	**Time** 11:00	**Observer**	MD/JR		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☐ Commercial ☑ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☑ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☐ Outlet ☑ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☑ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☑ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☑ > 72 hours ☐ < 72 hours

Rainfall ☑ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☑ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☑ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☑ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☐ None	☐ Trash	☑ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☑ Sediment/Gravel	☑ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☑ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other

Biology ☐ None ☐ Insects ☑ Algae ☐ Fish ☐ Snails ☐ Mussels/ Barnacles ☐ Insect/ Algae ☐ Insect/ Snail ☑ Other crayfish

Water Flow ☑ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☑ Yes ☐ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☑ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☑ Yes ☐ No **Photo #** 30-31

Field Screening Samples Collected? ☑ Yes ☐ No

Water Temp (°C)	28.9	NH_3-N (mg/L)	NA	NO_3 (mg/L)	NA	Ortho-PO_4 (mg/L)	NA
pH (pH units)	8.0	TURB (NTU)	4.09	NO_3-N (mg/L)	NA	Ortho-PO_4 -P (mg/L)	NA
COND (mS/cm)	2.71	MBAS (mg/L)	NA	DO (mg/L)	7.72		

Analytical Lab Samples Collected? ☑ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width	19	in
Depth	1.5	in
Velocity	5.6/10	ft/sec
Flow	49	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

JK

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☑ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☐ MS4 ☑ Receiving Water

Site ID	San Diego River Downstream		**Latitude**	32.83936	**Watershed**	**Hydrologic Unit**	907
Location	Beneath the West Hills Parkway Bridge		**Longitude**	-117.02452		**Hydrologic Area**	907.1
			TB Page	1230 H6		**Hydrologic Subarea** (Optional)	907.12
Date	9/15/10	**Time** 12:30	**Observer**	MD/JK		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☑ Open

Land Use (Secondary) (Optional, greater than 10%) ☑ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☑ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☑ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☑ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☑ > 72 hours ☐ < 72 hours

Rainfall ☑ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☑ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☑ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☑ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☑ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☑ Sediment/Gravel	☑ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☑ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☐ None	☑ Insects	☑ Algae	☐ Fish	☐ Snails	☐ Mussels/ Barnacles ☐ Insect/ Algae ☐ Insect/ Snail ☐ Other

Water Flow ☑ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☑ Yes ☐ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☑ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☑ Yes ☐ No **Photo #** 36 - 37

Field Screening Samples Collected? ☑ Yes ☐ No

Water Temp (°C)	21.3	NH_3-N (mg/L)	NA	NO_3 (mg/L)	NA	Ortho-PO_4 (mg/L)	NA
pH (pH units)	7.4	TURB (NTU)	1.82	NO_3-N (mg/L)	NA	Ortho-PO_4-P (mg/L)	NA
COND (mS/cm)	2.83	MBAS (mg/L)	NA	DO (mg/L)	5.12		

Analytical Lab Samples Collected? ☑ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width	50	in
Depth	2.5	in
Velocity	3.78	ft/sec
Flow	180	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: Flow = 188.5gpm per USGS flow gauge

San Diego Stormwater Copermittees

City of Santee

Dry Weather Monitoring Field Datasheet

JR

☑ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☐ MS4 ☑ Receiving Water

Site ID	San Diego River upstream		**Latitude**	32.85282	**Watershed**	**Hydrologic Unit**	907
Location	Approximately 200 ft downstream of the rock dam at east end of RCP service road		**Longitude**	-116.95281		**Hydrologic Area**	907.1
			TB Page	1231 E5		**Hydrologic Subarea** (Optional)	907.12
Date	9/15/10	**Time** 9:50	**Observer**	MD/JR		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☑ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☑ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☑ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☑ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☑ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☑ > 72 hours ☐ < 72 hours

Rainfall ☑ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☑ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☑ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☑ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☑ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☑ Sediment/Gravel	☑ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☑ Normal	☐ Excessive		☐ Other
Biology	☐ None	☑ Insects ☑ Algae	☐ Fish ☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☑ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☑ Yes ☐ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☑ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☑ Yes ☐ No **Photo #** 28 - 29

Field Screening Samples Collected? ☑ Yes ☐ No

Water Temp (°C)	23.8	NH_3-N (mg/L)	NA	NO_3 (mg/L)	NA	Ortho-PO_4 (mg/L)	NA
pH (pH units)	7.2	TURB (NTU)	5.53	NO_3-N (mg/L)	NA	Ortho-PO_4-P (mg/L)	NA
COND (mS/cm)	1.89	MBAS (mg/L)	NA	DO (mg/L)	7.68		

Analytical Lab Samples Collected? ☑ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width	35	in
Depth	0.5	in
Velocity	3.7/8	ft/sec
Flow	25	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

JR

San Diego Stormwater Copermittees
City of Santee
Dry Weather Monitoring Field Datasheet

☑ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☐ MS4 ☑ Receiving Water

Site ID	Sycamore Creek Downstream		**Latitude**	32.84441	**Watershed**	**Hydrologic Unit**	907
Location	Beneath the Carlton Oaks Dr. bridge, west of Santee Recreation Lakes		**Longitude**	-117.00652		**Hydrologic Area**	907.1
			TB Page	1231 A6		**Hydrologic Subarea** (Optional)	907.12
Date	9/16/10	**Time** 9:25	**Observer**	MD/JR		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☑ Open

Land Use (Secondary) (Optional, greater than 10%) ☑ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☑ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☑ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☑ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☑ > 72 hours ☐ < 72 hours

Rainfall ☑ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☑ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☑ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☑ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☑ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☑ Sediment/Gravel	☑ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☑ Normal	☐ Excessive		☐ Other
Biology	☐ None	☑ Insects ☑ Algae	☐ Fish ☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☑ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☑ Yes ☐ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☑ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☑ Yes ☐ No **Photo #** 43-45

Field Screening Samples Collected? ☑ Yes ☐ No

Water Temp (°C)	20.1	NH_3-N (mg/L)	NA	NO_3 (mg/L)	NA	Ortho-PO_4 (mg/L)	NA
pH (pH units)	7.0	TURB (NTU)	0.87	NO_3-N (mg/L)	NA	Ortho-PO_4 -P (mg/L)	NA
COND (mS/cm)	1.93	MBAS (mg/L)	NA	DO (mg/L)	5.21		

Analytical Lab Samples Collected? ☑ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width	40	in
Depth	1.0	in
Velocity	3.7/8	ft/sec
Flow	58	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

CITY OF SANTEE



Jurisdictional Urban Runoff Management Program

Annual Report 2011-2012

TABLE OF CONTENTS

CERTIFICATION STATEMENT

EXECUTIVE SUMMARY ES-1

1.0 INTRODUCTION 1-1
- 1.1 Background 1-1
  - 1.1.1 Regulatory Background 1-1
  - 1.1.2 City Setting 1-1
  - 1.1.3 Water Quality Impairments 1-2
- 1.2 Purpose and Objectives 1-4
- 1.3 Report Organization 1-4

2.0 DEVELOPMENT PLANNING COMPONENT 2-1
- 2.1 Introduction 2-1
  - 2.1.1 Summary of Notable Accomplishments 2-1
- 2.2 Land Use Planning 2-1
  - 2.2.1 Background 2-1
  - 2.2.2 Source Characterization 2-1
  - 2.2.3 Best Management Practice Requirements 2-2
  - 2.2.4 Program Implementation 2-2
- 2.3 Environmental Review Process 2-2
- 2.4 Development Project Approval and Verification Process 2-2
  - 2.4.1 Background 2-2
  - 2.4.2 Source Characterization 2-3
  - 2.4.3 Best Management Practice Requirements 2-3
  - 2.4.4 Program Implementation 2-3
    - 2.4.4.1 Outreach and Staff Training 2-3
    - 2.4.4.2 Urban Runoff Approval Process for Development Projects 2-3
    - 2.4.4.3 Treatment Control BMP Inspection and Maintenance Verification Program 2-6
- 2.5 Development Planning Component Effectiveness Assessment 2-11
- 2.6 Program Review and Modification 2-11

3.0 CONSTRUCTION 3-1
- 3.1 Introduction 3-1
  - 3.1.1 Summary of Notable Accomplishments 3-1
- 3.2 Source Characterization 3-2
- 3.3 Updates to Ordinances and Approval Processes 3-2
- 3.4 Best Management Practice Requirements 3-2
- 3.5 Program Implementation 3-2
  - 3.5.1 Education and Staff Training 3-3
  - 3.5.2 Construction and Grading Approval Process 3-3
  - 3.5.3 Inspection of Construction Sites 3-3
  - 3.5.4 Enforcement Measures 3-4

TABLE OF CONTENTS (CONTINUED)

3.6 Construction Activities Effectiveness Assessment 3-5
3.7 Program Review and Modification 3-5

4.0 MUNICIPAL COMPONENT 4-1
4.1 Introduction 4-1
4.1.1 Summary of Notable Accomplishments 4-1
4.2 Fixed Facilities 4-1
4.2.1 Background 4-1
4.2.2 Source Characterization 4-2
4.2.3 Best Management Practice Requirements 4-2
4.2.4 Program Implementation 4-2
4.3 Roads, Streets, Highways, and Parking Facilities 4-4
4.3.1 Background 4-4
4.3.2 Source Characterization 4-4
4.3.3 Best Management Practices 4-4
4.3.4 Program Implementation 4-4
4.4 MS4 4-5
4.4.1 Background 4-5
4.4.2 Source Characterization 4-5
4.4.3 Best Management Practices 4-5
4.4.4 Program Implementation 4-6
4.5 Sanitary Sewer System 4-7
4.5.1 Background 4-7
4.5.2 Source Characterization 4-7
4.5.3 Best Management Practices 4-7
4.5.4 Program Implementation 4-7
4.6 Mobile Municipal Activities 4-8
4.6.1 Background 4-8
4.6.2 Source Characterization 4-8
4.6.3 Best Management Practices 4-9
4.6.4 Program Implementation 4-9
4.7 Special Events 4-9
4.7.1 Background 4-9
4.7.2 Source Characterization 4-9
4.7.3 Best Management Practices 4-10
4.7.4 Program Implementation 4-10
4.8 Education and Outreach 4-10
4.9 Spill Reporting, Response, and Prevention 4-10
4.10 Public Reporting of Illicit Discharges and Connections 4-11
4.11 Municipal Component Effectiveness Assessment 4-11
4.12 Program Modification and Review 4-11

5.0 INDUSTRIAL AND COMMERCIAL 5-1
5.1 Introduction 5-1

TABLE OF CONTENTS (CONTINUED)

5.1.1 Summary of Notable Accomplishments 5-1
5.2 Stationary Industrial and Commercial Sites / Sources Element 5-1
5.2.1 Background 5-1
5.2.2 Source Characterization 5-2
5.2.3 Best Management Practice Requirements 5-2
5.2.4 Program Implementation 5-3
5.3 Mobile Sources 5-7
5.3.1 Background 5-7
5.3.2 Source Characterization 5-7
5.3.3 Best Management Practice Requirements 5-8
5.3.4 Program Implementation 5-8
5.4 Industrial and Commercial Component Effectiveness Assessment 5-9
5.5 Program Review and Modification 5-9
6.0 RESIDENTIAL 6-1
6.1 Introduction 6-1
6.1.1 Summary of Notable Accomplishments 6-1
6.2 Source Characterization 6-1
6.3 Best Management Practice Requirements 6-2
6.4 Program Implementation 6-2
6.4.1 Outreach and Education 6-2
6.4.2 Used Oil and Waste Collection Services 6-4
6.4.3 Hotlines and Websites 6-4
6.4.4 Complaint Investigation 6-4
6.4.5 Enforcement 6-5
6.4.6 Regional Residential Education Program 6-5
6.4.7 Methods Evaluation 6-5
6.5 Effectiveness Assessment 6-6
6.6 Program Review and Modification 6-6
7.0 ILLICIT DISCHARGE DETECTION AND ELIMINATION 7-1
7.1 Introduction 7-1
8.0 EDUCATION COMPONENT 8-1
8.1 Introduction 8-1
8.1.1 Summary of Notable Accomplishments 8-1
8.2 Staff Training Element 8-1
8.3 Educational Outreach Element 8-2
8.3.1 Industrial and Commercial Businesses 8-2
8.3.1.1 Mobile Businesses 8-3
8.3.2 Construction Site Owners and Developers 8-4
8.3.3 Residential Areas 8-4
8.3.4 Underserved Communities 8-5
8.3.5 Complaint Investigations 8-6
8.3.6 Educational Material Distributed 8-6

TABLE OF CONTENTS (CONTINUED)

8.4 Outreach Component Effectiveness Assessment 8-7
8.5 Program Review and Modification 8-7

9.0 PUBLIC PARTICIPATION 9-1
9.1 Introduction 9-1
9.1.1 Summary of Notable Accomplishments 9-1
9.2 Events and Programs 9-1
9.3 Public Participation Component Effectiveness Assessment 9-3
9.4 Program Review and Modification 9-3

10.0 FISCAL ANALYSIS 10-1
10.1 Introduction 10-1

11.0 EFFECTIVENESS ASSESSMENT 11-1
11.1 Introduction 11-1
11.1.1 Outcome Level Assessments 11-2
11.1.2 Overall Component Assessments 11-4
11.2 Program Review and Modification 11-6

12.0 SPECIAL INVESTIGATIONS 12-1
12.1 Surface Water Quality Monitoring 12-1
12.2 Comprehensive Load Reduction Plan (CLRP) 12-1
12.2 Regional Bacteria Reference Study 12-2

13.0 NON-EMERGENCY FIRE FIGHTING 13-1

14.0 JURMP REVISIONS 14-1

15.0 CONCLUSIONS AND RECOMMENDATIONS 15-1

16.0 REFERENCES 16-1

Tables

Table 1-1 City of Santee Land Use Breakdown
Table 2-1 Development Projects Subject to SUSMP Requirements During 2011/2012
Table 2-2 Assessment of Compliance with Required Inspection Frequencies
Table 2-3 Summary of Treatment Control BMP Inspection Results
Table 3-1 Total Number of Enforcement Actions Taken
Table 4-1 Street Sweeping Prioritization and Frequency
Table 4-2 Reported Sewer Spill Releases
Table 5-1 Violations of the General Industrial Permit
Table 5-2 Industrial and Commercial Sites Inspected During the Reporting Period
Table 6-1 Summary of Outreach and Education Activities
Table 8-1 Educational Material Distributed
Table 9-1 Summary of Cleanup Events
Table 10-1 Expenditure Summary
Table 10-2 Fund Summary

TABLE OF CONTENTS (CONTINUED)

Tables (Continued)

Table 10-3 Watershed Urban Runoff Management Program (WURMP) Expenses
Table 10-4 Regional Urban Runoff Management Program (RURMP) Expenses
Table 11-1 Development Planning Component Assessment Measures
Table 11-2 Construction Component Assessment Measures
Table 11-3 Municipal Component Assessment Measures
Table 11-4 Industrial and Commercial Component Assessment Measures
Table 11-5 Residential Component Assessment Measures
Table 11-6 Illicit Discharge Detection and Elimination Component Assessment Measures
Table 11-7 Education Component Assessment Measures
Table 11-8 Public Participation Component Assessment Measures

Figures

Figure 1-1 City of Santee Land Use and Drainage Basins
Figure 11-1 Historical Flow Rates of Key Monitoring Sites in the MS4 (2002-2012)
Figure 11-2 Individual Historical Flow Rates of Key Monitoring Sites in the MS4 (2002-2012)
Figure 11-3 Map of Key Monitoring Sites in the MS4
Figure 11-4 Key Constituent Concentrations and Loading Rates of MS4 Outfall Monitoring Sites (2009-2012)
Figure 11-5 Dry Weather Monitoring Historical Exceedance Summary: Field Screening Tests
Figure 11-6 Dry Weather Monitoring Historical Exceedance Summary: Laboratory Analytical Tests
Figure 11-7 Additional Study Data: pH
Figure 11-8 Additional Study Data: Fecal Coliforms, Forester Creek
Figure 11-9 Additional Study Data: Fecal Coliforms, San Diego River
Figure 11-10 Additional Study Data: Fecal Coliforms, Sycamore Creek

Appendices

Appendix A Inventories
- A.1 Permanent Treatment Control BMP Inventory
- A.2 Construction Inventory
- A.3 Municipal Inventory
- A.4 Industrial/Commercial Inventory

Appendix B Summary of Documented Complaints and Staff Observations of Violations
Appendix C JURMP Annual Report Requirements Checklist

Attachments

Attachment 5.1 Stormwater Factsheets
Attachment 8.1 Oil Leak Prevention Tip Card
Attachment 8.2 Santee Review Articles
Attachment 12.1 Additional Study

CERTIFICATION STATEMENT

Date: September 2012

I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gather and evaluate the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete.

I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations.

Pedro Orso Delgado, P.E.
Deputy City Manager/Director of Development Services

EXECUTIVE SUMMARY

The City of Santee (City) has been actively developing and implementing storm water pollution prevention measures since 1990. In January 2007, a Municipal Permit (Permit) was jointly issued to 18 municipalities in San Diego County, including the City; the County of San Diego; the San Diego County Regional Airport Authority; and the San Diego Unified Port District (collectively referred to as "Copermittees"). The Permit requires that the City develop and maintain a Jurisdictional Urban Runoff Management Program (JURMP) that describes the programs and standards that the City will use to meet the requirements of the Permit and to submit Annual Reports on its activities.

Originally developed in 2002, the City's JURMP was updated and submitted to the San Diego Regional Water Quality Control Board (RWQCB) in March 2008. The JURMP includes Best Management Practice (BMP) standards for businesses, construction, development projects, residents, and the City's own activities. The JURMP also includes programs for water quality monitoring and educational outreach.

This JURMP Annual Report presents the City's activities to implement its JURMP during the 2011/2012 fiscal year (Reporting Period), which began on July 1, 2011 and ended on June 30, 2012. Each section of this JURMP Annual Report discusses how the City's efforts during the Reporting Period met the requirements of the Municipal Permit. Key actions taken for the major components of the City's storm water program are summarized in the table below.

Component	Key Actions
Development Planning	• Stormwater Management Plans and grading plans were reviewed prior to project entitlement and grading plan issue. • Inspected 22 sites with treatment control BMPs installed and required annual verification letters to be completed.
Construction	• Active construction sites were inspected to assess BMP implementation during the Reporting Period; a total of 171 construction inspections were completed at 9 sites. • The City continued its program of inspecting sites prior to predicted rain events and during rain events, when appropriate, to foster BMP implementation when the highest potential for pollutant discharge is present.
Municipal	• The City inspected all high threat to water quality municipal fixed facilities and continued its street sweeping and storm drain (MS4) maintenance programs. • A total of 784 tons of trash and debris was removed from street

Component	Key Actions
	sweeping activities and 483 tons of debris was removed from standard MS4 maintenance.
Industrial and Commercial	• During the Reporting Period the City inspected 185 businesses, which exceeded the Municipal Permit requirement to inspect at least 25 percent of the inventoried stationary industrial and commercial business.
Residential	• The City responded to 22 complaints made to the City storm water hotline regarding residential areas. The complaint investigations were used as opportunities to educate residents on the importance of water quality protection and BMP requirements.
Illicit Discharge Detection and Elimination	• During this period, the City responded to and resolved 53 complaints made to its storm water hotline and to the City website, as well as referrals from City staff. • The City completed its 2010 Dry Weather Field Screening and Analytical Monitoring Program (Dry Weather Monitoring Program). The recommendations in the final report for the Dry Weather Monitoring Program were addressed during the Reporting Period.
Education	• Over 1,150 copies of various educational materials were distributed during the Reporting Period. • The City continued to conduct various education and outreach activities throughout the Reporting Period as a means to raise storm water awareness in various communities in the City. • The City now circulates the *Santee Review* newsletter online, it has included storm water-related articles aimed at both residents and businesses in the City.
Public Participation	• The City hosted clean-up events along Forester Creek and the San Diego River; volunteers removed approximately 41 tons of trash and debris. • The City of Santee partnered with the San Diego River Park Foundation to promote their community activities located in Santee.

Component	Key Actions
Special Investigations	• The City conducted ambient water quality monitoring in the San Diego River, Forester Creek, and Sycamore Creek during Fall 2011 as part of an additional study conducted concurrently with the Dry Weather Monitoring Program. • The City of Santee collaborated with other San Diego River copermittees to develop a comprehensive load reduction plan for the San Diego River to comply with the Bacteria TMDL. • The City of Santee participated in the regional Bacteria Reference Study designed to support activities associated with the Bacteria TMDL.

Conclusions and Recommendations

The City has completed a major stream restoration project in Forester Creek, and monitoring after project completion has shown an 87 percent reduction in fecal coliform bacteria from the upstream to downstream end of the project area. In addition, annual dry weather monitoring has found that sampled sites generally have low rates of water quality action level exceedances and that non-storm water flow rates in the City's storm drain system have been decreasing, indicating lower levels of non-storm water discharges. A review of the outfall monitoring data collected over the past four years has shown a decreasing trend in flow rates and decreasing trends in loading rates for most pollutants measured. While longer term trends are a better indicator of success, a comparison between 2010/2011 and 2011/2012 shows flow rates and pollutant loads are lower in the current Reporting Period.These observations indicate that the stormwater program has been effective.

The City will continue to implement the new and updated programs in its JURMP during the 2012/2013 Fiscal Year and to constructively participate in the development of the regional Municipal Permit.

1.0 INTRODUCTION

1.1 BACKGROUND

This Jurisdictional Urban Runoff Management Plan (JURMP) Annual Report presents a summary of the activities of the City of Santee (City) during the 2011/2012 fiscal year (Reporting Period). Preparation and submittal of the JURMP Annual Report is required by San Diego Regional Water Quality Control Board (RWQCB) Order No. R9-2007-0001 (Municipal Permit).

1.1.1 REGULATORY BACKGROUND

The 1987 amendments to the Federal Water Pollution Control Act (also known as the Clean Water Act, or CWA) established a framework for regulating MS4 discharges under the National Pollutant Discharge Elimination System (NPDES). The RWQCB issued the first regional NPDES permit for municipalities in the San Diego Region in 1990, followed by a revised permit in 2001. The revised permit, RWQCB Order No. 2001-01 was replaced by the current Municipal Permit R9-2007-0001, in 2007.

Like all the other municipalities in the San Diego region regulated by R9-2007-0001, collectively referred to as Copermittees, the City developed and submitted a JURMP to the RWQCB in 2002. As required by the Municipal Permit, the City submitted an updated JURMP in March 2008. The JURMP includes management measures for a variety of different sectors and activity types such as municipal, industrial, commercial, construction, and significant development and re-development activities.

Annual reports on the implementation of the JURMP are required to be submitted to the RWQCB September 30 of each year. This JURMP Annual Report presents information for the 2011/2012 fiscal year (July 1, 2011 to June 30, 2012).

1.1.2 CITY SETTING

The City of Santee is located in central San Diego County and is bordered by the City of San Diego to the west, the City of El Cajon to the south, and unincorporated portions of San Diego County. The City itself includes approximately 16 square miles and an estimated population of 58,000. Land use within the City is mainly residential; other land uses in the City include municipal facilities, industrial and commercial facilities, streets, highways, and undeveloped open spaces. Land use categories with the corresponding acreage percentage of the total area are included in Table 1-1, below.

Table 1-1
City of Santee Land Use Breakdown

Land Use	Total Area (Acres)	Percentage
Vacant	4,478	42%
Single Family Residential	2,328	22%
Transportation	1,152	11%
Open	542	5%
Public Facilities and Utilities	380	4%
Commercial	373	4%
Other Residential	322	3%
Industrial	315	3%
Parks	279	3%
Multi-Family Residential	234	2%
Water	111	1%
Office	21	<1%
Recreation	20	<1%
Construction	13	<1%
Agriculture	5	<1%
Total	**10,574**	**100%**

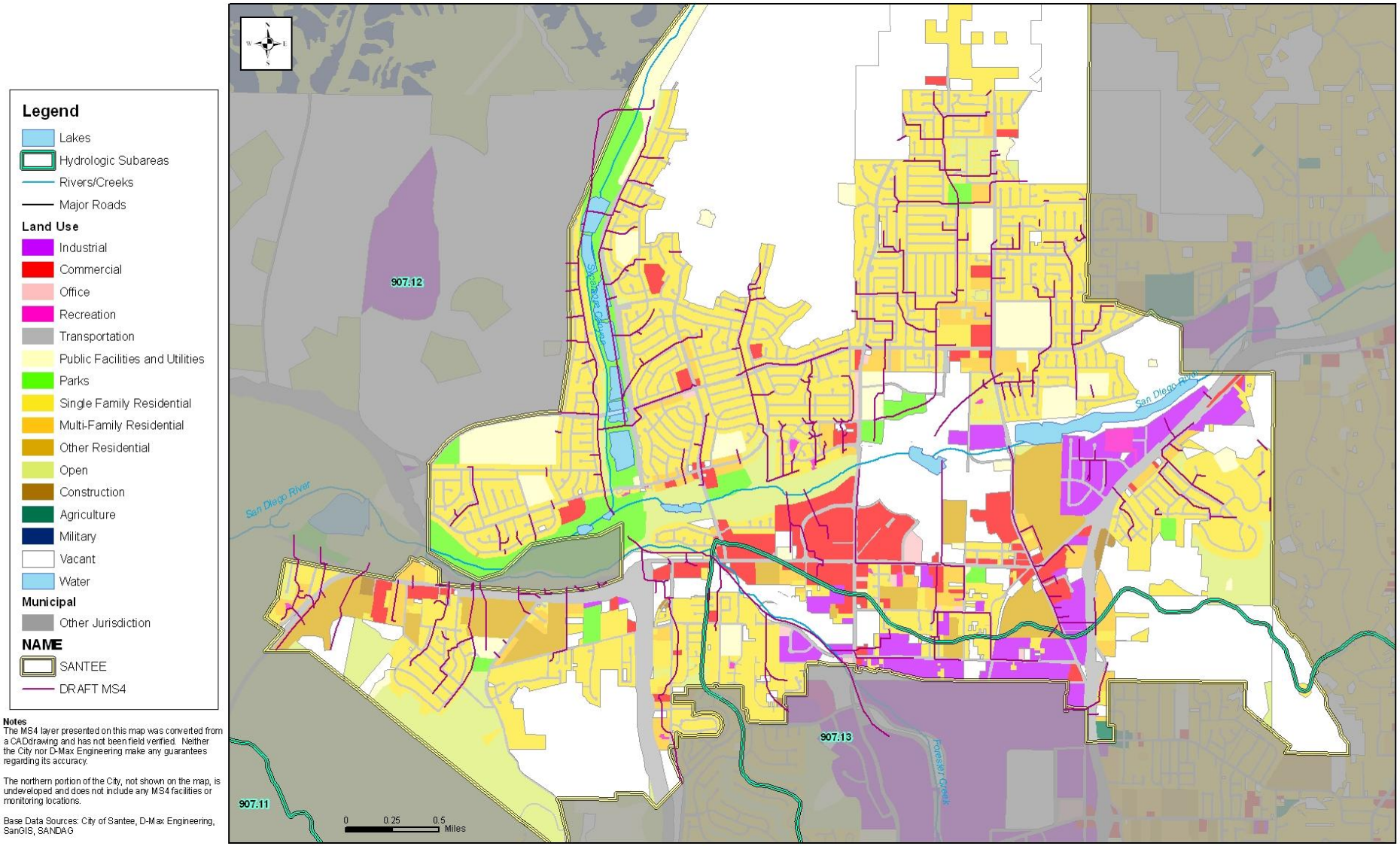
Source: 2007 SANDAG land use data

The City of Santee is located entirely in the San Diego River Watershed, Hydrologic Unit (HU) 907. Specifically, the entire City of Santee is located within the Lower San Diego River Hydrologic Area (HA), 907.1. While a significant portion of the City drains directly to San Diego River (which flows from east to west across the City), some sections of the City drain first to other receiving waterbodies within the City that then ultimately discharge into San Diego River. Forester Creek enters the City of Santee from the southeast, eventually merging with San Diego River west of Carlton Hills Boulevard. Sycamore Creek enters the City from the north, flows south, eventually merging with the San Diego River west of Santee Recreation Lakes (Santee Lakes).

1.1.3 WATER QUALITY IMPAIRMENTS

Sycamore Creek is listed as having a RARE beneficial use and does not have any 303(d) listed impairments. Both Forester Creek and the lower San Diego River have bacteria impairments on the 2010 CWA 303(d) list, and a regional bacteria Total Maximum Daily Load (TMDL) adopted in 2010/2011 specifically names both of these water bodies as subject to its requirements. The City and other jurisdictions have been preparing a TMDL implementation plan during 2011/2012. In addition to bacteria, the lower San Diego River is listed as being impaired for total dissolved solids (TDS), low dissolved oxygen, phosphorus, nitrogen, manganese and toxicity, and Forester Creek is also listed as impaired for pH, selenium, and TDS. Note that the pH impairment is listed for the upper three miles of the creek, which is upstream of the City of Santee.

Figure 1-1
City of Santee Land Use and Drainage Basins



1.2 PURPOSE AND OBJECTIVES

The City's JURMP presents a strategy to reduce the discharge of pollutants from the MS4 to the maximum extent practicable (MEP). The JURMP includes a variety of programs intended to minimize or eliminate the effects of urban runoff from the City on receiving water bodies. This JURMP Annual Report has been prepared to document the City's implementation of its JURMP during the 2011/2012 reporting period.

1.3 REPORT ORGANIZATION

This report follows the standard reporting outline jointly developed by the Copermittees and submitted to the RWQCB in July 2007. The following sections are included in the JURMP Annual Report.

Section 1 **Introduction**
Section 2 **Development Planning Component**
Section 3 **Construction Component**
Section 4 **Municipal Component**
Section 5 **Industrial and Commercial Component**
Section 6 **Residential Component**
Section 7 **Illicit Discharge Detection and Elimination Component**
Section 8 **Education Component**
Section 9 **Public Participation Component**
Section 10 **Fiscal Analysis Component**
Section 11 **Effectiveness Assessment Component**
Section 12 **Special Investigations**
Section 13 **Non-Emergency Fire Fighting**
Section 14 **JURMP Revisions**
Section 15 **Conclusions and Recommendations**
Section 16 **References**

Each section includes all the sections required by the standard JURMP Annual Report format. In some cases, additional subsections within the standardized sections have been added to provide a clearer explanation of the City's activities during the reporting period. For example, in this introduction section, the standard reporting format only includes subsections 1.1 and 1.2. Subsection 1.1, Background, has been divided into subsections 1.1.1, Regulatory Background, and 1.1.2, City Setting, for the sake of clarity.

2.0 DEVELOPMENT PLANNING COMPONENT

2.1 INTRODUCTION

The development planning component of the City's JURMP aims to improve overall storm water quality by reducing the discharge of pollutants from development projects to the MEP and managing potential increases in runoff from development projects that have the potential to negatively affect downstream water bodies. During the Reporting Period, the City accomplished these goals through implementation of its SUSMP and HMP.

2.1.1 SUMMARY OF NOTABLE ACCOMPLISHMENTS

Some notable achievements for the development planning component during the Reporting Period are presented in the following bulleted list. The following sections provide more details on how the City complied with the Municipal Permit during the Reporting Period.

- Conducted maintenance inspections of treatment control BMPs at 22 completed development projects throughout the City.
- Updated website resources to provide the most recent (2010) 303(d) list applicable to Santee for project designers to review.
- Actively participated in the development of the monitoring activities in the regional Hydromodification Management Plan (HMP).

2.2 LAND USE PLANNING

2.2.1 BACKGROUND

The City's General Plan was last updated in 2003 and contains water quality and watershed protection principles in the plan's Conservation Element. The comprehensive principles established in 2003 provide an ample framework for implementing the requirements of the Municipal Permit, and no changes to these policies were necessary during the reporting period.

2.2.2 SOURCE CHARACTERIZATION

The City's General Plan contains established restrictions on the types of new development projects based on their planned land uses to ensure public safety and limit negative impacts to the surrounding environment. No changes to development restrictions in the City's General Plan for storm water purposes were necessary during the reporting period.

2.2.3 BEST MANAGEMENT PRACTICE REQUIREMENTS

Please refer to the City's updated JURMP document for a list of the water protection policies included in the City's General Plan. These policies remained the same throughout the Reporting Period.

2.2.4 PROGRAM IMPLEMENTATION

The City implemented its water protection related land-use policies during the reporting period mainly through the City's Municipal Code. A copy of the ordinance can be obtained at www.ci.santee.ca.us.

Details on how the City implemented its established water protection policies through its environmental review process and its development project approval and verification processes during the reporting period are provided in Sections 2.3 and 2.4 of this JURMP Annual Report document.

2.3 ENVIRONMENTAL REVIEW PROCESS

Storm water requirements for a project are reviewed during the pre-application stage. As described in the JURMP, the project proponent is required to complete the updated Project Applicability, LID and Source Control Checklist so that these requirements can be evaluated. Preliminary designs are required to incorporate the placement and description of BMPs to be used, so that an assessment can be made to determine whether it is feasible for the project to comply with applicable storm water requirements. The project approval document incorporates the conditions needed to comply with these applicable storm water requirements (for example, filing an NOI to comply with the State Construction Permit, development of a SWPPP, development of a SWMP, use of treatment control BMPs which have a high or medium removal efficiency for applicable pollutants, execution of a BMP maintenance agreement, etc.). No modifications to the City's environmental review process have been made since the submittal of the updated JURMP.

2.4 DEVELOPMENT PROJECT APPROVAL AND VERIFICATION PROCESS

2.4.1 BACKGROUND

During the Reporting Period, the City implemented the watershed protection principles in the City's General Plan through various aspects of the City's development project approval and verification process, as detailed below. BMP selection and verification followed the process described in the City's JURMP.

2.4.2 SOURCE CHARACTERIZATION

The different priority pollutants, sources, and activities associated with development projects within the City are addressed through the implementation of the City's SUSMP requirements.

2.4.3 BEST MANAGEMENT PRACTICE REQUIREMENTS

The City's BMP requirements mirror those in the regionally-developed Model SUSMP and HMP. The City is encouraging the incorporation of BMPs within landscape features (such as bioretention facilities) over proprietary products that are typically installed in catch basins or at the end of a pipe. Bioretention facilities are more likely to remove priority pollutants in the City at the required efficiency ensuring Municipal Permit compliance and need less intensive maintenance by the property owner. These features can also provide an aesthetic benefit to the property.

2.4.4 PROGRAM IMPLEMENTATION

During the Reporting Period, the City required implementation of its BMPs for development projects through education, a comprehensive development project approval process, and the treatment control BMP inspection and maintenance verification program.

2.4.4.1 OUTREACH AND STAFF TRAINING

The City regularly trains staff involved in the planning and review of development projects within the City and works closely with the development community to communicate its development requirements throughout the entire approval process. During the Reporting Period, staff training was focused on changes being made to the City's HMP requirements. Details on trainings conducted and educational materials developed and distributed related to the new development during the reporting period can be found in Section 8 of this JURMP Annual Report document. Distribution of maintenance verification letters to parties responsible for maintenance of treatment control BMPs at completed projects continues to increase the level of knowledge of regulated parties.

2.4.4.2 URBAN RUNOFF APPROVAL PROCESS FOR DEVELOPMENT PROJECTS

All development projects that met the SUSMP definition for high priority projects were required to complete the City's development approval process as detailed in the City's JURMP. Forms and reports completed by project applicants are kept with the project's file at the City for future reference. The City thoroughly examines all development applications to determine what documents related to storm water compliance are required. Development projects determined to be Priority Projects after completing the Project Applicability, LID and Source Control Checklist are required to prepare a Storm

Water Management Plan (SWMP). The City uploaded a copy of the most recent SUSMP, HMP and 303(d) list applicable to Santee to its website so that project proponents can easily access them. The City will continue to work closely with development proponents to ensure compliance with the City's SUSMP requirements.

Table 2-1 lists the Priority Projects subject to the City's SUSMP requirements during the Reporting Period and the number of document reviews and approval date for each project. Since projects proposed BMPs with high or medium removal efficiency for the pollutants of concern, no feasibility analysis was required, and no SUSMP waivers were issued.

Table 2-1
Development Projects Subject to SUSMP Requirements During 2011/2012

#	Project Name	Location	Number of Reviews	Approval date
1	El Nopal Estates II	APN 381-750-01 through -10	3	6/27/11*
2	Vidovich	APN 386-050-46	1	7/20/11**
3	Sunset Trails (Lanterncrest III)	Parcel to east of Prospect Avenue and Graves Avenue intersections.	3	9/8/11
4	Forester Square	APN 384-020-05, -50, and -54	2	10/26/11
5	Chick Fil-A	APN 381-040-43	3	1/30/12
6	In-N-Out	APN 381-040-44	2	5/29/12

*El Nopal Estates II was approved after the draft section 2.0 for the 2010-2011 Annual Report was drafted (right at the end of the fiscal year). Therefore it was not presented in the list in last year's Annual Report.
**Vidovich was reviewed to ensure that it complied with HMP requirements.

The hydromodification management subjectivity for each of the above projects and associated control measures proposed for subject projects are listed below:

- El Nopal Estates II. Exempt from HMP requirements, direct discharge to exempt waterbody.
- Vidovich: Subject to HMP, bioretention facility sized for both water quality and HMP requirements.
- Sunset Trails (Lanterncrest III). Exempt from HMP requirements, direct discharge to exempt waterbody.
- Forester Square. Subject to HMP, underground chamber and bioretention facilities sized for both water quality and HMP requirements.
- Chick Fil-A. Exempt from HMP requirements, direct discharge to exempt waterbody.
- In-N-Out. Exempt from HMP requirements, direct discharge to exempt waterbody.

An example of a Priority Project conditioned to meet SUSMP requirements is Forester Square, an affordable housing redevelopment project which drains to Forester Creek.

- The original SWMP did not include acceptable BMPs for the courtyard area in the center of the project. The City encouraged the designers to use more LID in these areas to provide a BMP that was a minimum of medium efficiency level for the pollutants of concern. The designers countered that LID BMPs would be inappropriate for the type of soils present and the site and the density of building and utility structures. In addition, limitations due to the grades at the site (flat, small parcel with existing development surrounding it) made it impossible to direct the flow from the central courtyard area to proposed bioretention facilities on the periphery of the site. A modular wetland facility was proposed for the courtyard area and was accepted as it met the medium efficiency level for the pollutants of concern based on data provided.
- The project discharges to the Forester Creek, an unlined channel which is subject to HMP. The BMP Sizing Calculator was used to set basic design parameters for hydrologic controls. Underground detention basins with capacity and orifice size meeting the requirements dictated by the BMP Sizing Calculator were incorporated into the project design.

In addition, the City has provided comments on Castlerock, a project proposed in the City of San Diego. The project is located adjacent to the City of Santee, north of Mast Boulevard and is proposed to be annexed into the City of Santee after development. City of Santee staff have provided constructive comments and local information (such as correcting the description of Sycamore Creek to reflect its unlined condition) to help ensure that the design meets current SUSMP and HMP conditions. Discussions on this project are ongoing.

The City will continue to monitor the review process and provide ways to educate project proponents as needed. Example inspection and maintenance documents have been provided to project proponents.

During the reporting period, no projects received a SUSMP waiver for implementation of treatment control BMPs. The City has never issued a SUSMP waiver in the past, and at this time the City has no plans to develop a SUSMP waiver mitigation program.

Hydromodification Management Plan

During the reporting period the Copermittee Land Development Workgroup and the HMP Monitoring Subworkgroup met regularly to discuss key HMP development issues and provide updates on the status of work products. The City regularly participated in this Workgroup and Subworkgroup during the Reporting Period.

BMP Installation Verification

Three Priority Projects under construction during the 2011/2012 fiscal year were completed prior to the end of the reporting period. Verification that the BMPs proposed in the projects' SWMPs were installed in accordance with approved documents was performed during the final project inspection prior to acceptance of the site. City staff conducting these checks are aware that checks for permanent storm water BMPs should

be performed during the final inspection. The information from the inspection is then relayed to the City's Stormwater Program Manager, who updates the treatment control BMP inventory accordingly. Responsible parties are promptly notified of the requirements to maintain the BMPs after occupancy, and newly installed BMPs are typically inspected during the first summer after occupancy, whether or not they are prioritized as high priority.

All completed Priority Projects have been assigned TTWQ priorities using the prioritization flow chart presented in the City's JURMP, and the projects have been added to the City's treatment control BMP inventory included as Appendix A.1 of this document. Projects completed during the Reporting Period have been noted with a double asterisk in the inventory appendix.

2.4.4.3 TREATMENT CONTROL BMP INSPECTION AND MAINTENANCE VERIFICATION PROGRAM

Table 2-2 below provides a summary of the sites inspected and inspection frequency.

Table 2-2
Assessment of Compliance with Required Inspection Frequencies

Class	Number of Sites	Inspections	Percent Inspected*	Permit Requirement	Requirement Met
All Inventoried Sites	36	22	61	20%	**Yes**
Sites with Drainage Inserts	22	16	73	50%	**Yes**
High TTWQ Sites	11	11	100	100%	**Yes**

*Inspections of post-construction BMPs are typically completed by the end of June each year. During 2010-2011, due to rescheduling of program tasks to accommodate staff absences, inspections were completed approximately one month later (i.e., in FY2011-12). The table above excludes the number of inspections completed during the first month of FY2011-12, so that inspections are not doublecounted. Two of the projects completed during FY2011-12 are not included in the summary above as they were completed late in FY2011-12 and were inspected as part of construction completion, not a post-construction maintenance program.

During inspections City staff used information included in the City's treatment control BMP database to determine what BMPs should be present at the individual project sites. Each BMP was visually inspected, and the inspector documented the findings for each site visited.

Treatment control inspections were conducted mainly during March, April and June, 2012. Based on these inspections, notices regarding maintenance requirements were sent and follow-up inspections conducted. Table 2-3 provides more detailed information about the inspections. The table includes the development projects inspected, the BMPs installed at each site, the BMPs inspected, brief descriptions of inspection findings, and a discussion of how any issues noted were resolved. Public Priority Projects are marked as Capital Improvement Projects (CIP) in the table.

Table 2-3
Summary of Treatment Control BMP Inspection Results

#	Project Name	BMP(s)	Inspection Date(s)	Inspection and Follow-Up Notes
1	Altair	Hydrodynamic separator, drainage inserts (7)	5/14/12	The BMPs were in acceptable condition.
2	American Sheet Metal	Vegetated swale	10/11/11 and 12/27/11	Housekeeping poor. Advised business owner. BMPs improved and acceptable during reinspection.
3	AT&T Storage Yard	Vegetated swale	5/1/12	Swale needs reseeding, notified responsible person, who has since notified City that maintenance was completed.
4	Aubrey Glen	Vortex separator	5/14/12	The BMP was in an acceptable condition.
5	Blackhorse Estates*	Detention basin, drainage inserts (5)	3/27/12	BMPs need maintenance, responsible party notified Responsible party has since notified City that maintenance was completed
6	Cuyamaca Town Commons	Drainage inserts (4)	3/26/12	BMPs in acceptable condition.
7	Express Performance	Media filters (2) and drainage inserts (2)	5/8/12	Northern filter needs maintenance. Car detailing water needs to be contained and disposed of to sanitary sewer. Based on subsequent inspection, the BMPs have been maintained and carwashing procedures now include BMPs designed to prevent a discharge to the storm drain system.
8	Farrington Court	Drainage insert (1)	3/27/12	BMPs in acceptable condition
9	Hartford Insurance*	Vegetated swale, drainage insert (3)	3/26/12	BMPs need maintenance, responsible party notified. Responsible party has since notified City that maintenance was completed.
10	Marketplace	Infiltration trench, grass swale, water quality inlet (4), and drainage insert (2)	5/8/12	BMPs need maintenance, responsible party notified. City is following up during the subsequent Reporting Period to verify the corrections were completed.
11	Michael Stoff Property	Vegetated swale	5/1/12	BMPs need maintenance, responsible party notified. Responsible party has since notified City that maintenance was completed.

Table 2-3
Summary of Treatment Control BMP Inspection Results

#	Project Name	BMP(s)	Inspection Date(s)	Inspection and Follow-Up Notes
12	Padre Dam Customer Service Center*	Drainage Insert (6)	2/14/12	BMPS were in an acceptable condition.
13	Prospect Glen*	Drainage Inserts (3)	4/5/12	BMPS were in an acceptable condition.
14	Riverwalk	Vegetated Swales (5), Drainage Inserts (25)	9/15/11, 1/27/12, 3/28/12, 6/15/12	The BMPs were acceptable during the closeout inspection for the project in September 2011. Deficiencies in drainage insert maintenance were observed during January 2012, but had been corrected during a subsequent inspection (March 2012). An inspection during June 2012 indicated that the drainage inserts needed maintenance and the responsible party was informed. City is following up during the subsequent Reporting Period to verify the corrections were completed.
15	Santee Trolley Square*	Drainage Inserts (12)	5/7/12	The BMPs were in acceptable condition.
16	Sonic Carwash	Vegetated Swale, Drainage Inserts (3)	2/7/12	The BMPs were not in an acceptable condition, responsible party notified. City is following up during the subsequent Reporting Period to verify the corrections were completed.
17	Town Center Community Park	Vegetated Swales (5), vegetated buffer strip (2), media filter, and drainage inserts (5)	11/7/11, 12/12/11, and 5/14/12	The BMPs were not in an acceptable condition, responsible parties notified. City is following up during the subsequent Reporting Period to verify the corrections were completed.
18	Toyota	Extended detention basin, vegetated buffer strip, and drainage inserts (8)	10/21/11	Follow up inspection with responsible party to identify the location of the extended detention basin and to discuss maintenance This was to assist the new manager to set up a system to ensure compliance at the Site. Maintenance was completed during the Reporting Period.

Table 2-3
Summary of Treatment Control BMP Inspection Results

#	Project Name	BMP(s)	Inspection Date(s)	Inspection and Follow-Up Notes
19	Treviso	Hydrodynamic Separator (1), drainage inserts (2)	5/14/12	The drainage inserts required maintenance. The property manager was informed of the findings. City is following up during the subsequent Reporting Period to verify the corrections were completed.
20	Vista Este*	Drainage inserts (2)	4/9/12	The BMPs were in acceptable condition.
21	Walgreens #1	Media filter	5/14/12	The filter chamber required maintenance. The property manager was informed of the findings. City is following up during the subsequent Reporting Period to verify the corrections were completed.
22	Walgreens #2	Vegetated swale, media filter	5/14/12	The filter chamber required maintenance. The property manager was informed of the findings. City is following up during the subsequent Reporting Period to verify the corrections were completed.

Note: * Project approved prior to development of the City's SUSMP requirements

Six of the development sites inspected during the Reporting Period were approved prior to development of the City's SUSMP, which requires installation of treatment control BMPs. These sites are marked with an asterisk in the table above, and in the City's Treatment Control BMP Inventory in Appendix A.1. While the City is aware that treatment control BMPs exist on these project sites, no maintenance agreements or SWMPs were required for these sites when they were approved. Consequently, the City does not have a written agreement to require maintenance and annual maintenance certification for the treatment control BMPs at these locations. However, the City still provided inspection reports to owners of the treatment control BMPs at these sites and followed up to see that maintenance was performed. As demonstrated in Table 2-3, these owners were responsive to the City's actions. The City will continue to periodically monitor the status of treatment control BMPs at these locations.

After inspection, follow-up letters were sent to the responsible party for all projects needing maintenance prior to 10/1/11, and the City conducted follow-up inspections and enforcement as necessary. City follow-up actions and the resolutions for these cases are described above in Table 2-3. During the Reporting Period, none of the inspected sites were observed to present a significant threat to human health or the environment during inspections; therefore none were reported to the RWQCB.

In addition to City-conducted maintenance inspections, the Municipal Permit requires annual verification of operation and maintenance of treatment control BMPs installed within the City's jurisdiction. Annual verification must be provided by the party responsible for treatment control BMP maintenance and must be required prior to the start of the rainy season (October 1st). The City notified operators of the facilities within the inventory of the need to provide annual BMP maintenance verifications for the 2011/2012 fiscal year prior to October 1, 2010. With the exception of Walgreens I and II, described below, annual verification of maintenance was received for all applicable properties during the 2011/2012 fiscal year.

Walgreens I and II were recently constructed by Interra Corporation who are responsible for the maintenance of both Walgreens stores. The City had contact information for maintenance on completion of the projects, but notification letters were returned for this contact. During 2010 the City diligently continued to find the appropriate contact through telephone calls, letters and by talking to the manager at each facility. During one such visit the City staff member spoke to a contractor who was able to schedule maintenance and provide certification of maintenance. This was received during the Spring of 2011. Due to the short timeframe between this and the beginning of the next rainy season in October 2011, it was not deemed appropriate to pursue another certification of maintenance during the summer of 2011, as the certification would effectively be the same as that received during Spring 2011.

The following actions have been taken to ensure maintenance of post-construction treatment control BMPs:

- A BMP Maintenance Agreement that is signed by the developer and recorded with the property.
- Procedures to notify responsible parties of their obligations as a project is completed have been developed to allow property owners to budget for maintenance.
- Standard forms and letters have been developed to routinely notify and remind property owners of their responsibility to maintain and submit certifications.
- Information on treatment control BMP maintenance and verification letters that can be downloaded.

Protecting water quality is the overall objective of ensuring the maintenance of treatment control BMPs. Through the BMP Maintenance Agreement that the City uses on Priority Projects, the City has the right to maintain treatment control BMPs on private property and to recoup the costs from the responsible party. The City will use this tool when appropriate and feasible.

Enforcement Summary

The City took action to resolve issues observed during both field inspections and the maintenance verification program, as described above. The majority of projects submitted certification of BMP maintenance before October 1, 2011, and all but one certified maintenance by October 14, 2011. The one remaining project certified its maintenance in December after being issued an Notice of Violation (NOV). A total of 10 follow-up letters instructing responsible parties to correct deficiencies noted during inspections were sent during 2011/2012. One Notice of Violation (NOV) was issued during the Reporting Period, as described above. Compliance with this program has been achieved largely through education and reminder notices to responsible parties during previous years. As a result responsible parties are familiar with, and more likely to comply with the maintenance and certification process., particularly on receipt of notices to comply and telephone calls from the City. The City's approach was effective at bringing about compliance with its requirements, as shown in the more detailed discussions included earlier in this section.

2.5 Development Planning Component Effectiveness Assessment

Please refer to Section 11 of this JURMP Annual Report for the assessment of program effectiveness.

2.6 Program Review and Modification

The City's JURMP was updated in March 2008. Beyond the Municipal Permit-required updates to hydromodification management and SUSMP requirements that all

Copermittees have been required to make since the JURMP update, no changes to the City's development planning component have been made.

3.0 CONSTRUCTION

3.1 INTRODUCTION

The City's construction program has been designed to prevent illicit discharges from construction sites. Projects subject to the General Construction Permit are not issued permits until they have demonstrated that they have filed a notice of intent (NOI) and developed a SWPPP. The City has developed a database and procedures to ensure that construction sites are prioritized and inspected at the frequencies required by the Municipal Permit. In addition, the City is an active participant in the Land Development Workgroup, which addresses developments in project design and construction.

All staff associated with construction projects are aware of the storm water requirements and take appropriate follow-up action when potential violations are observed. This allows the City to leverage the staff currently working on construction projects to ensure that compliance is consistently achieved. Stormwater Program staff ensures that the requirements of the Municipal Permit are met and assists in ensuring that compliance is achieved at each site.

3.1.1 SUMMARY OF NOTABLE ACCOMPLISHMENTS

Some notable achievements for the construction component during the Reporting Period are presented in the following bulleted list. The following subsections of this section provide more details on how the City complied with the Municipal Permit during the Reporting Period.

- Prepared and distributed individual wet season notification letters which identified what individual BMP improvements are needed at each construction site prior to the rainy season, in addition to summarizing the requirements for all construction sites. The information in these letters was used as a cross-reference during pre- and early rainy season inspections.
- Required developers to submit a form describing how they intended to manage site runoff and BMPs during the upcoming rainy season. The rainy season form also included a section for the developer to provide contact information to be used during rain events.
- Conducted plan checks of erosion control plans and SWPPPs to ensure construction projects planned to comply with the City's minimum BMP requirements.
- Conducted 171 construction inspections at 9 sites per the frequencies in the JURMP. During the wet season, high TTWQ sites were inspected bi-weekly, medium TTWQ sites monthly, and at least once for low TTWQ sites with grading activity.
- Conducted 28 follow-up inspections, issued 14 written warnings, 6 NOVs, two

stop work orders and one administrative citation to construction sites in response to violations of the City's minimum BMP requirements.

3.2 SOURCE CHARACTERIZATION

An inventory of active construction projects during the Reporting Period is presented in Appendix A.2 of this JURMP Annual Report document; all sites are located within the San Diego River Watershed. The City's inventory was maintained throughout the Reporting Period. New construction projects were added to the inventory at the start of construction, and projects were removed from the inventory after construction was completed. Since construction projects were continually being added and removed throughout the fiscal year, inventory updates were usually performed more frequently than the minimum once per month.

3.3 UPDATES TO ORDINANCES AND APPROVAL PROCESSES

No changes have been made in City's approval process for construction sites during the Reporting Period.

3.4 BEST MANAGEMENT PRACTICE REQUIREMENTS

The City's construction and grading project requirements are described in the City's BMP Manual, which was included as Appendix C of the City's updated JURMP document. These BMP requirements were implemented starting in March 2008.

Note that in response to a letter from the RWQCB to the City dated February 27, 2009 the maximum disturbed area for hillside developments is limited to 17 acres. Hillside sites are defined by the City's Land Use Map, which originates from the General Plan. Sites that are in compliance with applicable storm water regulations and have adequate control practices implemented to prevent storm water pollution may expand their maximum grading area on the approval of the City Engineer to allow a balanced cut-and-fill approach. The 50-acre maximum grading area still applies to non-hillside developments.

3.5 PROGRAM IMPLEMENTATION

The City implemented the construction component of its JURMP throughout the Reporting Period through:

- Education and staff training; and
- A comprehensive construction and grading approval process; and
- A construction inspection program.

This program is described below.

3.5.1 EDUCATION AND STAFF TRAINING

Education and staff training implemented during the 2011/2012 fiscal year focused on the new State General Construction Permit and on communicating the City's construction requirements to both City staff and the construction community. Please see Section 8 of this JURMP Annual Report document for details on training performed and educational materials distributed related to construction and grading activities.

3.5.2 CONSTRUCTION AND GRADING APPROVAL PROCESS

During the Reporting Period, City personnel verified that all construction projects planned to implement BMPs to meet the City's minimum requirements prior to issuing any building or grading permits. The City's grading approval process is described thoroughly in Section 5 of the City's JURMP.

No projects in Santee that began construction after October 1, 2007 have been larger than 50 acres. Note that while none of the City's construction sites were subject to the 50 acre grading limitation, all construction sites were still required to limit exposed cleared or graded areas to the amount of area that could be protected prior to a rain event, as prescribed in the City's seasonal BMP requirements. Also note that a smaller maximum disturbed area limit of 17 acres is applied to hillside projects, however, no projects to date have met this criterion.

Criteria for determining when advanced treatment is required are detailed in the City's BMP Manual (Appendix C of the JURMP). During the Reporting Period, the City's minimum BMP requirements were generally adequate at controlling sediment discharges at all of the active construction sites within the City's jurisdiction. During this Reporting Period advanced treatment methods were not required at any construction sites.

3.5.3 INSPECTION OF CONSTRUCTION SITES

Appendix A.2 of this JURMP Annual Report contains a list of construction projects that were active during the Reporting Period, along with their assigned TTWQ priorities, the number of weeks the site was active within the rainy season, the numbers of inspections conducted during the wet and dry seasons, the number of follow-up and complaint inspections, and the total number of inspections for each site. In total, 171 construction inspections were performed at nine construction sites.

Construction inspections conducted during the Reporting Period were performed as described in the City's updated JURMP. Key components of the inspections include checks for coverage under the General Construction Permit during the initial inspection and assessments of compliance with the City's minimum BMPs and discharge requirements during all inspections. Responsible parties at the sites are educated as needed during inspections. Copies of the inspection forms are kept on file at the City. The City conducted inspections at high TTWQ construction sites bi-weekly during the

wet season and monthly for medium TTWQ sites. While the Municipal Permit only requires construction inspections at low TTWQ sites on an "as needed" basis year round, the City conducted at least one inspection at active low TTWQ construction projects with grading activities during the wet season.

When any violations were noted during routine or follow-up inspections, these violations were documented on the project's inspection form, and the sites were given a list of corrective actions necessary to address the observed violation. When necessary, a written notice was issued for the violation, and the City inspector followed up with the site until compliance was achieved. In many cases, violations were corrected while the inspector was still at the site, and follow-up visits were not necessary. Details on the enforcement actions taken for construction sites during the implementation period are described below.

3.5.4 ENFORCEMENT MEASURES

During inspections, violations of the City's BMP requirements were noted. In such instances, City inspectors took enforcement actions as necessary to bring about compliance. Table 3-1 presents the number of enforcement actions taken during the Reporting Period in response to violations of the City's minimum construction BMP requirements. Enforcement actions are administered in an escalating manner as described in the City's updated JURMP.

Table 3-1
Total Number of Enforcement Actions Taken

Written Warnings	Follow-Up Inspections	Administrative Citations	NOVs	Stop Work Orders
14	28	1	6	2

During the Reporting Period, two stop work orders were issued. These stop work orders were issued to Sunset Trails (Lanterncrest III) for not adequately deploying BMPs prior to forecasted rain events. Sunset Trails is located at the bottom of a canyon and BMPs were needed to stabilize the area at the bottom of the canyon to prevent sediment mobilization. City staff met with the responsible party to discuss the need to complete pre-rainy season preparations prior to October 1st and to agree to a schedule for completion. However, the responsible party did not deploy the BMPs satisfactorily. The City of Santee contacted the RWQCB for assistance with compliance issues at the Site at the beginning of the rainy season when the Site had not been adequately prepared for the rainy season. RWQCB staff visited the Site with City staff. RWQCB staff discussed the issues with City staff and suggested how BMPs may be deployed to better control the Site. RWQCB staff also talked about these issues with the Site Superintendent and encouraged him to pay attention to City direction, as the consequences of non-compliance could be considerable.

This Site visit by RWQCB was helpful in drawing attention to the issue of preparation for the rainy season. However, a stop work order was required during October 2011 (directly relating to preparation prior to the rainy season) and was corrected by October 7, 2011. Another stop work order was issued on March 6, 2012 as BMPs needed maintenance, followed by an Administrative Citation. The deficiencies were corrected by March 12, 2012. The RWQCB was notified about these stop work orders.

None of the violations observed at construction sites during the Reporting Period were found to endanger human health or the environment. The City was able to address these violations through the City's established enforcement process, and it was not necessary to report any additional sites to the RWQCB.

3.6 CONSTRUCTION ACTIVITIES EFFECTIVENESS ASSESSMENT

Please refer to Section 11 of this JURMP Annual Report for the assessment of program effectiveness.

3.7 PROGRAM REVIEW AND MODIFICATION

The City's JURMP was updated in March 2008. No changes to the City's construction component have been made since that time.

4.0 MUNICIPAL COMPONENT

4.1 INTRODUCTION

Throughout the Reporting Period, the City of Santee continued to manage municipal areas and activities to reduce municipal discharges of pollutants to the MS4 to the MEP. As discussed in detail in the City's JURMP, the City owns and operates a variety of municipal facilities and activities. Public parks and recreation facilities, administrative buildings, fire stations, and public works facilities make up the bulk of the municipal areas in the City. Municipal activities conducted by the City include street sweeping, street and sidewalk repair, and MS4 maintenance. Note that the City is not responsible for water supply or wastewater conveyance and treatment. These activities are the responsibility of Padre Dam Municipal Water District (PDMWD).

4.1.1 SUMMARY OF NOTABLE ACCOMPLISHMENTS

Some notable achievements for the municipal component during the 2011/2012 reporting period are presented in the following bulleted list. The following subsections of this section provide more details on how the City complied with both the previous permit and the new Municipal Permit during the reporting period.

- The City inspected all high TTWQ fixed municipal facilities.
- The City provided formal training sessions for 28 municipal staff members.
- The City removed a total of 784 tons of debris from street sweeping activities.
- The City removed a total of 483 cubic yards of debris from standard MS4 cleaning activities.
- City personnel continued to restock the pet waste bag dispensers in City parks, using 250,000 pet waste bags during 2011/2012.
- The City replaced 490 linear feet of storm drain pipe during 2011/2012.

4.2 FIXED FACILITIES

4.2.1 BACKGROUND

The City owns and operates a variety of municipal fixed facilities. As mentioned in the City's JURMP, municipal fixed facilities have been grouped under one category, fixed facilities, because these facilities receive routine inspections as part of the City's municipal program, making program implementation generally similar. For the purposes of organization, municipal fixed facilities are divided into the following categories: Parks and Recreational Facilities, Public Works Facilities, Fire Stations, and Other Fixed Facilities, which includes fixed facilities that could not be placed into another category.

4.2.2 SOURCE CHARACTERIZATION

All fixed facilities are included on the City's municipal inventory, which was revised during the JURMP update in early 2008. The JURMP includes detailed descriptions of each of the categories mentioned in the previous subsection and a discussion of activities beyond what is suggested by the facility's category or facility name. There were no changes to the City's municipal inventory nor were there any updates to the discussions of any fixed facilities on the City's inventory. The City's inventory is included as Appendix A.3.

4.2.3 BEST MANAGEMENT PRACTICE REQUIREMENTS

The City continues to implement and assess the effectiveness of BMPs at all fixed municipal facilities. As mentioned in the City's JURMP, the City uses the CASQA Municipal BMP Handbook to establish appropriate BMPs for fixed municipal facilities. Table 6-2 in the City's JURMP describes the CASQA fact sheets that are used for specific facility types.

The City continues to implement minimum BMP requirements for the use and management of pesticides, herbicides, and fertilizers, as described in the City's JURMP. BMP implementation for parks and recreational facilities, as described in the City's JURMP, has not changed during the Reporting Period.

City Public Works employees, fire station employees, and employees at other fixed facilities in the City continue to implement BMPs appropriate to the facility type, as described in the City's JURMP. City fire response personnel continue to be trained in implementing BMPs for non-emergency fire fighting activities as described in Section 3 of the City's JURMP. There have been no changes in BMP requirements for public works facilities, fire stations, and other fixed facilities.

4.2.4 PROGRAM IMPLEMENTATION

As mentioned above, the City's BMP requirements have not changed during the Reporting Period. Some notable examples of implementation of those BMPs are provided below.

Parks and Recreational Facilities

During 2011/2012, City parks personnel continued to maintain pet waste bag dispensers throughout six City parks, and at other popular dog walking locations. Additional pet waste dispensers have been installed at the Mission Creek Landscape Maintenance District, and Magnolia Avenue. A total of 250,000 pet waste bags were used during 2011/2012. Also note that routine treatment control BMP maintenance and inspection was completed for Town Center Community Park, the only completed municipal SUSMP project. See Section 2 of this JURMP Annual Report for additional detail on treatment control BMP maintenance tracking.

Public Works Facilities, Fire Stations, Other Fixed Facilities

As previously mentioned, City personnel continued to implement appropriate BMPs for municipal fixed facilities as described in the City's JURMP. BMPs are also implemented during regular maintenance (i.e. landscaping, building maintenance, etc.) as necessary. Parking facilities associated with fixed municipal facilities are maintained as part of the regular sweeping activities and were swept every month during the Reporting Period.

Municipal Inspections

All 13 high TTWQ fixed municipal facilities received an annual routine inspection during the Reporting Period. The City's inspection approach, as described in the JURMP, was implemented for all municipal inspections conducted during the Reporting Period.

A summary of BMP deficiencies noted during inspections and corrective actions taken is provided below:

- The trash enclosures at Town Center Community Park needed to be cleaned. This was referred to Public Works to complete prior to October 1st.
- Trash needed to be removed from the dumpsters at Santee Mini-Park. This was referred to Public Works to complete.
- Brow ditches needed to be maintained at various parks around the City; this was completed before the rainy season commenced.

All deficiencies noted above were resolved during the Reporting Period by directing the issues to the attention of City maintenance staff.

Beyond the issues noted above, City stormwater program staff observed tracking of sediment from the maintenance compound at the Sportsplex facility at Town Center Community Park, which is operated by a private company. The facility had been recently inspected, therefore a notice of violation was sent to the operator, requiring that the sediment be removed and best management practices implemented at the maintenance yard. City staff met with the manager and the supervisor in charge of the compound to conduct one-on-one training on BMPs for stockpile management, rendering oil management and other related BMPs.

In addition, the RWQCB inquired about maintenance activities in the recently-restored Forester Creek. The City was able to respond that the restored area is maintained weekly by a contractor and provided a description of how the trash barrier at the upstream end of the project is operated. City storm water staff inspected the area and observed specific areas where additional maintenance was needed, which included the Caltrans easement where SR-52 passes over Forester Creek. The City contacted Caltrans, advised them of the need for maintenance and inquired about their maintenance schedule for this area, which was reported to be not yet developed. Caltrans agreed to maintain this area, and the City will continue to advise Caltrans of maintenance needs as appropriate.

The City is working with the Sheriff's department to monitor for signs of homeless activity in the Forester Creek. Also, a San Diego State University (SDSU) professor (Dr. Matt Rahn) is hoping to site a water quality monitoring station in Forester Creek. The City is encouraging Dr. Rahn to place the station in the restored area, not only because of the value in collecting the information from this location, but also to encourage more foot traffic in the area, which will discourage the development of homeless encampments.

4.3 ROADS, STREETS, HIGHWAYS, AND PARKING FACILITIES

4.3.1 BACKGROUND

Roads, streets, highways, and parking facilities are often one of the first components of the City's MS4 to collect and convey runoff. These areas can collect a variety of pollutants due to routine vehicle use and use of the surrounding areas. The City conducts regular maintenance of roads, streets, highways, and parking facilities in the City to control pollutants such as sediment, metals, and litter and debris that may accumulate and then be discharged with runoff.

4.3.2 SOURCE CHARACTERIZATION

The City maintains roads, streets, and highways in the City; roads, streets, and highways are included as one entity on the City's municipal inventory, which is included in Appendix A.3.

4.3.3 BEST MANAGEMENT PRACTICES

The City's primary BMP for roads, streets, highways, and parking facilities is street sweeping. Other BMPs are chosen as needed based on the CASQA Municipal Handbook. The City's sweeping frequency is outlined in the JURMP, and an updated frequency was presented in the 2007/2008 Annual Report. Parking lot facilities are swept once per month. There were no changes to the BMPs implemented for roads, streets, highways, and parking facilities during the Reporting Period.

4.3.4 PROGRAM IMPLEMENTATION

During the Reporting Period, the City swept a total of 10,212 curb miles, removing approximately 784 tons of debris. Table 4-1, on the following page, describes the areas assigned high, medium, and low sweeping priorities, and the associated sweeping frequency for each. The City met the sweeping frequency requirements of the high, medium, and low priority streets as described in Table 4-1, on the following page.

As a means to address priority pollutants in the San Diego River Watershed, the City conducted additional sweepings of some City streets. The average sweeping frequency (once every 1.8 weeks)_ across all streets in the City exceeded even the stringent Municipal Permit requirement for high priority streets.

Table 4-1
Street Sweeping Prioritization and Frequency

Category	Description	Route Length (Curb Miles)	Approximate Curb Mileage Swept (Cumulative)	Minimum Sweeping Frequency	Sweeping Frequency July 2011 through June 2012
High	Carlton Hills Boulevard, Carlton Oaks Drive (West of Carlton Hills Boulevard), Riverview Center Drive, Cuyamaca Street, Magnolia Avenue, Mast Boulevard (Between Magnolia Avenue and Carlton Hills Boulevard), Mission Gorge Road, Prospect Avenue (East of Fanita Drive), Town Center Parkway	66	1,716	Twice per month	Twice per month
Medium	Select other streets in the City	292	8,496	Monthly	Twice per month
Fixed Facilities	Parking lots associated with municipal fixed facilities	10 lots	N/A*	Once per month	Once per month

* Mileage data is not available for the swept area of parking facilities associated with municipal facilities. Mileage accrued while sweeping these facilities is included in the total mileage. All 10 of the City's parking lots were swept during the Reporting Period.

4.4 MS4

4.4.1 BACKGROUND

The City's extensive storm water conveyance system is designed to collect and convey surface runoff to receiving waters to prevent flooding during a rain event. The City's MS4 consists of 27 segments of natural or concrete channels, and approximately 844 curb inlets and catch basins. The total length of the City's MS4 infrastructure is approximately 78 miles.

4.4.2 SOURCE CHARACTERIZATION

The City's MS4 as one complete entity is included on the City's high TTWQ municipal inventory.

4.4.3 BEST MANAGEMENT PRACTICES

The City maintains a strict MS4 maintenance and cleaning schedule. Maintenance and cleaning are conducted to keep the MS4 in good operating condition and remove any trash or debris that may otherwise be carried to receiving waters. As described in the City's JURMP, BMPs for MS4 maintenance activities are chosen based on the CASQA Municipal Handbook and have not changed during the Reporting Period.

4.4.4 PROGRAM IMPLEMENTATION

During the Reporting Period, the City continued to implement an MS4 inspection and cleaning schedule. Maintenance staff removed 393 tons of material from open channels, 27 tons from pipes and culverts, and 4 tons from catch basins, for an overall total of 456 tons. The actual weight of the material was not recorded, but it was estimated based on the number of cubic yards and the composition of the material removed. The approximate weight of the material removed is based on City maintenance staff's estimate that each cubic yard removed weighed about one ton.

City personnel inspected all 25,620 linear feet of open channels in the City and maintained the 17,400 feet that required cleaning. Additionally, City personnel inspected all catch basins in the City's MS4; the City inspects its MS4 at these cleanout access points and other visually accessible portions of its MS4 Eight structures were observed to be full of material at a level of at least 33 percent of capacity during the reporting period; all of these structures were cleaned out in a timely manner. City staff have not identified any specific MS4 facilities as receiving especially high or low volumes of trash and debris relative to the rest of the MS4. The City continues to build on the CMP televising project that identified and prioritized areas for infrastructure replacement. As a result, the City replaced 490 linear feet of storm drain pipe during 2011/2012.

In addition to this survey, the City has also been exploring ideas to reduce pollutants in concrete channels in a sustainable manner. Although the City has been successful in achieving water quality benefits through several creek restoration projects, there are smaller, more densely-developed drainage areas where concrete channels are installed. It is not feasible to remove these channels without compromising the surrounding property. City staff have been considering how the concrete channels can be re-engineered to mimic the natural hydrologic processes in the channel before development. One idea has been to introduce infiltration areas at the base of the channel using a porous material without eliminating flood control capability.

A pilot study to explore this concept was submitted to the San Diego Integrated Regional Water Management Plan advisory committee for incorporation into the San Diego region's application for Prop 84 funding. The project was accepted and incorporated into the application submitted during the 2010-2011 Reporting Period. The pilot study will be implemented if funding is awarded through Prop 84.

The City assisted California Department of Fish and Game, and the County Department of Environmental Health in the clean-up of a reported act of vandalism on private property (Harrison Trucking, Olive Lane). The incident occurred on a Sunday morning (3/18/12) when the tanks of a number of diesel trucks were drilled into and an estimated 1,100 gallons of fuel released. The fuel discharged into the street and into the drainage ditch running around the east and north boundary of the City Public Works facility. Public Works staff provided access to the facility to allow for the discharge to be detained prior to reaching Forester Creek and to assist in the clean-up activities. The

City notified the RWQCB of this discharge and associated corrective action. The Department of Fish and Game managed the clean-up, which was completed on 3/30/12.

The City of Santee also assisted San Diego Gas and Electric (SDG&E) in the response to a discharge of transformer oil to the MS4. A transformer on Cuyamaca Street south of Mast Boulevard was struck by a vehicle during a rainy Sunday morning, and SDG&E hazmat crews responded to the incident, removing hydrocarbon-bearing soil and cleaning any discharge to the sidewalk, curb and gutter. SDG&E notified the City of the incident, and City Stormwater Program staff inspected the MS4 downgradient of the transformer.

During inspection, an oily sheen was observed on the water where the storm drain daylights east of Rio Seco school. Public works staff deployed oil absorbant booms to absorb the oil. SDG&E were contacted, and they collected a sample of the water for analysis in their laboratory. The sample was reported to be non-detectable for total petroleum hydrocarbons in the carbon range for transformer oil. SDG&E staff and City Stormwater Program staff inspected the area around the transformer and observed a minor area of soil which needed removal. SDG&E removed this soil. The City notified the RWQCB of this discharge and associated corrective action.

4.5 SANITARY SEWER SYSTEM

4.5.1 BACKGROUND

As described in the City's JURMP, PDMWD is responsible for wastewater operations within the City. The City and PDMWD collaboratively respond to sanitary sewer overflows to reduce or eliminate the amount of untreated sewage that reaches the MS4.

4.5.2 SOURCE CHARACTERIZATION

PDMWD is responsible for the sanitary sewer system within the City of Santee.

4.5.3 BEST MANAGEMENT PRACTICES

As discussed in the City's JURMP, the City coordinates with PDMWD to implement pollution prevention techniques and BMPs to reduce or eliminate the amount of pollutants generated from sanitary sewer maintenance activities. The City coordinates with PDMWD to ensure all applicable CASQA BMPs are implemented. There have been no changes to these BMPs during the Reporting Period.

4.5.4 PROGRAM IMPLEMENTATION

PDMWD continues to clean out or repair the sanitary sewer system as necessary to prevent seepage from the sanitary sewer system to the MS4. City personnel also notified PDMWD whenever it received information that a certain segment of the sanitary sewer system may need maintenance.

PDMWD has also worked to develop a Fats, Oils, and Grease (FOG) program that targets grease-producing facilities, such as eating establishments. The goal of the program is to reduce grease buildup in the sanitary sewer system, which can cause or contribute to sanitary sewer overflows (SSOs). In case of an SSO, the City works with PDMWD to respond appropriately to the overflow. In addition, the City collaborates when appropriate with FOG program staff, to ensure that facilities with grease traps or clarifiers are maintained. The City was notified of three SSOs during the Reporting Period. In each instance, PDMWD responded to the spill. Of the three SSOs, one is believed to have reached a receiving water body. Each spill is listed in Table 4-2.

Table 4-2
Reported Sewer Spill Releases

Date	Location	Description Including RWQCB Incident Number
8/19/11	8861 Magnolia Ave	SSO Event #770265, estimated 76 gallons released. Blow out of lateral during work on sewer main. PDMWD onsite, and able to promptly respond.
3/24/12	8717 Graves Ave	SSO Event 779141, estimated 475 gallons released during the installation of an additional facility. Construction crews were already onsite, so the water was diverted to a trench until it could be removed and disposed of properly.
5/10/12	9360 Creekside Court	SSO Event 781313, estimated 33 gallons. Blocked lateral on multi-family development. City staff contacted property manager to advise them that that the blockage needed to be fully removed and cleaned up. City public works staff conducted additional clean-up based on the City inspector's recommendations.

4.6 MOBILE MUNICIPAL ACTIVITIES

4.6.1 BACKGROUND

The City conducts a variety of different mobile municipal activities, typically involving infrastructure maintenance, landscape maintenance, and graffiti removal. The City does not conduct power washing as part of any municipal activities.

4.6.2 SOURCE CHARACTERIZATION

Graffiti removal, infrastructure maintenance, and landscaping are listed on the City's high TTWQ municipal inventory.

4.6.3 BEST MANAGEMENT PRACTICES

The City implements BMPs for mobile activities as described in the City's JURMP and as applicable to the activity. City personnel are trained to implement BMPs for the specific activity in which they are involved. For example, City personnel conducting graffiti removal are trained to store and handle any chemicals properly. A more detailed discussion of BMPs for specific mobile activities is included in the City's JURMP; these BMPs did not change during the Reporting Period.

The City received a complaint from a resident regarding the removal of red paint on a curb. The resident was concerned at the lack of BMPs used by the City crew and had spoken to the City crew and supervisor. The resident did not immediately call the storm water hotline to file a complaint, however an inspector went out to the location on receipt of the complaint. The inspector observed some residue remaining on the sidewalk and curb and gutter from the paint removal activities. The Public Works Manager was contacted about the issue and advised of the need for additional clean-up. A crew that does not typically conduct this type of activity was conducting the work and had omitted to fully deploy BMPs. Storm water program staff had observed these activities being conducted by other crews during a previous Reporting Period and had confirmed that appropriate BMPs were being deployed. The Public Works Manager ensured that the crew responsible was advised of the BMP requirements, and the residue was removed from the sidewalk and curb and gutter.

4.6.4 PROGRAM IMPLEMENTATION

The City hires several contractors to conduct mobile activities in the City. Contractors are frequently both required by contract and trained on the level of BMP implementation expected by the City. There were no complaints received by the City's storm water hotline or any other indication that City contractors conducting any mobile activities were not properly implementing the appropriate BMPs.

4.7 SPECIAL EVENTS

4.7.1 BACKGROUND

As detailed in the City's JURMP, a variety of different special events are hosted within the City. Special events range from summer concerts and the Santreefest to the 4th of July celebration.

4.7.2 SOURCE CHARACTERIZATION

As required by the Municipal Permit, special events are included on the City's high TTWQ municipal inventory.

4.7.3 BEST MANAGEMENT PRACTICES

As detailed in the City's JURMP, the City has selected BMPs for special events hosted in the City. In general, the goal of the City's special event BMPs are to properly manage trash and litter generated by the event, keep catch basins and other nearby MS4 facilities free of litter/debris from the event, and raise storm water awareness among the vendors and patrons of the event, as applicable.

4.7.4 PROGRAM IMPLEMENTATION

The City hosted a number of special events during the Reporting Period. During each event, the City implemented the following BMPs:

- Trash/recycling bins were used.
- Spill kits were accessible.
- Street sweeping and parking lot sweeping was conducted following the event.

The City applied for and obtained a waiver from the RWQCB for the presentation of a fireworks display on July 4, 2011. The City provided a post-event report to the RWQCB in accordance with the conditions of the waiver. Special Events include the Santee Farmers' Market organized by a private citizen, continued on the former Santee Elementary School site; and the Santee Street Fair and the Santee Car Show on Riverview Parkway were organized by the Santee Chamber of Commerce. All three of these events were subject to a temporary use permit and comprehensive conditions, based on the standard special events conditions and the specific location and activities associated with the event. The operators of these events were required to document that appropriate BMPs were implemented during the events using a City-provided checklist and to inspect after the event to ensure that all corrective action (including removal of trash and debris, and cleaning of storm drain inlets as appropriate). City staff inspected these events as appropriate during the Reporting Period and confirmed that BMPs were being implemented appropriately.

4.8 EDUCATION AND OUTREACH

During the Reporting Period, the City continued to educate municipal personnel regarding proper BMP implementation and other storm water and watershed concepts. A total of 28 municipal personnel were provided formal storm water training during the Reporting Period. A detailed discussion of the City's education and outreach activities is included in Section 8 of this Annual Report.

4.9 SPILL REPORTING, RESPONSE, AND PREVENTION

As detailed in the City's JURMP, the City's sanitary sewer system is managed and maintained by the PDMWD. PDMWD has documented procedures for preventing and responding to sanitary SSOs. The City provides assistance during SSO response when necessary. The City responds to all other spills within its jurisdiction as needed.

The City uses the City's storm water hotline as the main mechanism for being notified of spills; spills may also be discovered during routine inspections or other complaint investigations. Individuals in the City are encouraged to report any spills, including SSOs and any spills from private sewer laterals or septic systems, to the City's storm water hotline. The City notifies PDMWD regarding any calls made to the hotline regarding SSOs. During the Reporting Period, there were three SSOs, which were described earlier in this section. There were no other spills during the Reporting Period.

4.10 Public Reporting of Illicit Discharges and Connections

Reporting and Response

Public and municipal involvement are crucial to preventing and eliminating illicit connections and illegal discharges (IC/IDs) from the storm water conveyance system. The Storm Water Hotline provides an effective means for individuals in the City to report suspected IC/IDs. The hotline number is provided on the City's website, in distributed storm water educational material, and on the City's website. All complaints received through the hotline are logged for documentation and tracking. Each logged complaint is investigated by City personnel to determine if an IC/ID is present. Responsible parties for any confirmed IC/ID are sought out and educated and/or cited as necessary and required to stop or clean-up any and all illegal discharges.

Complaints received by the City during the Reporting Period and the City's response to each are listed in Appendix B. Forty-nine complaints were documented and responded to this year.

Enforcement

As previously stated, complaints received via the storm water hotline are included in a table in Appendix B. The table also includes a description of how each complaint was resolved during the Reporting Period. Resolutions to investigated complaints included clean-up, providing educational material and discussing storm water concepts with individuals involved in the complaint. In some cases courtesy notices and NOVs were issued. The City issued 20 courtesy notices and 8 NOVs in response to complaints received by the City's storm water hotline.

4.11 Municipal Component Effectiveness Assessment

Please refer to Section 11 of this JURMP Annual Report for the assessment of program effectiveness.

4.12 Program Modification and Review

The City's JURMP was updated in March 2008, and the street sweeping and special events requirements were updated as reported in the 2007/2008 Annual Report. Additional facilities (Sky Ranch Park, Forester Creek and Mast Park West) were added

as the City took responsibility for maintenance. Refinements to the BMPs for herbicide applications and a change in the frequency of sweeping of municipal parking lots were both identified in the 2009/2010 Annual Report.

5.0 INDUSTRIAL AND COMMERCIAL

5.1 INTRODUCTION

During the Reporting Period, the City continued to implement a program to mitigate urban runoff pollution from the areas and activities of industrial and commercial businesses. The City aims to reduce the amount of pollutants discharged from these industrial and commercial facilities through the implementation of this program component.

5.1.1 SUMMARY OF NOTABLE ACCOMPLISHMENTS

Some notable achievements for the industrial and commercial component during the Reporting Period are presented in the following bulleted list. Additional details about the City's implementation of the industrial and commercial component and of its storm water program during the Reporting Period are provided in the remainder of Section 5. The following subsections of this section provide more details on how the City complied with the Municipal Permit during the reporting period.

- The City met the Municipal Permit requirement of inspecting at least 25 percent of its stationary industrial and commercial inventory.
- The City inspected 100 percent of the inventoried high TTWQ stationary industrial and commercial facilities.
- Based on inspection findings and complaints made to the hotline, the City issued 10 written courtesy notices or notices to comply informing stationary businesses of BMP deficiencies and State Industrial Permit requirements, and 10 Notices of Violation (NOV) to stationary industrial and commercial businesses. Two courtesy notices were also sent to a commercial shopping center property.
- The City sent notices to each business that had not filed Notices of Intent (NOI) or submitted Notice of Non-Applicability/No Exposure Certification (NONA/NEC) paperwork in connection with the State of California General Industrial Permit (Industrial Permit), as appropriate.
- Four courtesy notices, six NOVs, and one administrative citation were issued to mobile businesses within the City.

5.2 STATIONARY INDUSTRIAL AND COMMERCIAL SITES / SOURCES ELEMENT

5.2.1 BACKGROUND

The City's industrial and commercial inventory, which can be found in Appendix A.4, includes all stationary facilities known to be operating in the City that are required to be

included on the City's inventories. Stationary facilities in the City include, but are not limited to, manufacturing facilities, auto repair shops, restaurants, wholesalers, and contractors. As discussed in the following subsections, the City requires industrial and commercial businesses to implement pollution prevention measures and designated minimum BMPs to mitigate the impacts of business activities on water quality.

5.2.2 SOURCE CHARACTERIZATION

As previously mentioned, the City's industrial and commercial inventory is included in Appendix A.4. The inventory includes both stationary and mobile businesses, as required by the Municipal Permit. The inventory was continuously updated throughout the Reporting Period using field observations and information gathered from the City's business licensing process.

Information on how the City prioritizes the industrial and commercial inventories based on TTWQ is discussed in detail in the City's JURMP. The City considers factors including those listed below when prioritizing the inventories:

- Coverage under the Industrial Permit
- Consideration of the downstream waterbody and whether the business is likely to discharge pollutants for which the waterbody is impaired
- Results from previous inspections and institutional knowledge
- Proximity to the receiving waterbody

The City's updated inventory includes 570 stationary industrial and commercial facilities as of September 2012.

5.2.3 BEST MANAGEMENT PRACTICE REQUIREMENTS

Industrial and commercial businesses in the City are required to implement pollution prevention methods and other BMPs to reduce or potentially eliminate the generation of pollutants from business areas/activities. The City has established a set of minimum BMPs based on the CASQA Industrial and Commercial Handbook. The requirements include BMPs applicable to all facilities as well as activity-specific BMPs. The City's BMP requirements are described in more detail in the City's BMP Manual, which is an attachment to the City's JURMP. BMP requirements for stationary industrial and commercial businesses did not change during the Reporting Period.

5.2.4 PROGRAM IMPLEMENTATION

Industrial and Commercial Inspections

During the Reporting Period, the City conducted storm water compliance inspections at selected stationary industrial and commercial facilities. The purpose of the inspections is to confirm that the City's minimum BMPs are being implemented at stationary industrial and commercial facilities.

Facility inspections were conducted in accordance with the protocol set forth in the City's JURMP. Inspections involved a thorough examination of the facility and all outdoor activities. BMP deficiencies and corrective actions were recorded on the City's industrial and commercial inspection form, and discussed with facility personnel present during the inspection. During the inspection process, the City checked Industrial Permit compliance status, and reviewed storm water pollution prevention plans (SWPPP) and monitoring results, when applicable. Businesses observed to be in violation of the Industrial Permit are included in Table 5-1. A list of facilities visited as part of the City's routine inspection program during the Reporting Period is provided at the end of this section in Table 5-2. Table 5-2 also includes the follow-up results, where applicable.

The City selected sites for inspection based on the inventory included in the City's updated JURMP, which included stationary industrial and commercial businesses. Although the inventory was revised later in the year to remove businesses that are no longer active, as described in Section 5.2.2, the number of sites selected for inspection during the Reporting Period was based on this larger original inventory. The City inspected a total of 185 stationary industrial and commercial facilities. Businesses were selected for inspection using the following criteria:

- High priority sites
- New businesses that might have the potential for illicit discharges
- New businesses that may require coverage by the Industrial Permit
- Businesses that had no previous inspection record

Many of the facilities inspected were home-based businesses, which form a large proportion of the business inventory. The main issues that might be associated with home-based businesses are outside storage of materials. Many of the businesses were observed from the perimeter of the property. If the property looked like it was a typical residence, then the observations were noted. If issues, such as the potential exposure of pollutants to rainwater from the operation of the business were noted, then the business owner was contacted to advise them of the necessary BMPs, and followed up as appropriate. If, based on the inspection and available information, it was considered appropriate, the inventory was updated to eliminate businesses that do not need to be inventoried. Note that as the inventory is continuously updated, and for practical budgeting reasons, the City will continue to determine the number of inspections necessary based on the inventory it has at the beginning of each fiscal year.

Other non-homebased facility inspections were conducted in accordance with the protocol set in the City's JURMP. Inspections involved a thorough examination of the facility and all outdoor activities. BMP deficiencies and corrective actions were recorded on the City's industrial and commercial inspection form, which is included in the City's JURMP, and discussed with facility personnel present during the inspection. A list of facilities visited during the Reporting Period is provided at the end of this section in Table 5-2.

The City did not rely on third party inspections to satisfy its industrial and commercial inspection requirements during the reporting period. The City does not presently maintain a third party inspection program.

Inspection Findings

Most BMP-related deficiencies observed during the inspection process were minor. Some of the more common issues include uncontained litter, debris, and sediment around the site and in the parking lot and dumpster area. Another common BMP deficiency included open dumpster lids. Many industrial and commercial facilities could not provide any sort of documentation that storm water training had been provided to appropriate personnel. Written notices and other forms of enforcement were used when more significant BMP deficiencies were observed during the inspections; a discussion of industrial and commercial enforcement actions is included later in this subsection.

General Industrial Permit

Industrial Permit compliance status was evaluated during the industrial and commercial inspection process. If the business was new and had not previously been inspected, or if the business had recently changed activities, the inspector gathered information about the business activities that occur on site and assigned or reassigned the business' standard industrial classification (SIC) code(s). The inspector then determined coverage under the Industrial Permit based on SIC code. Violations of any aspect of Industrial Permit requirements were recorded on the standard industrial and commercial inspection form and are presented in Table 5-1. The table also includes facilities that could potentially gain exemption from Industrial Permit requirements by completing NONA/NEC paperwork.

Table 5-1
Violations of the Industrial Permit

#	Business Name	Street Address	Action to Correct Violation				
			File NOI	Develop SWPPP	Develop / Implement Storm Water Monitoring	Complete NONA/ NEC	Other/Comments
1	American Sheet Metal	8710 Railroad Avenue				✔	Outside exposures observed during post-construction BMP inspection. Facility operator advised to file to enroll with State permit or to file NONA/NEC
2	C & M Relocation Systems	11433 Woodside Avenue	✔	✔	✔		New business in Santee. Advised of State Industrial Permit requirements and conditioned to comply as part of business licensing process.
3	Cook Enviro Recycle	10502 Kenney Street, Suite 5	✔	✔	✔		Based on inspection findings, facility considered to be subject to State Industrial Permit. Advised facility owner, however business left the City and therefore did not need to enroll.
4	J. E. Stone	10911 Wheatlands Road, Unit N	✔	✔	✔	✔	Business observed during inspection activities in area. Advised of requirement to enroll under State Industrial Permit and added to inventory.
5	Rainbow Steel	9484 Mission Park Place		✔	✔		Business enrolled under State Industrial Permit, advised operator of activities that needed to be incorporated in the management of the facility (visual observations, monitoring etc) and to be reported on each year.
6	Specialty Metals	11222 Woodside Avenue				✔	Facility needs to control it's exposures and file for NONA/NEC, or file to enroll with State Industrial Permit.

Each business was notified of any Industrial Permit-related non-compliance by the inspector and through written correspondence to the business. During the Reporting Period, the City's Stormwater Program Manager maintained correspondence with

businesses in violation of any aspect of the Industrial Permit, notifying them of the steps that need to be taken to ensure compliance with Industrial Permit requirements.

In addition, the City coordinated Industrial Permit compliance with RWQCB staff. City staff copyied the RWQCB on Industrial Permit-related notices to comply or notices of violation sent to businesses.

Education and Outreach

In addition to checking for compliance with the City's requirements and the Industrial Permit, inspections provide a venue to provide site-specific one-on-one education regarding storm water concepts and BMPs. Before conducting industrial and commercial inspections, the City sent businesses selected for inspection a letter notifying them of the upcoming inspection as well as a fact sheet with BMPs for industrial and commercial businesses. The City has 18 different storm water-related fact sheets, which are included in Attachment 5.1. During the inspections, inspectors used a variety of educational material to provide watershed concepts and activity-specific BMP recommendations, which were provided to industrial and commercial businesses as appropriate. Inspected facilities were also informed of the City's BMP requirements during the Reporting Period, as applicable. Also note that the City completed BMP requirement notification efforts, which the Municipal Permit requires within the first three years of implementing the updated (2008) JURMP, for its entire inventory as reported in the City's 2008/2009 JURMP Annual Report. More information about the types of educational material used by the City is provided in Section 9 of this Annual Report.

The City worked with A & I Services, a carpet and upholstery cleaning business in the City, to distribute carpet cleaning fact sheets to patrons of the business. Similarly, the City worked with Leslie's Pools, a pool and spa supply store, to distribute pool and spa maintenance fact sheets to its customers at the Santee store. These fact sheets are included in Attachment 5.1.

Enforcement

Some industrial and commercial facilities were observed to be out of compliance with the City's municipal storm water ordinance and/or the Industrial Permit during inspections conducted in 2011/2012. The City followed-up with these facilities as necessary through follow-up site visits and mail and telephone correspondence to bring about compliance with applicable requirements. Follow-up inspections, including resolution status, are included in Table 5-2 at the end of this section. As detailed in Table 5-2, a small number of issues are ongoing, but are expected to be resolved through our established enforcement process. Enforcement actions were taken as necessary; numbers of enforcement actions taken are presented in the bulleted list later in this subsection. During the course of the Reporting Period, the City also received complaints through the City's storm water hotline regarding stationary industrial and commercial facilities. Based on the results of complaint investigations, the City took enforcement action as necessary. Applicable information regarding follow-up and enforcement actions are included in Appendix B.

Overall, the City issued the following enforcement actions to stationary industrial and commercial businesses during the Reporting Period:

- Ten courtesy notices or notices to comply
- Ten NOVs
- Notices were sent to each business that had not filed to comply with the Industrial Permit

Additionally, two courtesy notices were sent to a commercial shopping center, Santana Village, as described in the complaint log (Appendix B). Overall, the City's enforcement actions were effective in bringing about compliance with the City's requirements. An additional tool developed during the Reporting Period was the development of a summary of the storm water BMPs required as part of the business licensing process. The business owner is required to review and sign the summary as part of the business licensing process. This tool has been used for businesses identified as being subject to the State Industrial Permit and will be expanded to be used for other new applications for industrial facilities that are potentially polluting.

There were no instances of noncompliance at stationary businesses found to present a significant threat to human health or the environment observed during the Reporting Period, so none were reported to the RWQCB.

5.3 MOBILE SOURCES

5.3.1 BACKGROUND

Due to the nature of activities of most mobile businesses, a major area of concern tends to be illegal discharges. In general, mobile businesses can be hard to identify, as many may not have City business licenses. Additionally, because many mobile businesses may be home-based and activities do not occur in one fixed location, inspections of such facilities are generally impractical. One mobile business, Fun in the Sun Pools, was inspected during the Reporting Period. This business is based in Santee. Based on observations of another, similar company (Blue Moon Pools) in the past, it was deemed appropriate to inspect the location to assess whether the business operation is a potential source of pollutants. The business is home-based and no exposed equipment or materials, and no discharge was observed during the inspection.

5.3.2 SOURCE CHARACTERIZATION

Known mobile industrial and commercial businesses, as described in the City's JURMP, are included on the City's inventory (Appendix A.4) and are denoted with an asterisk. As of September 2012, a total of 40 mobile businesses are included on the City's inventory.

5.3.3 BEST MANAGEMENT PRACTICE REQUIREMENTS

BMPs for stationary industrial and commercial facilities, as discussed earlier in this section, are required to be implemented for mobile activities. BMPs for mobile businesses, including key principles, such as proper collection and disposal of any discharge, are discussed in the City's JURMP. There have been no updates to the BMP requirements as described in the JURMP.

5.3.4 PROGRAM IMPLEMENTATION

During the Reporting Period, the City received and responded to five calls to the City's storm water hotline regarding mobile businesses. In each case the City responded to investigate and verify the complaint. Enforcement action was taken and educational material was distributed as applicable. More detail about the complaints made to the City's storm water hotline regarding mobile businesses is included in Appendix B of this Annual Report.

In addition, City staff are aware of mobile business operations (particularly automotive detailing operations in industrial areas), and verify that appropriate BMPs are being implemented when these operations are observed.

Education and Outreach and Enforcement

During the Reporting Period, the City took proactive steps to identify and educate mobile businesses in the City by seeking out such businesses. City personnel drove by areas known to be frequented by mobile businesses, specifically mobile car detailers. If any mobile businesses were observed, City personnel stopped to provide educational material and ensure that no discharges were occurring. Operators who are not implementing BMPs are required to stop, and remove the discharge. Typically a notice is sent to the mobile business owner if such an incident occurs.

During the Reporting Period, a total of four Courtesy Notices, six NOVs, and one administrative citation were issued to mobile businesses. In each instance, City personnel discussed the BMP requirements of mobile businesses with business personnel. Typically the City requires the owner of the business to provide documentation (such as a completed training sign-in sheet) showing that field staff have been trained in the relevant BMP requirements. Also note that the City completed BMP requirement notification efforts, which the Municipal Permit requires within the first three years of implementing the updated (2008) JURMP, for its entire inventory, including mobile businesses, as reported in the City's 2008/2009 JURMP Annual Report. Details about the City's education program for mobile businesses are included in Section 8 of this Annual Report.

There were no instances of noncompliance of mobile businesses that were believed to present potential threats to human health or the environment observed during the Reporting Period, so none were reported to the RWQCB. City staff confirmed with the

RWQCB that a complaint originating from RWQCB staff regarding a mobile business was addressed.

5.4 Industrial and Commercial Component Effectiveness Assessment

Please refer to Section 11 of this JURMP Annual Report for the assessment of program effectiveness.

5.5 Program Review and Modification

The City's JURMP was updated in March 2008. With the exception of the addition of the requirement for selected business owners to sign a document listing the BMPs required at their facility, no changes to the City's industrial and commercial component have been made since that time.

Table 5-2
Industrial and Commercial Sites Inspected During the Reporting Period

#	Business Name	Address	Recommended for Follow-Up	Description of Follow-Up Actions	Resolution Status
1	A & I SERVICES	8665 ARGENT STREET	No	None Required	Complete
2	A-ACCURATE MOVING	9328 WHEATLANDS	No	None Required	Complete
3	ABLER FABRICATION	10325 AMADA	No	None Required	Complete
4	ACCURATE AIR ENGINEERING INC.	9356 ABRAHAM WAY	No	None Required	Complete
5	ADVANCED ELECTROMAGNETICS	9311 STEVENS	No	None Required	Complete
6	AL MAX SANITATION	10023 PROSPECT AVENUE	No	None Required	Complete
7	ALBA RACING	10806 PROSPECT AVENUE	No	None Required	Complete
8	ALLEN MECHANICAL INC.	11030 SUMMIT	No	None Required	Complete
9	ALLIANCE HEATING AND AIR CONDITIONING	10281 PEBBLE BEACH DRIVE	No	None Required	Complete
10	ALUMINESS PRODUCTS INC.	9402 WHEATLANDS	No	None Required	Complete
11	AQUA VINY & PLASTER POOLS	10127 WOODROSE	No	None Required	Complete
12	A-QUALITY GARAGE DOORS	8803 PEBBLE BEACH DRIVE	No	None Required	Complete
13	A REVITALIZED BATH & KITCHEN	9435 WHEATLANDS COURT, SUITE D	No	None Required	Complete
14	ARGEE CORPORATION	9550 PATHWAY STREET	No	None Required	Complete
15	ARTISTIC MARBLE AND GRANITE INC.	9323 STEVENS	No	None Required	Complete
16	AUDIO VIDEO INSTALLS	10171 SWANTON	No	None Required	Complete
17	BABOCK ELECTRICAL SERVICE	8521 MASSERY	No	None Required	Complete
18	BATTERY SYSTEMS	9465 MISSION PARK PLACE	No	None Required	Complete
19	BILCAN INC DBS EL CAMINO RENTALS	8795 CUYAMACA STREET	No	None Required	Complete
20	BLACK WIRE	9711 HUBER COURT	No	None Required	Complete
21	BOND CONSTRUCTION	7819 RANCHO FANITA	No	None Required	Complete
22	BRADSHAW ENGINEERING CORPORATION	8645 ARGENT STREET	No	None Required	Complete
23	BRYANS RACING ENTERPRISES	9260 ISAAC STREET	No	None Required	Complete
24	BUMPER DOC	8711 MAGNOLIA AVENUE	No	None Required	Complete
25	BUTLER'S WEED ABATEMENT	9430 GALSTON DRIVE	No	None Required	Complete
26	C&M RELOCATION SYSTEMS	11433 WOODSIDE AVENUE	No	None Required	Complete
27	C C M ENTERPRISES	10848 WHEATLANDS	No	None Required	Complete
28	C C M ENTERPRISES	9366 ABRAHAM WAY	No	None Required	Complete
29	CAL PARTS CONNECTION	10658 PROSPECT AVENUE	No	None Required	Complete

Table 5-2 (Continued)
Industrial and Commercial Sites Visited During the Reporting Period

#	Business Name	Address	Recommended for Follow-Up	Description of Follow-Up Actions	Resolution Status
30	CARLS JUNIOR #385	10009 MISSION GORGE ROAD	No	None Required	Complete
31	CARL'S TRIM & REMODELING SUPPLY	9524 GALSTON DRIVE	No	None Required	Complete
32	CARLTON OAKS COUNTRY CLUB	9200 INWOOD	**YES**	Verified that eastern restroomconnected to sanitary sewer. Presence of septic tank at western restroomconfirmed. Verified that staff training conducted and removal of stockpileof soil and vegetation completed.	Resolved
33	CAZADORES MEXICAN FOOD	9331 MISSION GORGE ROAD	No	None Required	Complete
34	CHUCK WILSON CONSTRUCTION	9731 ABBEYFIELD	No	None Required	Complete
35	CODE 3 ELECTRICAL	10934 GREENCASTLE	No	None Required	Complete
36	COLE HILL SYSTEMS	10756 VALOR	No	None Required	Complete
37	COLTRANE FIRE PROTECTION	8620 BIG ROCK ROAD	No	None Required	Complete
38	COMPETITION BOBCAT	9587 MAVIN DRIVE	No	None Required	Complete
39	COOK ENVIRO RECYCLE	10502 KENNEY STREET #5	**YES**	Sent notice to file for industrial permit. Business owner moved business outof Santee, inspector checked that no exposures remain.	Resolved
40	CORONADO CONSTRUCTION	10101 GEM TREE WAY	No	None Required	Complete
41	COTIJAS	9121 MISSION GORGE ROAD	No	None Required	Complete
42	CURTIS AIR CONDITIONING & HEATING	10290 PEBBLE BEACH DRIVE	No	None Required	Complete
43	CUSTOM CRAFT CONSTRUCTION	8546 GRAHAM	No	None Required	Complete
44	DAVIS ROOFING	10027 BECK DRIVE	No	None Required	Complete
45	DECKER'S CUSTOM CARPENTRY	9244 BIRD STREET	No	None Required	Complete
46	DCXCAVATION	10641 PROSPECT AVENUE	No	None Required	Complete
47	DECKER'S CUSTOM CARPENTRY	9244 BIRD STREET	No	None Required	Complete
48	DECRESCENTE'S LANDSCAPING	8748 WAHL STREET	No	None Required	Complete
49	DEEP'S GARAGE	10911 WHEATLANDS	No	None Required	Complete
50	DESIGNER'S TOUCH BUILDERS	9953 LOS RANCHITOS	No	None Required	Complete

Table 5-2 (Continued)
Industrial and Commercial Sites Visited During the Reporting Period

#	Business Name	Address	Recommended for Follow-Up	Description of Follow-Up Actions	Resolution Status
51	DG CUSTOM AUTO INC.	10728 PROSPECT AVENUE, SUITE G	No	None Required	Complete
52	DIAMOND PAINTING	8301 MISSION GORGE ROAD, #52	No	None Required	Complete
53	DIMOND CONSTRUCTION	10112 GEM TREE WAY	No	None Required	Complete
54	DON LINCOLN LATH AND PLASTER	9235 BIRCHCREST	No	None Required	Complete
55	DORNFELD INC.	9435 WHEATLANDS	No	None Required	Complete
56	DRAGON MACHINE SHOP	9435 WHEATLANDS COURT, #G	No	None Required	Complete
57	(THE) DYNO SHOP	10042 PROSPECT AVENUE	No	None Required	Complete
58	EAST COUNTY TIRE AND BRAKE	7945 MISSION GORGE ROAD #102	No	None Required	Complete
59	ECO GREEN RECYCLING	9540 PATHWAY STREET, #105	No	None Required	Complete
60	EL MONTE RV (SANTEE RENTS)	8665 MISSION GORGE ROAD #A1	No	None Required	Complete
61	ESTRADA'S	9292 CARLTON HILLS BOULEVARD	No	None Required	Complete
62	ESTRADA'S	8528 MAGNOLIA AVENUE, #107	No	None Required	Complete
63	ESTRADA'S MEXICAN FOOD	9630 CARLTON HILLS BOULEVARD	No	None Required	Complete
64	EUROPEAN NATURAL STONE	10051 PROSPECT AVENUE	No	None Required	Complete
65	EXPRESS TIRE	9535 MISSION GORGE ROAD	No	None Required	Complete
66	FARRIS CONSTRUCTION COMPANY	8758 BUSHY HILL DRIVE	No	None Required	Complete
67	FORD ROOFING	10009 GEM TREE WAY	No	None Required	Complete
68	FORDYCE CONSTRUCTION	9926 PROSPECT AVENUE, #122	No	None Required	Complete
69	FOUR SEASON GARDENING & LANDSCAPING	9328 ST ANDREWS	No	None Required	Complete
70	FRED PERRY	9211 BELLAGIO	No	None Required	Complete
71	FREDDIE CASTLEMAN CONSTRUCTION	9312 CARITA	No	None Required	Complete
72	FRONTIER CNC	10728 PROSPECT AVENUE, #C	No	None Required	Complete
73	FUN IN THE SUN POOLS*	10340 SANTANA	No	None Required	Complete
74	G COLE LABORING	9345 CADORETTE	No	None Required	Complete
75	GARCIA'S WINDOW TINT	9484 MISSION PARK PLACE	No	None Required	Complete
76	GENSCHAW'S TREE SERVICE	10744 SAYERS	No	None Required	Complete
77	GIAMANCO & SONS	8742 ATLAS VIEW DRIVE	No	None Required	Complete

Table 5-2 (Continued)
Industrial and Commercial Sites Visited During the Reporting Period

#	Business Name	Address	Recommended for Follow-Up	Description of Follow-Up Actions	Resolution Status
78	GILES CONSTRUCTION	101031 ASHDALE	No	None Required	Complete
79	GOULD MASONRY, THOMAS	8633 HACIENDA	No	None Required	Complete
80	GUARDIAN WATERPROOFING	8622 ARGENT STREET, #D	No	None Required	Complete
81	HACIENDA BUILDERS	10648 TRIGAL	No	None Required	Complete
82	HARD CORE MUSCLE MOTORSPORTS	11421 WOODSIDE AVENUE, #D	No	None Required	Complete
83	HARPER CONSTRUCTION	7819 RANCHO FANITA DRIVE, #C	No	None Required	Complete
84	HARRISON TRUCKING INC.	8801 OLIVE LANE	No	None Required	Complete
85	HILBERTO'S MEXICAN FOOD	9805 PROSPECT AVENUE, #F	No	None Required	Complete
86	IMS RECYCLING SERVICES, INC.	9465 MISSION PARK DRIVE	No	None Required	Complete
87	INDUSTRIAL METAL PROCESSING	10145 PROSPECT AVENUE	No	None Required	Complete
88	INTERPIPE CONTRACTING INC.	10870 HARTLEY STREET	No	None Required	Complete
89	JACK IN THE BOX #20	9337 MISSION GORGE ROAD	No	None Required	Complete
90	JACK IN THE BOX #3007	10330 MAST BOULEVARD	No	None Required	Complete
91	JACOR CONSTRUCTION	8614 SIESTA ROAD	No	None Required	Complete
92	JAFCO BUILDING SERVICES, INC.	10728 PROSPECT AVENUE, #109	No	None Required	Complete
93	JAMES AUSTIN CONSTRUCTION	9540 PATHWAY STREET, #103	No	None Required	Complete
94	JL WATSON DISTRIBUTING	10250 PROSPECT AVENUE	No	None Required	Complete
95	JOE'S OLD FASHIONED BBQ	205 TOWN CENTER PARKWAY	No	None Required	Complete
96	JOHNNY'S LAWN SERVICE	10062 WOODPARK	No	None Required	Complete
97	JOHN'S COLLISION CENTER	10806 PROSPECT AVENUE	No	None Required	Complete
98	JR'S JACK OF ALL TRADES	9440 WHEATLANDS COURT	No	None Required	Complete
99	JV STEEL BUILDING	9619 MAST BOULEVEARD	No	None Required	Complete
100	JWG CONSTRUCTION COMPANY	10910 COLLINWOOD	No	None Required	Complete
101	KCM CONSTRUCTION	10749 LEN	No	None Required	Complete
102	KE-BURGMANN	8575 ROLAND ACRES DRIVE	No	None Required	Complete
103	KING S & C	10925 WHEATLANDS AVENUE, SUITE E	No	None Required	Complete
104	K39 TACO SHOP	235 TOWN CENTER PARKWAY	No	None Required	Complete
105	L R KNIGHT PAINTING	9744 VOMAC	No	None Required	Complete
106	LACEY J'S ROADHOUSE SALOON & GRILLE	8861 MAGNOLIA AVENUE	No	None Required	Complete

Table 5-2 (Continued)
Industrial and Commercial Sites Visited During the Reporting Period

#	Business Name	Address	Recommended for Follow-Up	Description of Follow-Up Actions	Resolution Status
107	LANDMARK GLASS CO.	9851 PROSPECT AVENUE	No	None Required	Complete
108	LANDRE'S SPORTS BAR AND GRILL	70 TOWN CENTER PARKWAY	No	None Required	Complete
109	LEMON GROVE CYCLE SUPPLY	10704 PROSPECT AVENUE	No	None Required	Complete
110	LOTTA HARDWOOD FLOORS & CONSTRUCTION	10436 CADWELL	No	None Required	Complete
111	LOWLAND SERVICES	10220 PRINCE JED COURT	No	None Required	Complete
112	MANGO TECH USA LLC	11316 WOODSIDE AVENUE	No	None Required	Complete
113	MANZANITA BREWING COMPANY	9962 PROSPECT AVENUE	No	None Required	Complete
114	MARIETAS #4	8915 CARLTON HILLS BOULEVARD	**YES**	Verified that pool of brown water at rear of facility was removed.	Resolved
115	MARJAN STONE COMPANY	9746 PROSPECT AVENUE	**YES**	Ensure property properly vacated.	Resolved
116	MARYS DONUTS	9031 MISSION GORGE ROAD	No	None Required	Complete
117	MB CUSTOMS	11115 SUMMIT CREST	No	None Required	Complete
118	MEDICAL SOLUTIONS INC.	8406 MAGNOLIA AVENUE, SUITE A	No	None Required	Complete
119	METRO STEEL	10520 KENNEY STREET	No	None Required	Complete
120	MIKES AUTO BODY	10737 WOODSIDE AVENUE	No	None Required	Complete
121	NOVA SECURITY	10744 ROCKVILL STREET	No	None Required	Complete
122	ORIGINAL ROADHOUSE GRILL	9816 MISSION GORGE ROAD	No	None Required	Complete
123	OZZIE'S KUSTOM WORKS	10658 PROSPECT AVENUE, SUITE B	No	None Required	Complete
124	PACIFIC DOOR & TRIM INC.	10911 WHEATLANDS	No	None Required	Complete
125	PADRE DAM WATER RECYCLING FACILITY AND SANTEE LAKES	9300, 9310 FANITA PARKWAY	No	None Required	Complete
126	PARADISE POOLS SERVICE AND REPAIR	10906 GREENCASTLE	No	None Required	Complete
127	PAT MARTIN CONSTRUCTION	9743 PEBBLE BEACH DRIVE	No	None Required	Complete
128	PAVING STONE OF SAN DIEGO	9440 WHEATLANDS	No	None Required	Complete
129	PERPETUAL TREE CARE	9376 STARCREST	No	None Required	Complete
130	PETE HURTUBISE CONSTRUCTION	9464 PIKE	No	None Required	Complete
131	PETERSON'S POOL AND SPA SERVICES	8674 WAHL STREET	No	None Required	Complete
132	PHO SANTEE	8790 CUYAMACA STREET	No	None Required	Complete

Table 5-2 (Continued)
Industrial and Commercial Sites Visited During the Reporting Period

#	Business Name	Address	Recommended for Follow-Up	Description of Follow-Up Actions	Resolution Status
133	PLEX PRODUCTS UNLIMITED	10744 PROSPECT AVENUE	No	None Required	Complete
134	PRECISION EXCAVATION	9713 MAST BOULEVARD	No	None Required	Complete
135	PRECISION PROJECTS KITCHEN & BATH	10235 PRINCE JED	No	None Required	Complete
136	PRO CON CONCRETE INC.	9925 PROSPECT AVENUE	No	None Required	Complete
137	PRO LINE FLOORING	11110 MEADOW TERRACE	No	None Required	Complete
138	PROSCAPE	9440 LETICIA DRIVE	No	None Required	Complete
139	PROVOST INC DBA TRAFFIC TECH	11366 WOODSIDE AVENUE	No	None Required	Complete
140	QUALITY CONTROLLED MANUFACTURING	9429 ABRAHAM WAY	No	None Required	Complete
141	QUALITY FLOORS INC.	9206 BIRCHCREST	No	None Required	Complete
142	RCP BLOCK & BRICK INC.	9631 MAGNOLIA AVENUE	No	None Required	Complete
143	RJA MASONRY	10057 PEBBLE BEACH DRIVE	No	None Required	Complete
144	RMB CONSTRUCTION	9902 VIA NINA	No	None Required	Complete
145	RAFAEL GARDENING	8843 COTTONWOOD AVENUE	No	None Required	Complete
146	RAINBOW STEEL INC.	9484 MISSION PARK PLACE	**YES**	Specific deficiences noted during inspection were resolved. Per conversations with the property owner, the property may be transitioning to additional uses in the future. City Stormwater and Planning staff have been actively engaged in conversations and correspondence with the owner to address issues applicable to the property as a whole.	Resolved
147	RANCHO VIEJO	8001 MISSION GORGE ROAD	No	None Required	Complete
148	RHJ HI-TECH AIR CONDITIONING	10107 PROSPECT AVENUE, SUITE B	No	None Required	Complete
149	RICKS MACHINE SHOP	11448 WOODSIDE AVENUE	No	None Required	Complete
150	ROCK SOLID BRICK TILE & MASONRY	9358 BURNING TREE WAY	No	None Required	Complete
151	ROELOF CONSTRUCTION COMPANY	8781 CUYAMACA STREET	No	None Required	Complete
152	RONS PLUMBING	8521 RUMSON	No	None Required	Complete

Table 5-2 (Continued)
Industrial and Commercial Sites Visited During the Reporting Period

#	Business Name	Address	Recommended for Follow-Up	Description of Follow-Up Actions	Resolution Status
153	ROYAL HANDYMAN & LANDSCAPING SERVICES	9233 RUFFIN	No	None Required	Complete
154	ROYALTY WOOD	9437 WHEATLANDS COURT, #A	No	None Required	Complete
155	SAB-E-LEE	9159 MISSION GORGE ROAD	No	None Required	Complete
156	SAN DIEGO CLASSIC RESTORATION	9440 WHEATLANDS COURT, #14	No	None Required	Complete
157	SAN DIEGO ELECTRIC COMPANY	7906 LINEN DRIVE	No	None Required	Complete
158	SAN DIEGO PLUMBING & HEATING	8775 RAILROAD AVENUE	No	None Required	Complete
159	SANTEE FOREIGN CAR REPAIR	7969 MISSION GORGE ROAD	No	None Required	Complete
160	SANTEE HEATING & AIR	8523 CHERUB	No	None Required	Complete
161	SANTEE LANDSCAPE	9327 WHISPERING LEAVES	No	None Required	Complete
162	SCANTIBODIES CLINICAL	9336 ABRAHAM WAY	No	None Required	Complete
163	SEA VIEW GLASS	10307 CAREFREE DRIVE	No	None Required	Complete
164	SEKI'S CYCLES	9932 PROSPECT AVENUE	No	None Required	Complete
165	SNOKE AIR CONDITIONING	9783 MEDINA DRIVE	No	None Required	Complete
166	SOLID SURFACE SOLUTIONS	10704 PROSPECT AVENUE	No	None Required	Complete
167	SONIC CAR WASH	9015 MISSION GORGE	**YES**	Trash management deficiencies were observed to have been resolved during follow-up inspection. Discharge was observed during follow-up, as detailed in complaint log. The discharge issue was also resolved.	Resolved
168	SPARKS COMPUTERIZED CAR CARE	10735 WOODSIDE AVENUE	No	None Required	Complete
169	SPECIALTY METALS FABRICATION	11222 WOODSIDE AVENUE	No	None Required	Complete
170	STAR A AUTOBODY & PAINT	10737 WOODSIDE AVENUE	No	None Required	Complete
171	STEWARTS RACE WORKS	9419 ABRAHAM WAY	No	None Required	Complete
172	T C CONSTRUCTION CO INC	10540 PROSPECT AVENUE	No	None Required	Complete
173	TAC WELDING	9440 WHEATLANDS	No	None Required	Complete
174	THE HAY GUY	10932 GRAND FORK DRIVE	No	None Required	Complete
175	TIMBER RIDGE FRAMING	10744 ROCKVILL ST, SUITE 109	No	None Required	Complete
176	TONY'S LANDSCAPING	9941 LAKE CANYON DRIVE	No	None Required	Complete

Table 5-2 (Continued)
Industrial and Commercial Sites Visited During the Reporting Period

#	Business Name	Address	Recommended for Follow-Up	Description of Follow-Up Actions	Resolution Status
177	TOP NOTCH PAINTING	9371 STARCREST LANE	No	None Required	Complete
178	TRED N WATER	10641 PROSPECT AVENUE	No	None Required	Complete
179	TSC RESTORATION	8402 MAGNOLIA AVENUE	No	None Required	Complete
180	VALLEY BOX COMPANY INC.	10625 PROSPECT AVENUE	No	None Required	Complete
181	VALLEY TRACTOR & EQUIPMENT	11478 WOODSIDE AVENUE	No	None Required	Complete
182	VGCC MANAGEMENT DBA VOLKERS	7953 MISSION GORGE ROAD	No	None Required	Complete
183	VIA MOTO	9331 MISSION GORGE ROAD	No	None Required	Complete
184	WAYNE MILLER'S MOBILE TIRE, INC.	11350 WOODSIDE AVENUE	No	None Required	Complete
185	WEITZEL MOTORSPORTS	9437 WHEATLANDS	No	None Required	Complete
186	3-D SIGNS	9440 WHEATLANDS COURT, UNIT 10	No	None Required	Complete

*Mobile business

6.0 RESIDENTIAL

6.1 INTRODUCTION

Residential land use comprises a significant portion of the City, so residential activities can have a considerable effect on the water quality of receiving waters. The City has developed an extensive program that aims to reduce pollutant runoff from residential areas and activities to the MEP.

6.1.1 SUMMARY OF NOTABLE ACCOMPLISHMENTS

Some notable achievements for the residential component during the Reporting Period are presented in the following bulleted list. The following subsections of this section provide more details on how the City complied with the Municipal Permit during the reporting period.

- On 3/17/2012 Santreefest was held at Town Center Community Park and attended by 250 volunteers. Participants removed trash from Woodglen Vista Creek, created a rock swale at the Aquatics Center and were provided with educational material covering storm water concepts.
- On 5/20/12 City staff conducted surveys and education in collaboration with County Staff at a pet licensing event located in a high TTWQ residential area.
- Conducted outreach and follow-up inspections at locations identified by Public Works staff where residents were inappropriately disposing of pet waste.

6.2 SOURCE CHARACTERIZATION

The City has designated one high TTWQ residential area within the City. The area around Woodglen Vista Channel has been designated as a high TTWQ area due to dry weather monitoring findings in the channel. The City has also designated a number of high TTWQ residential activities. This area was the focus of outreach activities during channel maintenance to educate residents on appropriate pet waste management. This included follow-up with specific residents based on observations made by public works staff during channel cleaning in Woodglen Vista Creek and outreach at a pet licensing event at Woodglen Vista Park on 5/20/12. The pet licensing event was attended by City and County storm water staff who conducted surveys with pet owners and provided educational information and portable doggie bag dispensers. This was implemented as a watershed activity and will be described in further detail in the San Diego River watershed report due in January 2012.

High TTWQ residential activities include:

- Home and Garden Care Activities and Product Use; Including Disposal
- Disposal of Trash and Pet Waste

- Automobile Repair, Maintenance, Washing and Parking

6.3 BEST MANAGEMENT PRACTICE REQUIREMENTS

The City continues to encourage the implementation of pollution prevention measures and encourage or require the implementation of BMPs for residential areas and activities, whether or not the residential area or activity has been designated as being high TTWQ. If particular BMPs are not feasible for any specific site or source, the City requires implementation of other equivalent BMPs. Designated BMPs or their equivalent were implemented or were required to be implemented for residential areas and activities.

Education and outreach aimed at residents helps to expand the implementation of BMPs, including pollution prevention methods. Residents are encouraged, and in some cases required, to implement BMPs and pollution prevention techniques when performing the high TTWQ activities listed in the previous subsection. Residential BMPs are also listed in the BMP Manual, Appendix C of the JURMP. These BMPs did not change during 2011/2012.

6.4 PROGRAM IMPLEMENTATION

The residential program is implemented through outreach and education, operation of a complaint hotline, and complaint investigation and enforcement procedures as discussed in the following subsections.

6.4.1 OUTREACH AND EDUCATION

Outreach was implemented through the preparation and dissemination of outreach materials including the fact sheet series discussed in Section 8 of this Annual Report. A summary of specific Outreach and Education events for residents is presented in the following table:

Table 6-1
Summary of Outreach and Education Activities

Date	Activity Description	Description of Outreach and Education Component
9/24/11	Participated in watershed activity providing outreach at the Lakeside Firehouse event. Lakeside, located in the unincorporated area, is adjacent to Santee, and was likely attended by some Santee residents.	Conducted pet waste surveys and educated attendees on proper pet waste management.
10/24/11	Mailed 12 factsheets to area in Meadow Terrace where a complaint had been received and identified.	Residential factsheets were sent to each of the 12 addresses.

Table 6-1
Summary of Outreach and Education Activities

Date	Activity Description	Description of Outreach and Education Component
10/24/11	Mailed 17 factsheets to addresses on Stoney Creek Court after evidence of illegal swimming pool discharges were observed on the street.	Swimming pool and spa maintenance factsheets were sent to each of the 17 addresses. One resident called the City requesting to speak to the Deputy City Manager to discuss this activity and to express concern at receiving this mailing (intrusive). The Deputy City Manager and Stormwater Program Manager informed the resident about the Clean Water Act and its requirements.
12/7/11	500 English Stormwater Calendars developed as part of the regional outreach program.	247 calendars were provided to beneficiaries of the Santee Santas Program (which focuses on the economically disadvantaged); 110 went to the Santee Chamber of Commerce to distribute at their offices and meetings; 143 were distributed through City facilities, the Sheriff's office and the local public library. The City attached prepaid survey cards to 53 calendars, per the request of the Regional Outreach Workgroup, to facilitate recipients to provide survey feedback on the calendars.
3/17/12	Santreefest	Santreefest is a community event focused on the environment. Participants have the opportunity to plant trees, build a rocky swale, remove trash from Woodglen Vista Creek and receive educational information on storm water and other environmental issues.
5/20/12	Pet licensing event	City Staff and County staff collaborated in conducting surveys on pet waste management, educating attendees at the event, and distributing portable pet waste dispensers.
5/26/12	Santee Street Fair	Provided outreach on storm water (factsheets on residential use, swimming pools and spas, yard and landscaping). Conducted residential survey and discussed survey with residents.
5/29/12	Stormwater Coloring Books developed as part of the regional outreach program.	200 coloring books were provided to the Community Services department to distribute to residents and children during the Santee Summer Concert Series.

The City continues to use opportunities to educate residents (or facilitate residents to assist others), on how their actions can help prevent the discharge of pollutants to the storm drain system. If residents understand the consequences of their actions, they can choose to find an alternative means to conduct their activities.

6.4.2 USED OIL AND WASTE COLLECTION SERVICES

The City provides free used oil disposal facilities to residents. Approximately 438 gallons of waste oil were disposed of through City-provided facilities. The City also contracts with two HHW facilities for the disposal of other HHW (leftover paints, automobile fluids, drain opener and any unused products containing toxic chemicals for home or automobile maintenance). Based on the available data, approximately 3,916 pounds of paint, 462 pounds of batteries, and 97 pounds of fluorescent tubes were collected through City-provided facilities.

6.4.3 HOTLINES AND WEBSITES

The City continues to operate its storm water hotline in accordance with the requirements of the Municipal Permit. The storm water pages of the City of Santee's website were redesigned to make them more user-friendly and separate pages are available for each type of user group (for example, resident, business, etc.). Reference documents and links to other sources of information are provided on the different pages. Minor updates were conducted during the Reporting Period to maintain the relevance of the information and the website was used to distribute articles relating to storm water.

6.4.4 COMPLAINT INVESTIGATION

As previously mentioned, complaints are received by the City's stormwater hotline regarding discharges in various areas of the City, including residential properties. Over half of the complaints the City received via its hotline concerned residential areas and activities in the City. A summary of all complaint investigations, including residential complaint investigations, is included as Appendix B to this Annual Report.

A storm water fact sheet, which is included in Attachment 5.1, relating to construction activities has been prepared and is distributed whenever any request for building permit application information is made. In addition it is provided online and in the storm water information center at the City. Disseminating information on the controls for the most basic of projects should make project proponents aware of and plan for the storm water controls needed for any construction activity. Other avenues for outreach (such as the Santee website) will continue to be used to educate homeowners about their responsibilities when undertaking minor construction work at their properties.

During the Reporting Period, City staff working on the Abandoned Vehicle Abatement Program (AVA) opened 183 cases, which related to 236 vehicles, and issued 5 administrative citations. Due to decisions made at a regional and state level, the funding for Abandoned Vehicle Abatement has been eliminated. Future vehicle abatement activities will be conducted as part of a response to code complaints.

The major topics of complaints are provided below. Based on this summary, outreach and education efforts should continue to focus on the following topics:

- Power washing or hosing down (including automotive detailing)
- Construction material management
- Maintenance of swimming pools and spas
- BMPs for landscaping, including sediment control
- Pet waste management

6.4.5 ENFORCEMENT

The residential complaints and violations data were reviewed to assess what enforcement methods were used for residential properties. Enforcement can be summarized as follows:

- Twenty one courtesy notices/onsite conversations with discharger
- Six notices of violation

One notable incident involved a location adjacent to Mast Park. Public works staff had received a reoccurring complaint about pet waste accumulation on the boundary of the park. The complainant claimed that a neighbor was disposing of their dog waste by throwing it (or encouraging their children to throw it) over the fence into the park. This is of concern as this is inconsistent with Santee Municipal Code, and the Mast Park is located adjacent to the San Diego River which is subject to 303(d) listings for bacteria. Stormwater staff inspected the area and confirmed that there was one location where pet waste had accumulated. This location was documented and Public Works staff cleared the material and sent photo documentation confirming that the material had been removed.

City storm water staff sent a letter and educational information to the residents at the subject property advising them of the complaint and of the proper way to dispose of pet waste. Follow-up inspections one month and a few months later confirmed that this activity had ceased. The findings of these inspections were communicated to the Public Works contact with the invitation to advise if this issue reoccurred. This example demonstrates how City departments work together to identify and resolve storm water issues within the City.

6.4.6 REGIONAL RESIDENTIAL EDUCATION PROGRAM

The City continues to contribute to the Regional Residential Education Program. For example, the City provided personnel to assist with a joint regional event at the High Tech Fair.

6.4.7 METHODS EVALUATION

As described in our JURMP, the City uses a number of methods to maintain oversight for residential activities and areas, including the following:

- Complaint referrals
- Observations by all City staff during routine activities
- Dry weather monitoring and upstream investigations

These methods provide effective oversight of residential activities within the City. The City promptly responds to complaint referrals, and any discharges observed during routine or monitoring activities using an escalating enforcement mechanism. These incidents are monitored, and if a pattern of behavior is observed in a certain area of the City or associated with a particular type of activity, then additional education efforts will be made to reduce the likelihood of this reoccurring within the community. Repeated violations associated with an address or person result in a higher level of enforcement response, as it is expected that they are already aware of storm water requirements.

PDMWD passed a drought ordinance on June 24, 2008 prohibiting certain activities that are consistent with the objectives of the storm water program. In particular, over-irrigation and hosing down of driveways, except when required by sanitary or safety conditions, have been prohibited. City staff report incidences of over-irrigation and similar circumstances to PDMWD when noted. As discussed in more detail in Section 11, reductions in dry weather flow rates have been observed at key locations in the City's storm drain system over the past few years.

6.5 EFFECTIVENESS ASSESSMENT

The effectiveness of the residential component is assessed in Section 11 of this Annual Report.

6.6 PROGRAM REVIEW AND MODIFICATION

The City's JURMP was recently updated in March 2008. With the exception of the reassignment of the high TTWQ residential area for the 2010/2011 Reporting Period, no changes to the City's residential component have been made since that time.

7.0 ILLICIT DISCHARGE DETECTION AND ELIMINATION

7.1 INTRODUCTION

In accordance with the September 10, 2008 RWQCB adoption of Addendum No. 2 to Order No. R9-2007-0001, the City will submit the 2011/2012 illicit discharge detection and elimination section and attachments to the RWQCB no later than December 15, 2012.

8.0 EDUCATION COMPONENT

8.1 INTRODUCTION

During the Reporting Period, the City continued to provide education and outreach to a variety of audiences within the City. The City's education program targets municipal personnel, industrial and commercial businesses, construction site owners and operators, residents, and audiences that may generally be underserved. The City aims to reduce storm water pollution by increasing awareness about storm water and promoting the implementation of pollution prevention measures and BMPs. Through education and outreach, the City works to foster change in both the attitude and behaviors of the regulated community.

8.1.1 SUMMARY OF NOTABLE ACCOMPLISHMENTS

Some notable achievements for the education component during the Reporting Period are presented in the following bulleted list. The following subsections of this section provide more details on how the City complied with the new Municipal Permit during the Reporting Period.

- Various educational materials were made available to project proponents, industrial and commercial facility personnel, and City staff through the City's storm water information center, interactions and training with Stormwater Program Staff, the City website, facility inspections and project reviews.
- The City used its website to cover issues relating to storm water, for example educating the public about creek maintenance and BMPs that can be used at residences.
- The City provided educational materials in English and Spanish to provide outreach to a more extensive audience.

8.2 STAFF TRAINING ELEMENT

The City has provided extensive training and educational outreach to its municipal personnel. Many municipal personnel are out in the field on a daily basis, so it is important that they understand the importance of implementing BMPs. Municipal personnel are encouraged to report any IC/IDs observed to the appropriate City staff and to educate other municipal personnel and the general public about storm water pollution prevention. During the Reporting Period, the City provided the following training/educational outreach events aimed at municipal personnel:

- Ten Public Works staff were trained on how their work directly affects water quality using a regionally-developed training video.

- Eighteen City Development Services staff were provided with refresher training in appropriate IC/ID response procedures.
- One City staff member took QSD/QSP qualifying exams

In addition to the formal training sessions conducted for City personnel presented above; the JURMP reporting process and interactions with colleagues during daily activities provided the City's Stormwater Program Manager with a forum to discuss the City's storm water program with various City personnel involved in implementing the City's JURMP.

8.3 EDUCATIONAL OUTREACH ELEMENT

In addition to municipal staff, the City has continued to provide education and outreach to industrial and commercial businesses, construction site owners and developers, residential areas, and underserved audiences. These efforts promote storm water awareness and BMP implementation.

8.3.1 INDUSTRIAL AND COMMERCIAL BUSINESSES

As required by the Municipal Permit, the City inspects its inventoried businesses to evaluate compliance with the City's BMP requirements and provides site-specific education outreach to business owners and operators. Violations of the City's BMP requirements are corrected through enforcement actions as necessary. Facility inspectors provided site-specific information on necessary BMPs at all inspected facilities. This information helps facility personnel gain a better understanding of the storm drain system and activities that pose a high threat to water quality.

In addition to site-specific discussions, industrial and commercial facility owners and operators were provided a variety of fact sheets and other educational materials. The City distributed the following general and activity-specific fact sheets during industrial and commercial inspections and during complaint investigations, as applicable. The fact sheets are included in Attachment 5.1.

- Fact Sheet 1: What is Stormwater?
- Fact Sheet 2: Water Quality Impacts
- Fact Sheet 3: Wet Weather Checklist
- Fact Sheet 4: Restaurants
- Fact Sheet 5: Automotive
- Fact Sheet 6: Mobile Auto Detailing
- Fact Sheet 7: Power Washing
- Fact Sheet 8: Industrial/Commercial
- Fact Sheet 9: Pool Maintenance

- Fact Sheet 10: Residents
- Fact Sheet 11: Demolition/Construction
- Fact Sheet 12: Special Events
- Fact Sheet 13: Carpet Cleaning
- Fact Sheet 14: Community Organizations
- Fact Sheet 15: Site Design LID BMPs
- Fact Sheet 16: Yard and Garden Maintenance
- Fact Sheet 17: Fire Prevention & Erosion
- Fact Sheet 18: Responding to Sewage Spills

A letter and Fact Sheet 8, the Industrial/Commercial fact sheet, was mailed to businesses selected for inspections during the Reporting Period. During the inspection process, the City also distributed the "Green Wrench Guide" and the "What's Cookin'" brochure, both in English and Spanish, to auto shops and restaurants, as applicable.

A tip card was developed for response to reports of leaking cars parked on the street. This card (presented in Attachment 8.1) educates the recipient on how oil leaks can affect water quality and how spills can be cleaned up. In addition to educational materials provided during inspections and complaint investigations, the City's website is used to educate the public using articles accompanied with illustrations which are also posted via the City's Facebook and Twitter accounts. Storm water-related articles published during the Reporting Period are included as Attachment 8.2.

8.3.1.1 MOBILE BUSINESSES

Mobile businesses, specifically mobile car detailers or power washers, are considered a high threat to water quality due to the nature of the business activities and the likelihood of prohibited non-storm water discharges. Mobile businesses are not confined to a single area, and many do not have City business licenses, making them difficult to identify. Individuals applying for businesses licenses for mobile car washing activities meet with the City's Stormwater Program Manager to discuss BMPs before a business license is issued. In addition, businesses applying for licenses to operate carpet cleaning, landscaping, or pool maintenance services received factsheets on these subjects. The City took proactive steps in identifying and educating mobile businesses in the City during the Reporting Period, namely conducting drive-by investigations of areas known to be frequented by mobile businesses and providing applicable educational material and/or enforcement actions.

During 2011/2012, the City provided Fact Sheet 9, the Pool Maintenance fact sheet, to a local pool supply company. Additionally, the City continues to provide copies of Fact Sheet 13, the carpet cleaning factsheet, to a carpet cleaning equipment rental facility (A & I) that distributes these factsheets to their clients.

8.3.2 CONSTRUCTION SITE OWNERS AND DEVELOPERS

Construction sites have the potential to discharge sediment and other pollutants to receiving waters if not managed properly. Construction site owners, contractors, and developers visit the City's Engineering Division to apply for necessary permits. The review process raises storm water awareness through the grading permit approval, development review, environmental review, SUSMP review, and/or other meetings prior to the issue of permits. In addition to these interactions with City staff, information on the General Construction Stormwater Permit (where applicable), the City's website, brochures, and construction-specific materials are provided for all construction affiliates. Active developers in Santee were notified of an APWA training on Construction BMP Training presented on September 22, 2011. It is not known if any of these developers took advantage of this training opportunity.

Anyone applying for a building permit is provided Fact Sheet 11, which includes BMPs for construction and demolition activities. Education is also provided after permits have been obtained during the City's site inspections.

The City has also continued its requirement for project proponents to watch "Hold Onto Your Dirt," an informational video on construction BMPs, at meetings prior to obtaining grading permits.

8.3.3 RESIDENTIAL AREAS

Due to the threat to water quality posed by certain residential activities, the City understands the importance of reaching this particular audience through educational outreach programs. The City now posts articles on the City website (Attachment 8.2) and notifies residents via Twitter and Facebook. The following is an outline of storm water related articles and announcements published on the website during the Reporting Period:

- "Trash: Keep a Lid on it." This article educated readers on proper trash and recycling bin management and reminded them that it is better to "reduce (trash), recycle (waste materials) and reuse (discarded items)."
- "Only Rain in the Storm Drain" educated readers on the connection of the storm drain system to the river. It described BMPs that residents can use to prevent discharges to the storm drain system.
- "Spring Cleaning at Forester Creek" described Public Works' efforts to maintain Forester Creek free of trash.
- "Keep Pesticides and Fertilizers Out of Our River" educated readers about the proper application of these chemicals to prevent discharges to the storm drain system. It advised on the appropriate disposal method for pesticide and fertilizer containers.

- "Got HHW?" described household hazardous waste (HHW) and how it is potentially harmful to people and the environment. It educated residents on how to access the free HHW disposal service available in the City.
- "Keeping the River Clean: Consider Compost" talked about the benefits of using yard waste for compost. It described the potential impact on river water quality from improper disposal of yard waste. It provided a link to a video showing on how to make compost.

Additional content on the City website, www.ci.santee.ca.us, provides further opportunities for City residents to become familiar with the design and intended use of the storm drain system, household hazardous waste (HHW) disposal, information regarding volunteer opportunities, information on how to report pollution, storm water factsheets for various activities, Stormwater Program documents and applicable City contact information. Development/construction and business pages on the storm water pages were updated during the Reporting Period.

As shown in Table 8-1, the City has also distributed a number of hard copy educational materials, some of which were directed to residents. the regionally-developed stormwater calendar and stormwater coloring book were both primarily targeted at residents, and many of the factsheets are also applicable to residential activities. The regional stormwater coloring book in particular is designed for school children.

8.3.4 UNDERSERVED COMMUNITIES

As discussed in the JURMP, the City has defined underserved communities, as listed in the Permit, as residents who engage in certain high-risk to water quality behaviors. This behavior is not restricted to any particular demographic group within the City. High-risk to water quality behaviors include incorrect use and disposal of home and garden care products, incorrect disposal of vehicle fluids, use and maintenance of off-road recreational vehicles, incorrect disposal of pet waste, over-application of chemicals, over-irrigation, trash accumulation, oil spills, and home improvement projects. To generate educational outreach to those who may engage in high risk to water quality behaviors, the City has continued to maintain a HHW and used oil collection program as well as educational material regarding HHW and used oil. Pet waste bags are available in City parks and at popular dog walking areas in the City. The City website also includes information on BMPs for chemical management and vehicle washing. The City plans to continue outreach to those who may engage in high risk to water quality behaviors through this educational program.

The City participated in the County Pet Licensing Clinic at Woodglen Vista Park in Santee during May to educate dog owners about appropriate pet waste management procedures. This was a watershed activity conducted with the County of San Diego Department of Watershed Protection and will be reported on in detail in the San Diego River WURMP.

If high-risk behaviors are observed to be prevalent in any particular demographic group, then the education program will be adjusted to provide more focused outreach to the group.

8.3.5 COMPLAINT INVESTIGATIONS

To further aid the process of identifying illicit discharges, the City encourages the public and City staff to report IC/IDs. If a representative for the business, residential area, or construction site is present, the inspector will provide site-specific information regarding storm water issues including applicable educational materials. Educational material was distributed as necessary during complaint investigations. In addition to the City's storm water hotline, Public Works also receives complaints regarding issues with MS4 maintenance. These complaints are followed up by Public Works personnel and mainly involve drainage system maintenance, but storm water staff are notified when necessary.

8.3.6 EDUCATIONAL MATERIAL DISTRIBUTED

Table 8-1, below, describes the approximate number of educational materials distributed during the Reporting Period.

Table 8-1
Educational Material Distributed

Educational Material	Approximate Number Distributed
Ind/Com Inspection Notification Letter	103
Fact sheet 1: What is Stormwater?	28
Fact sheet 2: Water Quality Impacts	1
Fact sheet 3: Carpet Cleaning	2
Fact sheet 4: Restaurants	12
Fact sheet 5: Automotive	3
Fact sheet 6: Mobile Auto Detailing	2
Fact sheet 7: Power Washing	12
Fact sheet 8: Industrial/Commercial	104
Fact sheet 9: Pool Maintenance	30
Fact sheet 10: Residences	16
Fact sheet 11: Construction	8
Fact sheet 12: Special Events	3
Fact sheet 13: Carpet Cleaning	8
Fact sheet 14: Community Organizations	0
Fact sheet 15: Site Design LID BMPs	4
Fact sheet 16: Yard and Garden Maintenance	27
Fact sheet 17: Fire Prevention and Erosion	22
Fact sheet 18: Responding Sewage Spills	0

Table 8-1
Educational Material Distributed

Educational Material	Approximate Number Distributed
Regional Stormwater Calendar	500
Regional Stormwater Coloring Book	200
IPM Cards: Spanish	1
Pet Waste Cards	39
Knowledge Assessment Surveys	47
What's Cookin' - English	0
What's Cookin' - Spanish	0
Green Wrench Guide - English	0
Green Wrench Guide - Spanish	0

8.4 OUTREACH COMPONENT EFFECTIVENESS ASSESSMENT

Please refer to Section 11 of this JURMP Annual Report for the effectiveness assessment for this program component.

8.5 PROGRAM REVIEW AND MODIFICATION

The City's JURMP was recently updated in March 2008. No changes to the City's education component have been made since that time.

9.0 PUBLIC PARTICIPATION

9.1 INTRODUCTION

The City continues to explore ways to encourage public participation in the City's storm water program. Collaboration between the City and the community should help foster a sense of shared responsibility in protecting water quality both locally and regionally.

9.1.1 SUMMARY OF NOTABLE ACCOMPLISHMENTS

Some notable achievements for the public participation component during the Reporting Period are presented in the following bulleted list. The following subsections of this section provide more details on how the City complied with the Municipal Permit during the reporting period.

- Collected over 41 tons of trash and debris during seven cleanup events held for the San Diego River, Forester Creek, and Town Center Community Park.
- Disseminated information on San Diego River Park Foundation community activities in Santee via the City of Santee website.

9.2 EVENTS AND PROGRAMS

Santreefest

The City hosted the Santreefest at the Town Center Park. This was attended by approximately 250 volunteers who participated in a number of activities to enhance Town Center Community Park including the removal of five cubic yards of trash and debris, as described in Table 9-1. In addition to the trash removal activities, trees were planted in the area and a rock swale was constructed. The event provided an opportunity for educational outreach to the participants of the event. Various educational outreach materials, including IPM cards in both English and Spanish, storm water fact sheets, residential fact sheets, and waste management information were provided. City personnel discussed pollution prevention techniques with event attendees who visited the Watershed Booth operated in conjunction with the County of San Diego Department of Watershed Protection. This watershed activity will be described in further detail in the San Diego River WURMP annual report.

Creek and Waterway Cleanups

The City supported a number of creek and waterway cleanups summarized in the table below. Support typically included notifying the public of the upcoming event on the City's website and providing waste disposal facilities as needed. With the exception of Santree Fest and Helping Hands Beautification Day, representatives from the San Diego River Park Foundation took the lead in organizing these events.

Table 9-1
Summary of Cleanup Events

Date	Amount of Trash Removed (lbs)*	Description
7/6/11	600	20 volunteers removed trash from West Hills Parkway.
8/5/11	540	18 volunteers removed trash from Mast Park.
8/17/11	660	22 volunteers removed trash from Mast Park.
9/21/11	960	32 volunteers removed trash from Magnolia Avenue.
9/24/11	8,000	National Public Lands Day – Santee Town Center Park, attended by approximately 30 participants.
10/5/11	630	21 volunteers removed trash from the area near the river at Big Rock Road.
10/19/11	690	23 volunteers removed trash from the area near the river at Big Rock Road.
11/12/11	2,760	39 volunteers removed trash from Town Center Community Park.
12/10/11	1,120	Forester Creek Clean-up attended by approximately 85 participants.
12/21/11	270	9 volunteers removed trash from Mast Park West.
1/13/12	600	10 volunteers removed trash from Mast Park West
2/25/12	2,000	Chubb Lane River Clean-up attended by approximately 70 participants.
3/7/12	700	10 volunteers removed trash from Chubb Lane and Old Man's Pond along the San Diego River.
3/17/12	200	Santreefest attended by approximately 250 people who participated in a variety of activities. Eight volunteers helped with the trash removal.
4/21/12	4,180	Earth Day: River Cleanup at Big Rock Road attended by 64 volunteers.
4/28/12	56,000	Helping Hands Beautification Day at Mast Park attended by 300 participants.
5/16/12	240	8 volunteers removed trash from the area near the river at Big Rock Road.
5/20/12	250	20 volunteers removed trash from Mast Park West.
6/9/12	1,600	Forester Creek clean-up attended by approximately 25 participants.
Total	82,000	

* Based on conversion factor of 400 pounds per cubic yard for trash.

Storm Drain Stenciling

This ongoing program provides opportunities for members of the community to stencil storm drains to remind the public not to discharge materials to the storm drain system.

No stenciling projects were conducted during the Reporting Period; however, the City continues to offer this program to youth groups and other volunteer organizations as a way to participate in improving water quality.

Roadside Pride
This ongoing program, where community youth separate recyclable materials from collected debris, has been previously promoted in the *Santee Review*.

Hazardous Waste Collection and Used Oil Recycling
Citizens are required to properly dispose of household hazardous waste, used oil, bulk items and electronic waste. Residents are informed of the services available to them through outreach at community events, information provided through the storm water program (such as the Residential Fact Sheet), information at various City departments, and the City's website. The amount of used oil and other HHW collected during 2011/2012 is reported in Section 6.4.2 of this Annual Report.

Encourage Responsible Cleanup
Citizens using municipal facilities are encouraged to keep their community clean by properly disposing of all waste. Trash and recycling bins are provided at City parks. Pet waste bags are available at City parks and along popular dog-walking routes. Additional pet waste bag dispensers are to be installed as part of an on-going program.

Responsible cleanup procedures are encouraged at special events within the City. A Special Event fact sheet is provided to applicants for relevant permits which require specific BMPs at all special events. Detailed conditions are used for special events in Santee.

In addition to the activities listed above, the City continues to encourage public participation through Project Clean Water and related activities.

Eagle Scout Project
A group of scouts delineated a trail under the Carlton Hills Bridge linking Mast Park with Mast Park West. The buttresses of the bridge were painted in a bright mural showing the context of the location in the San Diego River watershed. These improvements enhanced this resource by the river and will also give walkers a greater sense of security when using this pathway.

9.3 PUBLIC PARTICIPATION COMPONENT EFFECTIVENESS ASSESSMENT

Please refer to Section 11 of this JURMP Annual Report for the assessment of program effectiveness.

9.4 PROGRAM REVIEW AND MODIFICATION

No changes to the public participation component of the JURMP are proposed at this time.

10.0 FISCAL ANALYSIS

10.1 INTRODUCTION

During 2009/2010, a fiscal analysis reporting template was developed collectively by the Copermittees. Fiscal information for 2011/2012 is reported in the tables below, which follow the standard format adopted by the Copermittees.

Table 10-1
Expenditure Summary

JURISDICTIONAL COMPONENTS	
Administration	$99,431
Development Planning	$14,836
Construction	$13,335
Municipal	$392,555
Industrial and Commercial	$16,182
Residential	$5,863
IDDE	$58,242
Education	$4,215
Public Participation	$500
Special Investigations	$86,382
Non-Emergency Firefighting (incorporated into routine fire safety costs)	$0
Jurisdictional Total	**$691,541**

WATERSHED	
San Diego River	$128,531
Watershed Total	**$128,531**

REGIONAL	**$62,677**

TOTAL COSTS	**$882,749**

Table 10-2
Fund Summary

FUNDING BY SOURCE	
General Fund	$642,414
Storm Water Fee	$0
Developer Deposits and Fees	$19,935
Registration and Inspection Fees	$0
Grant Funds	$0
Zone 2 Flood Control	$220,400
Total	**$882,749**

Table 10-3
Watershed Urban Runoff Management Program (WURMP) Expenses

	San Diego River
Administration (1)	$5,349
Cost Share Contribution	$3,628
Watershed Activities	$119,554
Other	$0
TOTAL	**$128,531**

(1) Administration – includes Watershed strategic planning, management, mapping, assessment, and reporting.

Table 10-4
Regional Urban Runoff Management Program (RURMP) Expenses

Regional Programs	Jurisdictional Cost
Administration (1)	$9,225
Cost Share Contribution	$53,452
Other (2)	$0
TOTAL	**$62,677**

(1) Administration – includes assessment, reporting, management, etc.
(2) Other – examples include regional and special studies.

11.0 EFFECTIVENESS ASSESSMENT

11.1 INTRODUCTION

The City regularly evaluates its storm water program to make it as effective as possible at reducing discharges of urban runoff related pollution to the MEP. The overall structure of the City's JURMP contains three major components: Program Planning, Program Implementation, and Effectiveness Assessment.

Program Planning
The initial step is program planning, which requires identifying potential pollutant sources, establishing BMP requirements, and identifying of targeted outcomes and ways to measure those outcomes. Next, the program developed during the planning step is implemented.

Program Implementation
Program implementation is assessed each year using the methods developed in the program planning stage and reported in JURMP annual reports. The conclusions from these assessments are used during the next round of program planning to incorporate improvements to the program and refine the assessment technique.

Effectiveness Assessment
Results of the program implementation phase of the JURMP provide the City with various metrics used to interpret the overall effectiveness of the program in achieving progress toward targeted outcomes. Example metrics were provided in Section 13 of the City's 2008 JURMP, and the City has refined those metrics in the reporting periods since then. The effectiveness assessment approach developed by the Copermittees during the last permit cycle includes six different levels of targeted outcomes. Each successive level represents a step up from more easily measured, activity-based outcomes (Level 1) to more difficult to measure, quality-based outcomes (Level 6). The levels are listed below.

Level 1: Compliance with Activity-Based Permit Requirements
Level 2: Changes in Knowledge/Awareness
Level 3: Behavioral Change/BMP Implementation
Level 4: Load Reductions
Level 5: Changes in Discharge Quality
Level 6: Changes in Receiving Water Quality

The Municipal Permit requires the City to assess the effectiveness of each significant activity for each program component, as a whole, and for the storm water program as a whole. Level 1, Level 5, and Level 6 outcomes are discussed in Section 11.2.1. At this time the City is not able to assess Level 5 or Level 6 outcomes for individual program activities or individual programs. As noted in the CASQA effectiveness assessment guidance, methods for integrated assessment—assessment that combines both

monitoring data and programmatic data—are still under development at regional and statewide levels (CASQA, 2007).

11.1.1 OUTCOME LEVEL ASSESSMENTS

Level 1
Level 1 outcomes essentially are measures of Municipal Permit compliance. The component-specific sections in this JURMP Annual Report provide details of programmatic actions taken to comply with the applicable Municipal Permit requirements. Appendix C of this JURMP Annual Report also includes a checklist that matches the Municipal Permit's annual reporting requirements with the section(s) or appendix of this report that addresses each requirement.

Levels 2 and 3
See the tables 11-1 through 11-8 at the end of this section for discussions of Level 2 and Level 3 outcomes for significant activities within each program component. Please note that only a Level 1 assessment applies to fiscal analysis, so no table for fiscal analysis is included.

Level 4
The tables at the end of this section provide information for Level 4 assessments where feasible. Assessment of Level 4 outcomes is feasible for some programs that directly measure the amounts of pollutant removal, such as MS4 cleaning. For most other programs reliable load estimation methods have not yet been developed.

Figures 11-1 and 11-2, at the end of this section, display historical flow rates for seven routine monitoring sites within the City. These sites were selected since they are major outfalls of the City's MS4 and/or have had the highest recorded flow rates of the City's monitoring sites in its storm drain system from 2002-2012. All flow rates were recorded during the dry season. For years in which multiple measurements were taken in one year's dry season, the average value is shown. These locations are shown on a map in Figure 11-3.

Each graph illustrates a slightly decreasing trend in dry weather flows, and the flow rates recorded in 2011 and 2012 are among the lowest recorded within the past 10 years for all seven sites. While many factors may contribute to flow rates in the City's MS4, including largely uncontrollable sources such as groundwater infiltration, the lower flow rates seem to indicate that the City's efforts to reduce non-storm water discharges to its MS4 are having a positive impact. Since pollutant loads are calculated using flow rates and pollutant concentrations, a decrease in flow rate will generally result in a decrease of pollutant loads.

Level 5
The City continues to conduct the MS4 Outfall Monitoring Program implemented in 2009. This program examines water quality at four targeted major MS4 outfalls in order to characterize pollutant discharges to receiving waters. The data is used to assess whether these discharges contribute to the overall receiving water quality on a regional

basis; the analysis is presented in the regional Copermittee annual monitoring report, which is submitted to the RWQCB each January.

Since four years of MS4 Outfall Monitoring data is now available for Santee, an additional City-specific analysis of the data has been conducted for this report. Figure 11-4, at the end of this section, includes graphs of key laboratory analytical results and pollutant loading rates for these sites for 2009 through 2012, the four years for which data was collected. Note that loading rates are based on instantaneous flow rates measured at the time of sample collection. In general, loading rates calculated for Site V45k have been relatively higher than other monitoring sites since flow rates, likely due to groundwater ingress, have been greater at this site.

Over the past four years, nutrient (total nitrogen and total phosphorus) loading rates have generally decreased, reflecting the decrease in flow rates over the same period. Although TDS concentrations have remained relatively consistent, a decrease in loading rates has been noted at each monitoring site since their respective flow rates have declined since 2009. Additionally, because indicator bacteria levels have been variable throughout the MS4 Outfall Monitoring Program, no clear trend has been noted in bacteria concentrations or loading rates.

One of the City's primary mechanisms for measuring the quality of discharges is the Dry Weather Monitoring Program. Graphs presenting the historical Dry Weather Monitoring Program exceedances are provided at the end of this section as figures 11-5 and 11-6. From 2002-2012, nitrate-nitrogen exceedances have been somewhat frequent and have been attributed to the infiltration of groundwater into the MS4. No discernible trend in exceedances for other field constituents has been observed. Laboratory data, collected from 25 percent of the City's sites, per Municipal Permit requirements, have shown a generally decreasing trend in total coliform bacteria exceedances. Exceedances for other constituents measured via laboratory analysis, such as diazinon, chlorpyrifos, oil and grease, and heavy metals, have rarely been observed.

Level 6

The Copermittees' regional monitoring program sited and monitored two Temporary Watershed Assessment Stations (TWAS) in the San Diego River Watershed in 2010/2011, with data provided in January 2011 as part of the regional annual monitoring report. One sampled station was at the eastern side of the City (SDR-TWAS-3), close to the City's jurisdictional boundary with the County of San Diego, and one farther to the west, close to the boundary between the City of Santee and the City of San Diego (SDR-TWAS-2).

Dry weather data from these sites both showed nutrients, bacteria, and TDS as high or medium priority constituents. These results are generally consistent with watershed assessments conducted in 2011/2012 and in previous years in the San Diego River Watershed and presented in the San Diego River WURMP. Due to the rotational schedule of the regional monitoring program, no new data was collected for the San Diego River watershed in 2011/2012.

From 2002-2011, the City performed an additional study of water quality at five receiving water body locations: upstream and downstream sites in the San Diego River, upstream and downstream sites in Forester Creek, and one site in Sycamore Creek. Samples have been collected under ambient conditions twice per year at each site. Although a portion of Forester Creek outside the City of Santee has been listed as impaired for pH, none of the samples in any water body in Santee's additional study have exceeded the Basin Plan WQOs for pH at any point during the program's history (Figure 11-7). Figures 11-8, 11-9, and 11-10 show fecal coliform bacteria levels measured in upstream and downstream receiving water locations, with downstream measurements typically being lower. In general, fecal coliform bacteria levels in recent years are lower than the levels recorded in the earlier years of the program.

Fecal coliform bacteria counts were typically lower at the downstream Forester Creek site than the upstream site, and samples collected in 2010 and 2011 from Site J30d1, located downstream of a restored portion of Woodglen Vista Channel, have had relatively low indicator bacteria counts. Assessment data from Forester Creek after project completion presented at the 2010 CASQA Conference showed an 87 percent reduction in fecal coliform bacteria from the upstream to downstream end of the project area. These data are evidence that the City's work to revegetate and improve open channels such as Forester Creek and Woodglen Vista Creek has resulted in improved water quality.

11.1.2 Overall Component Assessments

Development Planning

The City's review process for development projects effectively requires high and medium removal efficiency BMPs. City interaction with responsible parties during the reporting period has resulted in BMP installation and a greater level of awareness of the need for regular treatment control BMP maintenance within the City. As a result of diligent follow-up, verification of proper maintenance was received from all projects. City staff have been educated on updated hydromodification management requirements, and information about the new requirements is easily accessible via the City's website. The City has implemented a strong system to verify proper installation and maintenance at the conclusion of construction and notify property owners of the need to implement a maintenance program.

Construction

The City inspected many sites more frequently than required by the Municipal Permit and sent construction BMP reminders prior to the beginning of the wet season. The pre-rainy season notices detailed site specific recommendations from each project, increasing their effectiveness over a standard letter sent out to all projects. The City required grading permit applicants to view the "Hold on to Your Dirt" educational video, and City staff helped educate the development community by presenting at a QSD training. These practices appear to have improved BMP implementation both in general and

during rain events, which is when construction activities have the highest potential to discharge pollutants.

Municipal

The City's municipal activities effectively implement BMPs and reduce pollutant loading. The City's municipal staff are regularly trained on storm water issues. The City's Stormwater Program Manager surveyed municipal maintenance staff before and after a training event. Maintenance staff scored highly on the post-test, displaying the effectiveness of the training.

The City sweeps its streets more often than Municipal Permit requirements to reduced pollutants, and the City regularly inspects and cleans out its MS4. As a result, 113 more tons of sediment and debris were removed from streets and parking facilities than during the previous Reporting Period. The City coordinates with PDMWD, which is responsible for the sanitary sewer system, to prevent and respond to any SSOs in the City. The City also continued to distribute pet waste bags through dispensers in its parks during 2011/2012.

Industrial and Commercial

In 2011/2012, the majority of inspected businesses did not require follow-up inspections (97%); which is greater than the percentage of sites that did not require follow-up inspections in 2010/2011 (93%). The City's Stormwater Program Manager followed up with businesses with high priority BMP deficiencies, and most were resolved by the end of the Reporting Period. Although the Municipal Permit does not require the City to go beyond reporting Industrial Permit deficiencies to the RWQCB, the City also followed-up with businesses observed to be out of compliance with the Industrial Permit. An additional tool developed during the current Reporting Period was the development of a summary of the City's storm water BMPs required as part of the business licensing process. It is expected that increased education for businesses, particularly new businesses, will help improve industrial and commercial BMP implementation rates.

The City has taken proactive steps to identify and educate mobile businesses in the City by identifying them via business licenses and providing education. City staff also regularly drove by areas known to be frequented by mobile businesses, particularly mobile car detailers, during the Reporting Period. Whenever mobile businesses were observed, City personnel stopped to provide educational material and ensure that no discharges were occurring.

Residential

The main components of the City's residential storm water program include education, complaint receipt and response via the storm water hotline, and routine monitoring to detect IC/IDs. The City also encourages residential participation in clean up and other events to help foster a sense of shared responsibility in keeping the community clean. Several cleanup events were held during the Reporting Period. Additionally, several online *Santee Review* articles provided storm water education to City residents. City staff surveyed residents at the Santee Street Fair in May 2012, and the results indicated the

respondents were well-educated on storm water issues. Over 81 percent of those surveyed knew that water flowing through the storm drain system is not treated, and the same percentage knew that hosing or sweeping trash and debris into a gutter or storm drain is illegal.

IDDE

The City's IDDE program has effectively responded to complaints and responded to any identified IC/IDs. During 2011/2012, three SSOs occurred, all of which were responded to by PDMWD. No IC/IDs were identified during the 2012 Dry Weather Monitoring Program. Follow up actions were also taken in response to the recommendations from the 2011 Dry Weather Monitoring Program Report. The City will continue to take action to prevent and eliminate IC/IDs.

Education

The City continued to provide educational materials for a variety of audiences, including residents, businesses, developers, and contractors, available on its website. The City also proactively worked to identify carpet cleaners, pool maintenance businesses, and landscapers during the business license application process; such businesses were provided activity-specific educational materials. The City continued its innovative methods of distributing educational material to hard-to-reach audiences in the City; for example, the City's Stormwater Program Manager worked with a local pool supply company and a carpet cleaning equipment rental business to distribute activity specific fact sheets.

Public Participation

A total of 53 reports to the hotline were received during the Reporting Period, which is less than but still at a similar order of magnitude as the 67 complaints received during the previous Reporting Period. It is possible that the decrease in hotline calls indicates a decreased incidence of storm water problems, but it is difficult to make definitive statement given the relatively small difference in values between the two years.

The City continued to facilitate used oil and HHW disposal centers in 2011/2012. The City has held several clean up events, typically in partnership with community organizations such as the San Diego River Park Foundation. Creek cleanups were held in the City as part of Coastal Cleanup Day and the Creek to Bay Cleanup. These events helped remove trash and debris and also increased public involvement in protecting the City's waterways. Approximately 30 more tons of trash and debris were removed by volunteers at events in 2011/2012 than that removed during the previous Reporting Period. The City will continue looking for new opportunities for public involvement, while continuing existing clean-up and recycling programs and events.

11.2 PROGRAM REVIEW AND MODIFICATION

No significant changes to the effectiveness assessment approach presented in the City's March 2008 JURMP have been made since the submittal of that document.

Table 11-1
Development Planning Component Assessment Measures

Significant Activity	Level 2	Level 3		Level 4
Review and approve project plans	External Based on meetings with applicants and BMPs proposed, it appears that the level of knowledge is increasing. Internal The City's Stormwater Program Manager and Project Engineers work closely to ensure SUSMP requirements are met.	Overall WQTR approval rate during reporting period	43%	N/A, addressed through other significant activities for this component
		Number of projects requiring three or more reviews prior to WQTR approval	3	
		Percent of approved projects implementing BMPs with high or medium removal efficiencies for key pollutants of concern	100%	
Verify proposed BMPs are implemented	External N/A, knowledge is evaluated by appropriate implementation of BMPs as shown in Level 3 Internal The City's Stormwater Program Manager provides training to staff responsible for verifying BMPs are installed prior to occupancy.	Percent of projects implementing proposed BMPs	100%	Installation of BMPs likely contributed to pollutant load reductions.
		Resolution status of enforcement actions	Complete, see Section 2	
Verify BMPs are properly maintained	External Owners notified of requirement to maintain treatment control BMPs Internal The City's Stormwater Program Manager is familiar with BMP maintenance requirements.	Percent of sites certifying BMPs properly maintained	100%	Proper maintenance of BMPs likely contributed to pollutant load reductions.
		Resolution status of enforcement actions as of October 1, 2011	84% Completed, see Section 2.4.4	
		Percent of sites submitting verification forms	100%	
Maintain an accurate inventory	N/A, data management only	N/A, data management only		N/A, data management only

Notes: Level 2 - Changes in Knowledge/Awareness; Level 3 - Behavioral Change/BMP Implementation; Level 4 - Load Reductions; N/A – Not Applicable

Table 11-2
Construction Component Assessment Measures

Significant Activity	Level 2	Level 3		Level 4
Review proposed plans and BMPs	External Projects submit plans for construction BMP implementation for their projects; the level of awareness of construction BMP requirements is fairly high. Internal Training for City staff is described in Section 8. City staff are familiar with relevant construction BMPs.	BMPs proposed for construction projects generally meet requirements; no significant problems have been noted.		Proper pre-project planning is likely to have resulted in BMPs that reduced pollutant loading.
Verify proposed BMPs are implemented	External Grading projects implement BMPs as required by their permits, and contractors are familiar with the City's requirements. Construction projects are notified of requirements through inspection notices and letters. Internal Training for City staff is described in Section 8. City inspectors are familiar with relevant construction BMPs.	Percent of inspections requiring written notices, NOVs, citations, or stop work orders	13%	Proper BMP implementation is likely to have reduced pollutant loading.
		Resolution status of enforcement actions	Complete, see Section 3	
		Number of dry weather monitoring exceedances traced to construction sources	0	
Maintain an accurate inventory	N/A, data management only	N/A, data management only		N/A, data management only

Notes: Level 2 - Changes in Knowledge/Awareness; Level 3 - Behavioral Change/BMP Implementation; Level 4 - Load Reductions; N/A – Not Applicable

Table 11-3
Municipal Component Assessment Measures

Significant Activity	Level 2	Level 3		Level 4	
Verify proposed BMPs are implemented at facilities	City staff are regularly trained on BMP implementation; see sections 4 and 8.	Percent of inspected facilities/activities in compliance with BMP requirements	85%	Proper BMP implementation is likely to have reduced pollutant loading.	
		Resolution status of sites requiring follow-up inspections	Complete, see Section 4	Amount of pet waste collected	25 tons*
		Number of dry weather monitoring exceedances traced to municipal sites	0		
Sweep streets and parking facilities		N/A, streets and parking facilities are swept as often as directed by management and Municipal Permit requirements.		Amount of sediment and debris removed (weight or volume)	784 tons
				Amount of sediment and debris removed per length of street swept (weight or volume per curb mile)	0.077 tons/ curb mile
Maintain and clean out MS4		N/A, MS4 structures are maintained as often as directed by management and in compliance with permit requirements.		Amount of sediment and debris removed (weight or volume)	483 cubic yards
Maintain sanitary sewer system		N/A, the sanitary sewer system is maintained by Padre Dam MWD.		Total volume of SSO discharge to MS4 (gallons)	109
Maintain municipal treatment control BMPs		N/A, treatment control BMPs are maintained as often as directed by management.		BMP effectiveness studies	N/A
Maintain an accurate inventory	N/A, data management only	N/A, data management only		N/A, data management only	

Notes: Level 2 - Changes in Knowledge/Awareness; Level 3 - Behavioral Change/BMP Implementation; Level 4 - Load Reductions; N/A – Not Applicable

*Amount of pet waste collected is based on an estimate of 0.2 pounds of pet waste per bag. This conversion rate was developed by the County of San Diego based on the results of a 2004 study and included in the 2006/2007 WURMP Annual Report. A total of 250,000 pet waste bags were distributed in 2011/2012.

Table 11-4
Industrial and Commercial Component Assessment Measures

Significant Activity	Level 2	Level 3		Level 4	
Require BMP implementation	Business owners and operators were educated in a variety of ways during the Reporting Period; see sections 5 and 8 for details.	Percent of inspected sites in compliance with discharge prohibitions	100%	Proper BMP implementation is likely to have reduced pollutant loading.	
		Percent of sites not requiring a follow-up	97%		
		Resolution status of enforcement actions	Majority completed, see Section 5		
		Number of dry weather monitoring exceedances traced to industrial or commercial sources	0	Number of IC/IDs eliminated (inspections and complaint investigations)	15
Maintain an accurate inventory	N/A, data management only	N/A, data management only		N/A, data management only	

Notes: Level 2 - Changes in Knowledge/Awareness; Level 3 - Behavioral Change/BMP Implementation; Level 4 - Load Reductions; N/A – Not Applicable

Table 11-5
Residential Component Assessment Measures

Significant Activity	Level 2	Level 3		Level 4
Require BMP implementation	External Residents were educated through articles in the online *Santee Review*, targeted mailers, and in variety of other ways during the Reporting Period; see sections 6 and 8 for details. Internal The City's Stormwater Program Manager is heavily involved in the implementation of the residential component and works closely with code compliance in addressing residential storm water issues. Other City staff involved in the program also have a good understanding of the goals of the storm water program.	Number of residential incidents reported to storm water hotline	36	Resolution of residential incidents reported to the hotline likely resulted in a decrease in pollutant loading through improved BMP implementation.
		Resolution of enforcement actions	Complete, see Section 6	
		Number of dry weather monitoring exceedances traced to residential sources	0	
Maintain an accurate inventory	N/A, data management only	N/A, data management only		N/A, data management only

Notes: Level 2 - Changes in Knowledge/Awareness; Level 3 - Behavioral Change/BMP Implementation; Level 4 - Load Reductions; N/A – Not Applicable

Table 11-6
Illicit Discharge Detection and Elimination Component Assessment Measures

Significant Activity	Level 2	Level 3	Level 4
Conduct Dry Weather Monitoring Program	The City contracts with a qualified consultant to perform its Dry Weather Monitoring Program.	N/A, personnel conduct monitoring as directed by management.	No significant, long term IC/IDs were eliminated, so a reliable estimate of load reduction cannot be made.
Respond to incidents reported to storm water hotline	The City's Stormwater Program Manager trains City staff as needed. See sections 4 and 8. City staff were responsible for many of the reports made to the hotline, as shown in Section 4.	N/A, personnel respond to incidents as directed by management. Note that some non-stormwater staff have chosen to respond to observed incidents in their private lives. This is indicative of staff awareness and sense of responsibility.	Resolution of the incidents reported to the hotline and listed in Section 4 are likely to have resulted in pollutant loading reduction.
Respond to and clean up SSOs	City staff are thoroughly trained on how to respond to SSOs.	N/A, the sanitary sewer system is maintained by PDMWD.	PDMWD reported three SSOs during the reporting period, one of which was reported as reaching a receiving waterbody. All SSOs were responded to by PDMWD.

Notes: Level 2 - Changes in Knowledge/Awareness; Level 3 - Behavioral Change/BMP Implementation; Level 4 - Load Reductions; N/A – Not Applicable

Table 11-7
Education Component Assessment Measures

Significant Activity	Level 2	Level 3	Level 4
Provide storm water education to the public	External The City actively educates the various audiences in its jurisdiction. See Section 8 for details.	See Level 3 outcomes for other program components for information about behavior change.	Sufficient data to estimate load reductions due to educational efforts is not available for the Reporting Period.

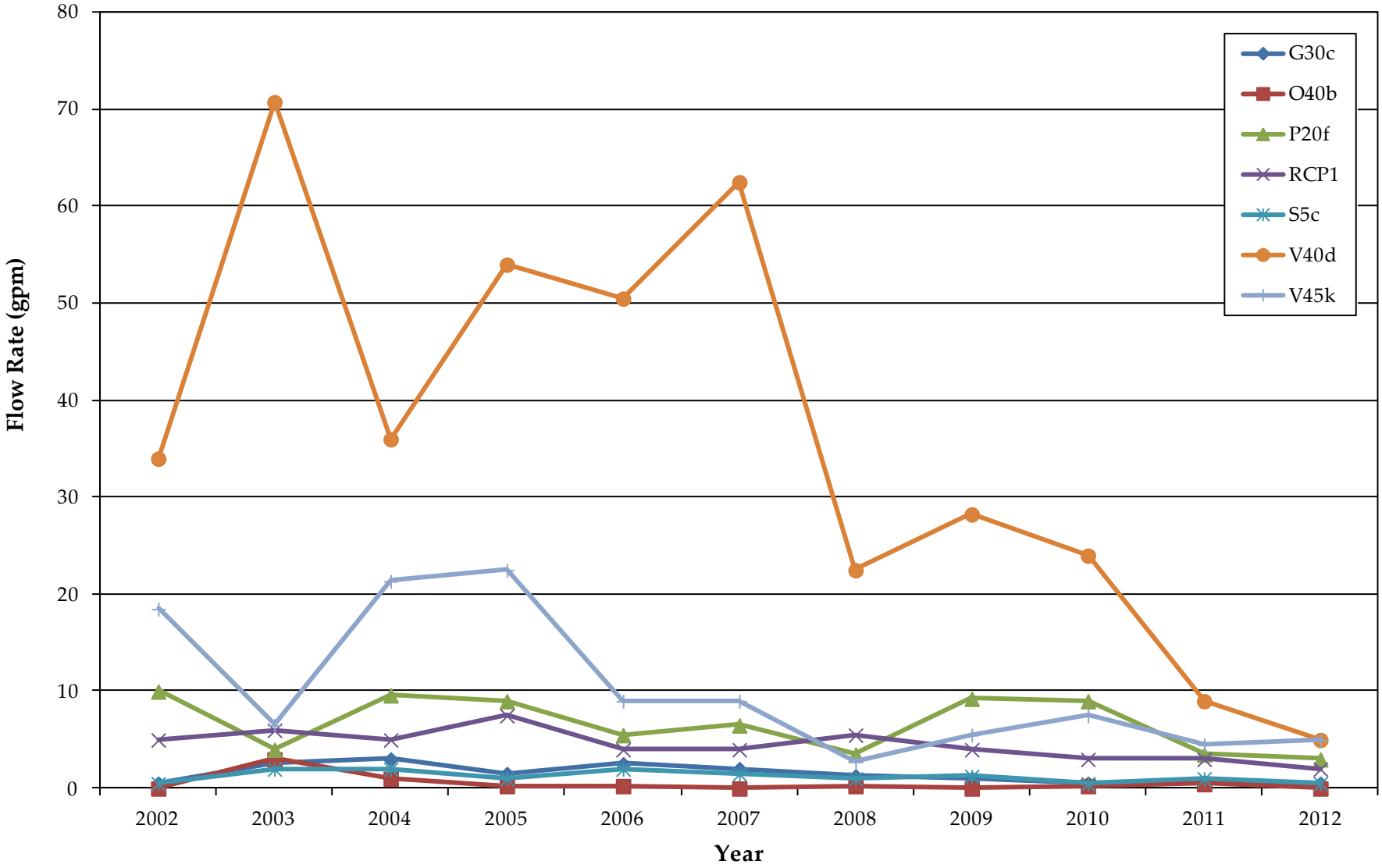
Notes: Level 2 - Changes in Knowledge/Awareness; Level 3 - Behavioral Change/BMP Implementation; Level 4 - Load Reductions; N/A – Not Applicable

Table 11-8
Public Participation Component Assessment Measures

Significant Activity	Level 2	Level 3		Level 4	
Involve the public in activities that relate to storm water protection	The City and City partners host a number of opportunities for the public to participate in the City's JURMP. See Section 9 for details. The amount of trash and debris collected at cleanup events during this Reporting Period was almost four times greater than that removed during 2010/2011 (11 tons).	Number of attendees at events	1,056	Amount of trash and debris collected at cleanup events	41 tons
	There were slightly fewer complaints/ referrals during 2011/2012 (53) than during 2010/2011 (67).	Number of storm water complaints received	4953	Amount of HHW collected	4,475 pounds of HHW, 438 gallons of used oil

Notes: Level 2 - Changes in Knowledge/Awareness; Level 3 - Behavioral Change/BMP Implementation; Level 4 - Load Reductions; N/A – Not Applicable

Figure 11-1
Historical Flow Rates of Key Monitoring Sites in the MS4 (2002-2012)



Notes: All flow rates were recorded during the dry season. For years in which multiple measurements were taken in one year's dry season, the average value is shown
gpm = gallons per minute

Figure 11-2
Individual Historical Flow Rates for Key Monitoring Sites in the MS4 (2002-2012)

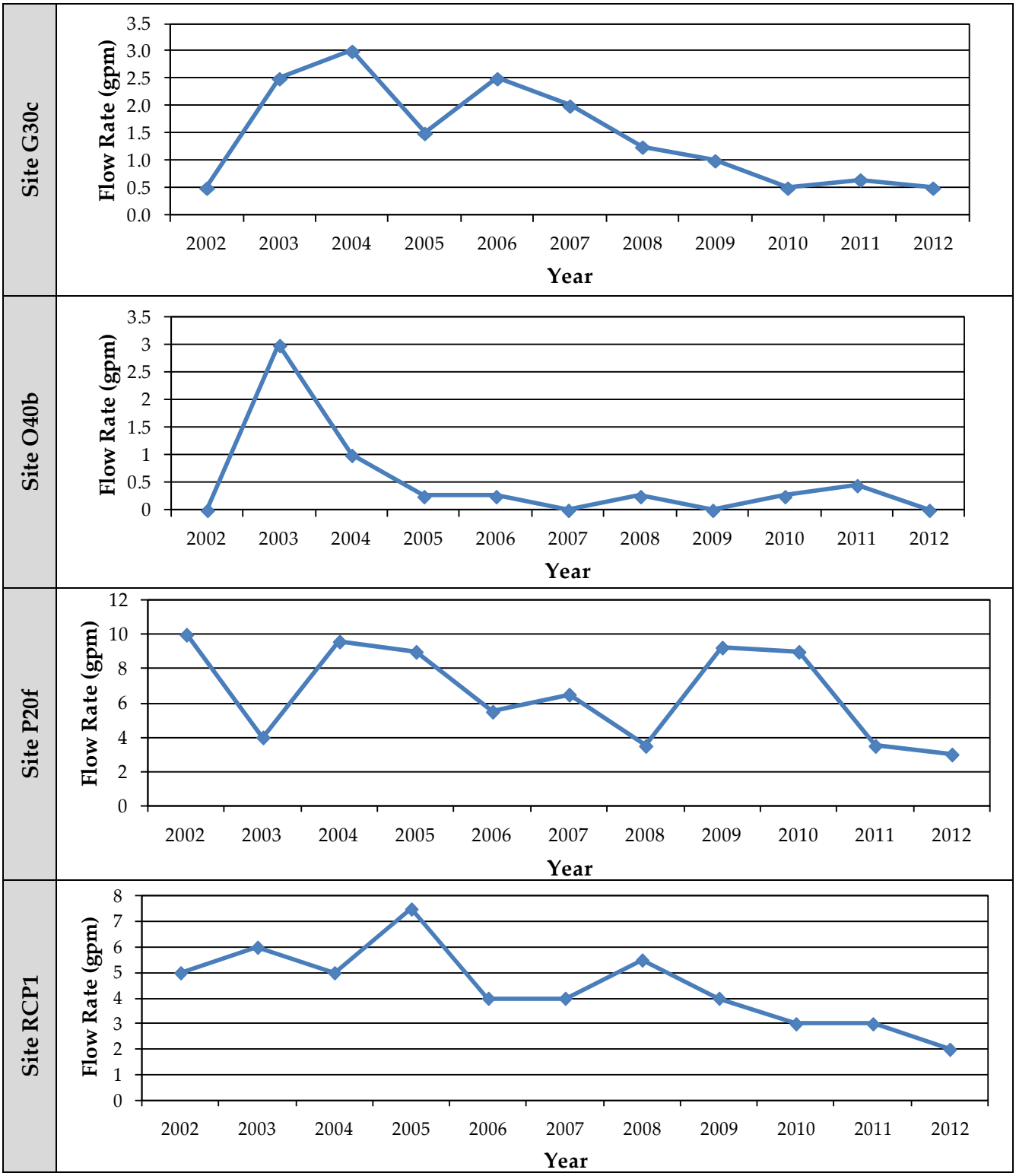
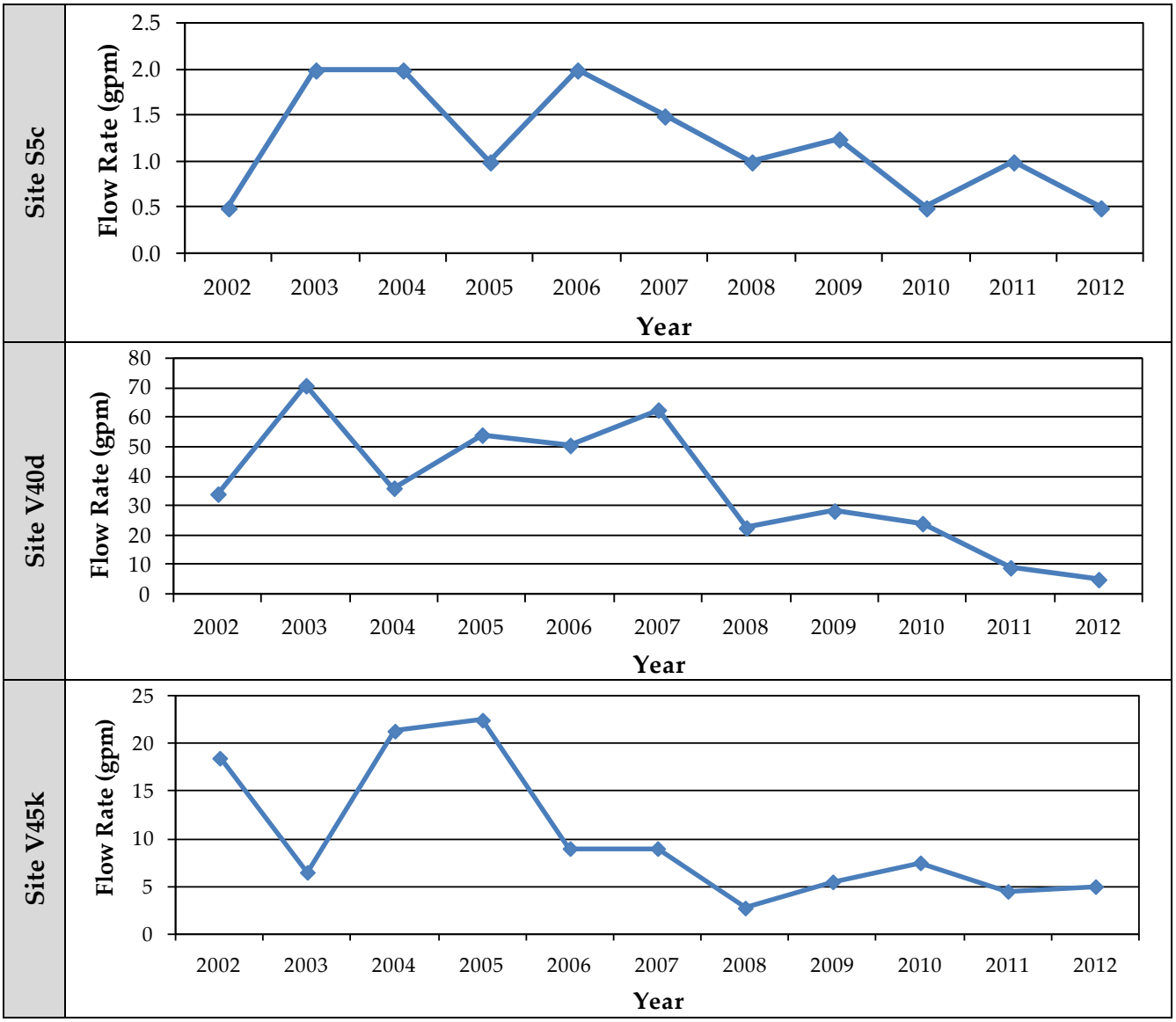


Figure 11-2
Individual Historical Flow Rates for Key Monitoring Sites in the MS4 (2002-2012)



Notes: All flow rates were recorded during the dry season. For years in which multiple measurements were taken in one year's dry season, the average value is shown.
gpm = gallons per minute

Figure 11-3
Map of Key Monitoring Sites in the MS4



Figure 11-4: Key Constituent Concentrations and Loading Rates of MS4 Outfall Monitoring Sites (2009-2012)

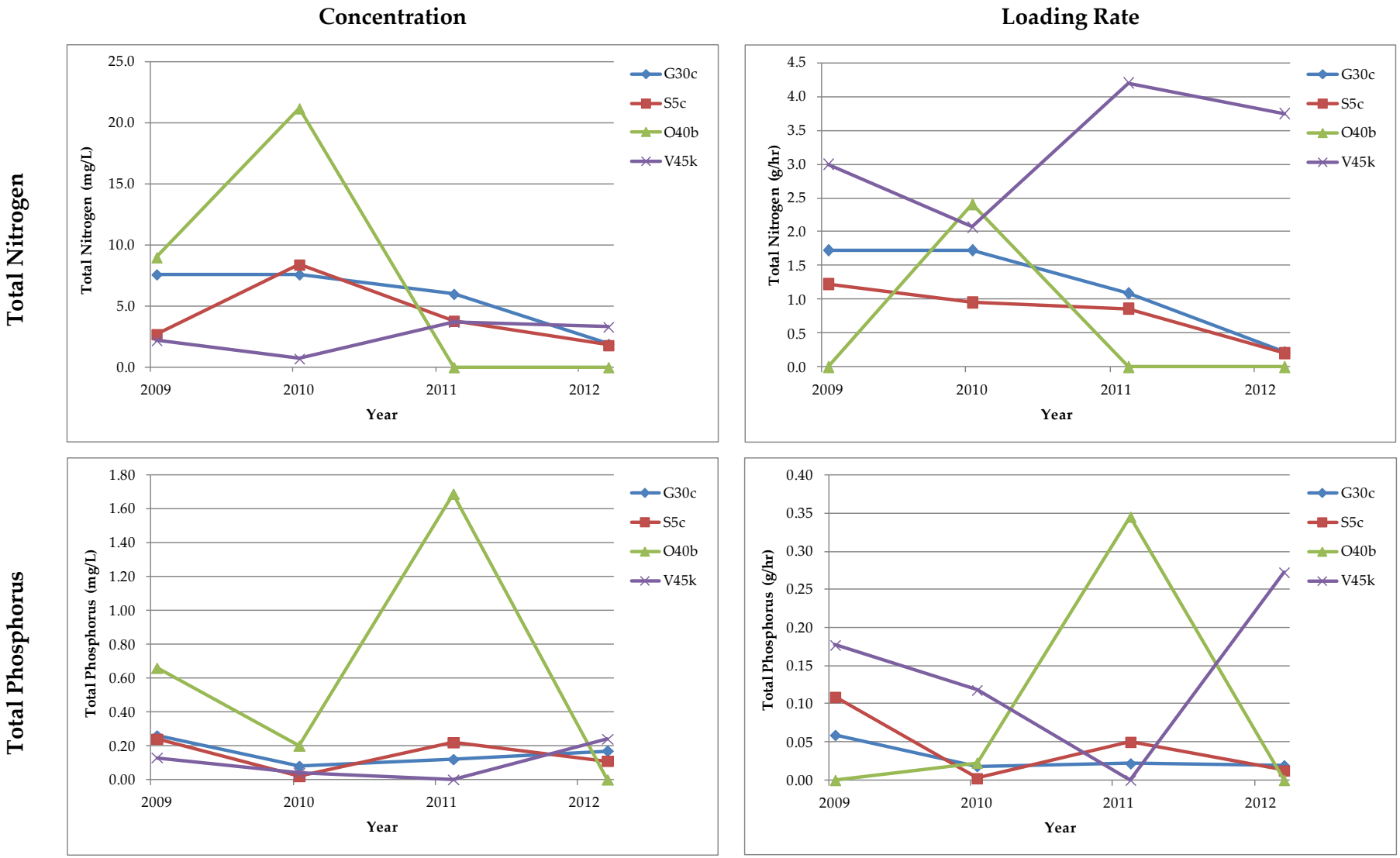


Figure 11-4: Key Constituent Concentrations and Loading Rates of MS4 Outfall Monitoring Sites (2009-2012)

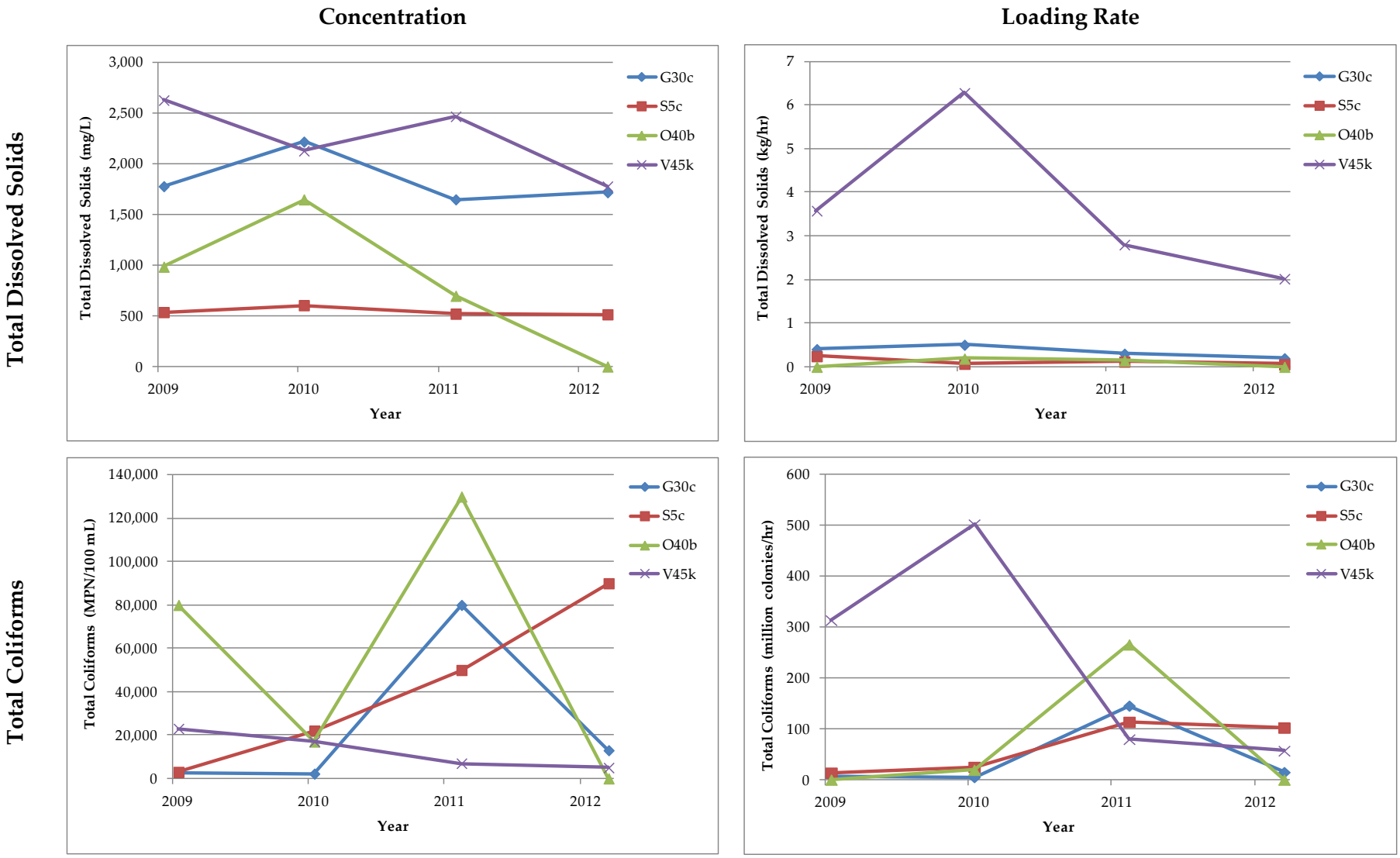


Figure 11-4: Key Constituent Concentrations and Loading Rates of MS4 Outfall Monitoring Sites (2009-2012)

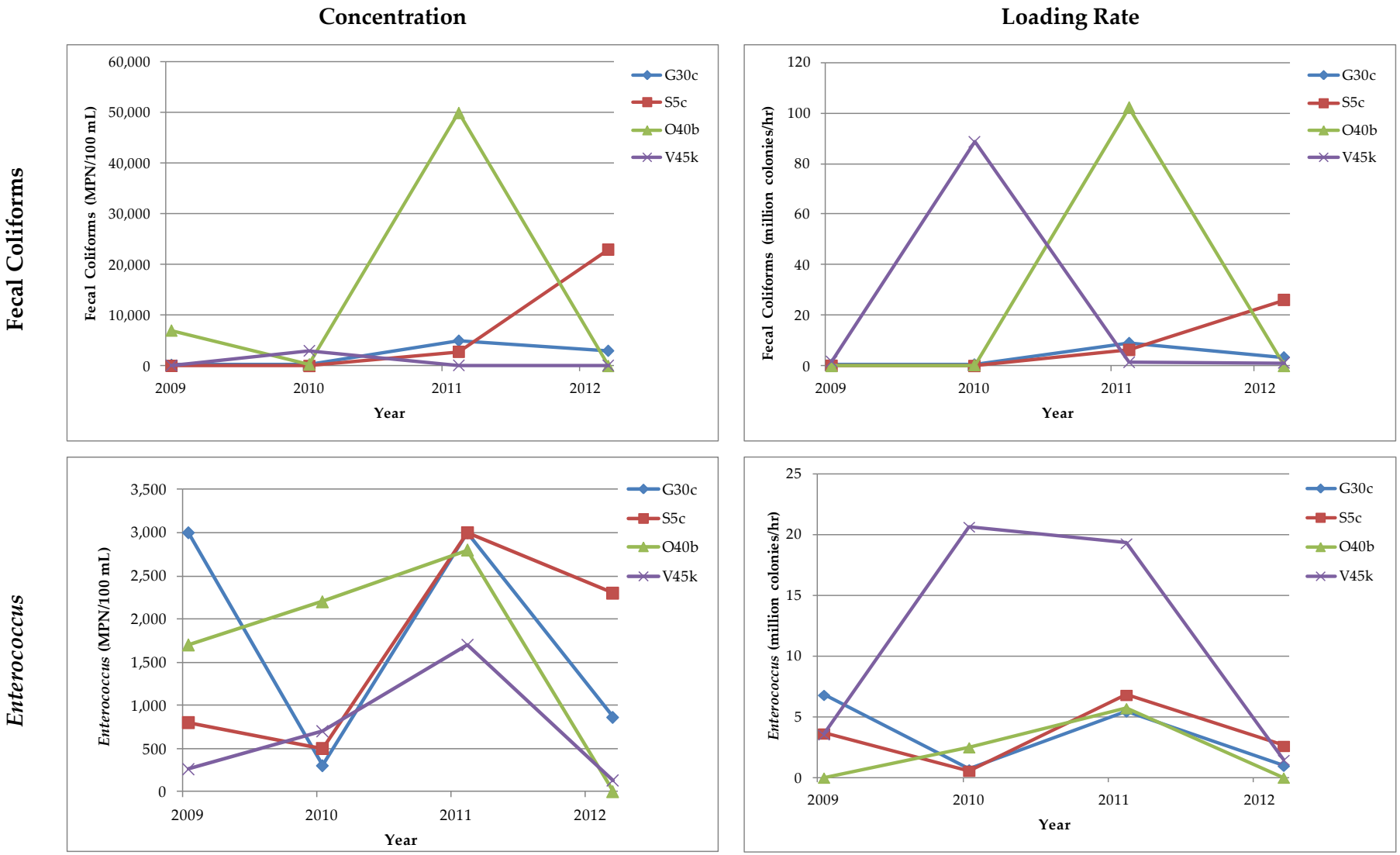
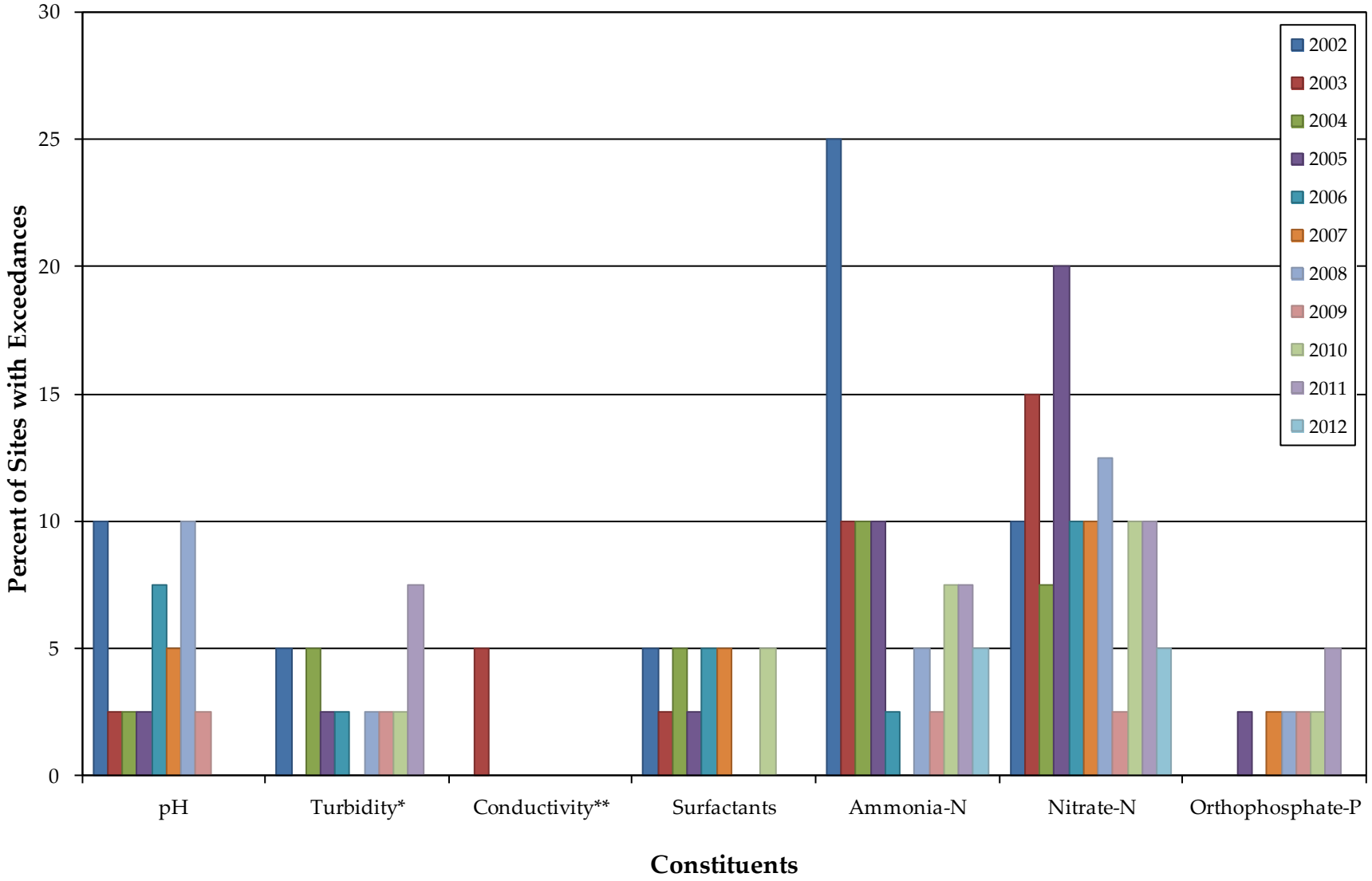
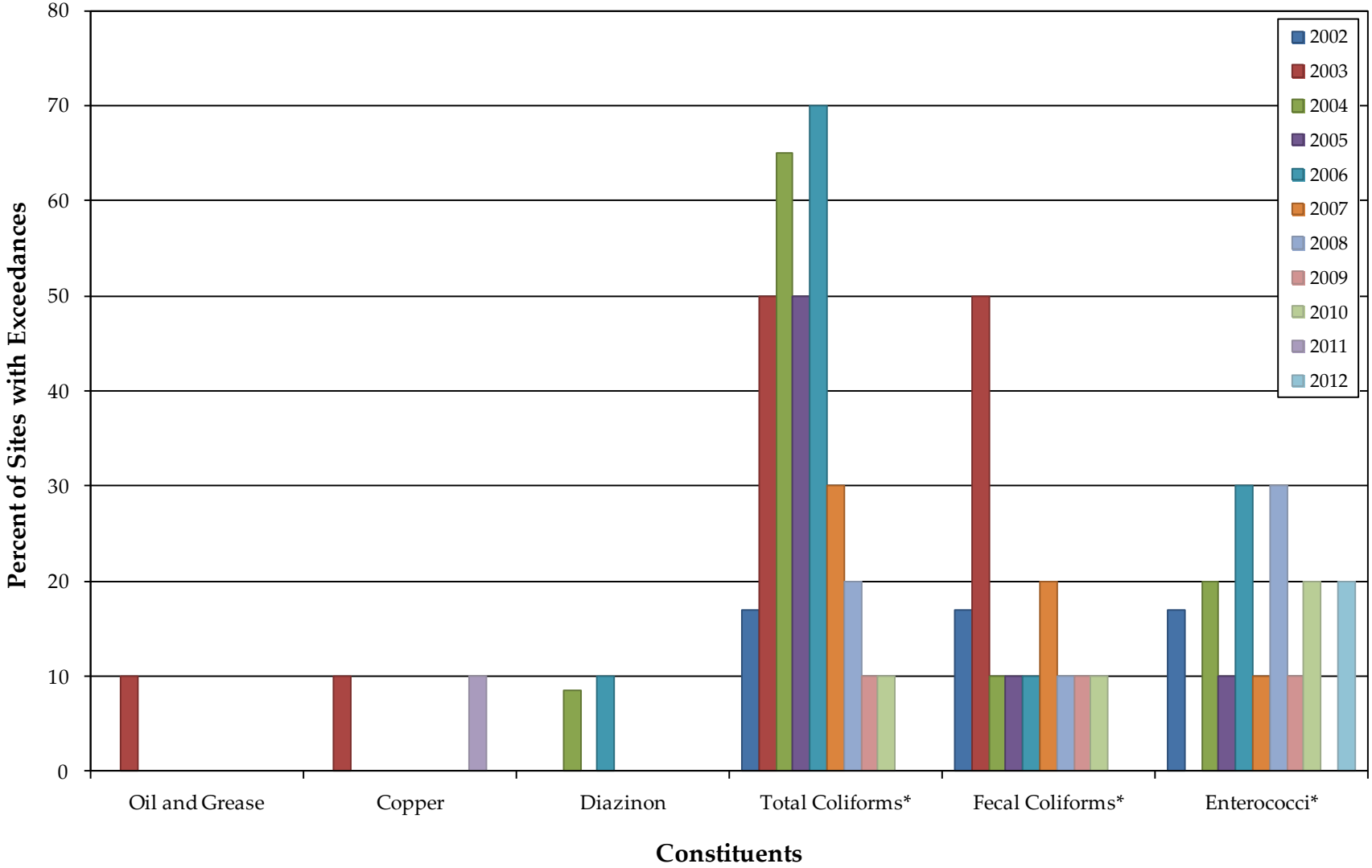


Figure 11-5
Dry Weather Monitoring Historical Exceedance Summary: Field Screening Tests



Notes:
* Turbidity action level is based on best professional judgment.
** Conductivity action levels were numeric in the past and transitioned to best professional judgment in recent years.

Figure 11-6
Dry Weather Monitoring Historical Exceedance Summary: Laboratory Analytical Tests



Notes: Dissolved cadmium, lead, zinc, laboratory surfactants, and chlorpyrifos have never exceeded the action level and are therefore not included on the above graph.
*Action levels for bacteria were updated in 2010. Data from 2002-2009 has been compared to action levels in effect at that time. 2010 data has been compared to the updated action levels.

Figure 11-7
Additional Study Data: pH

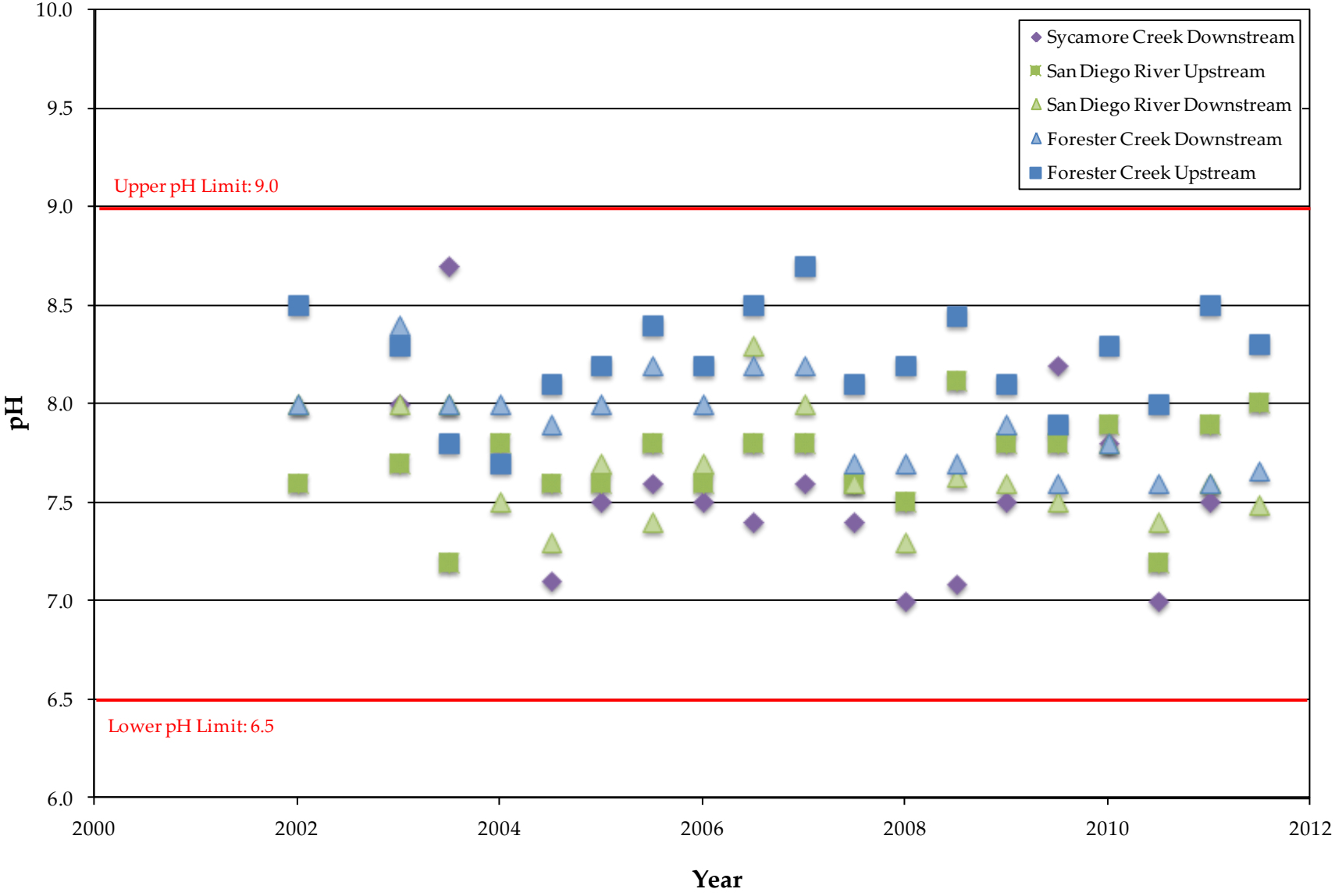


Figure 11-8
Additional Study Data: Fecal Coliforms, Forester Creek

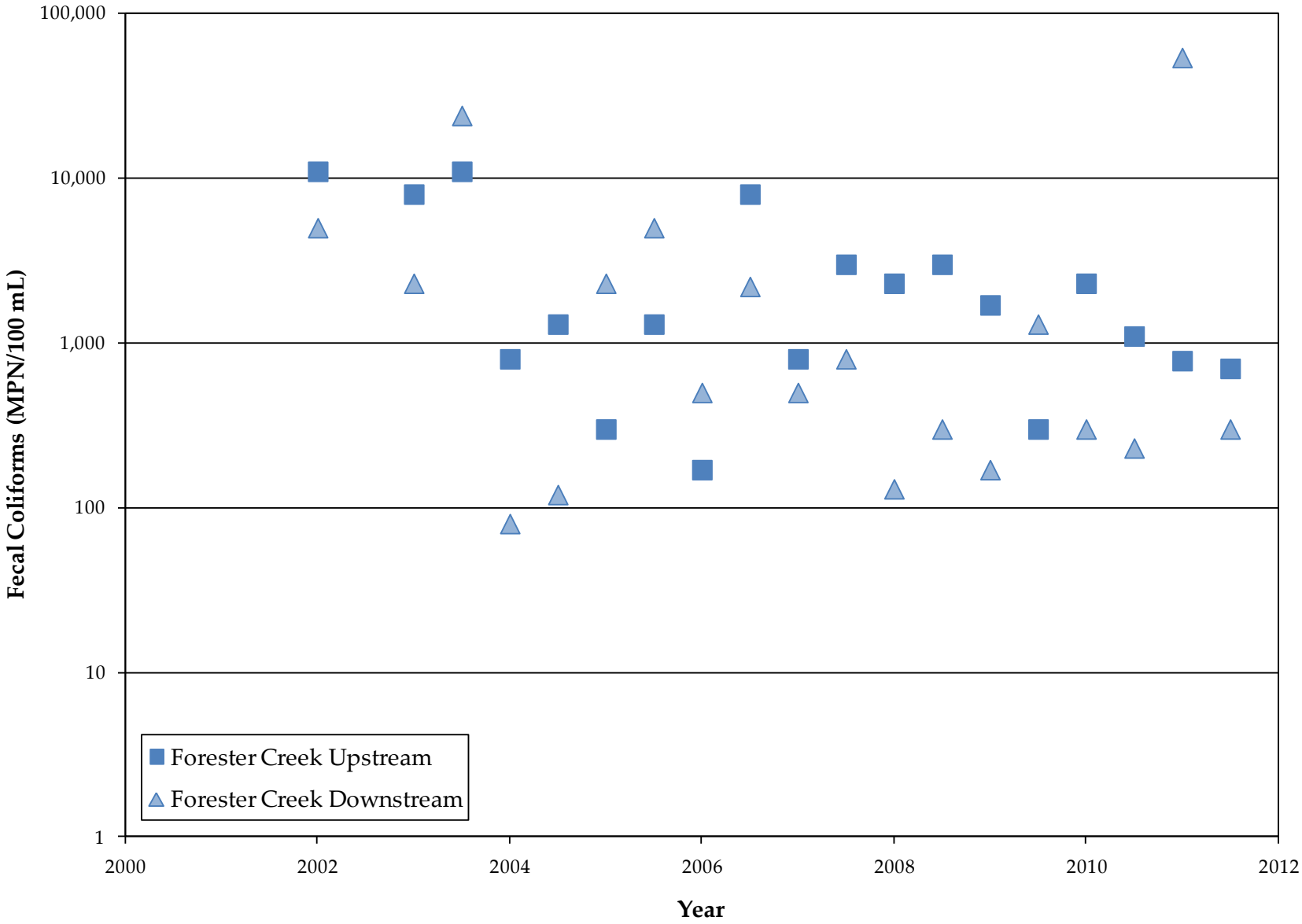


Figure 11-9
Additional Study Data: Fecal Coliforms, San Diego River

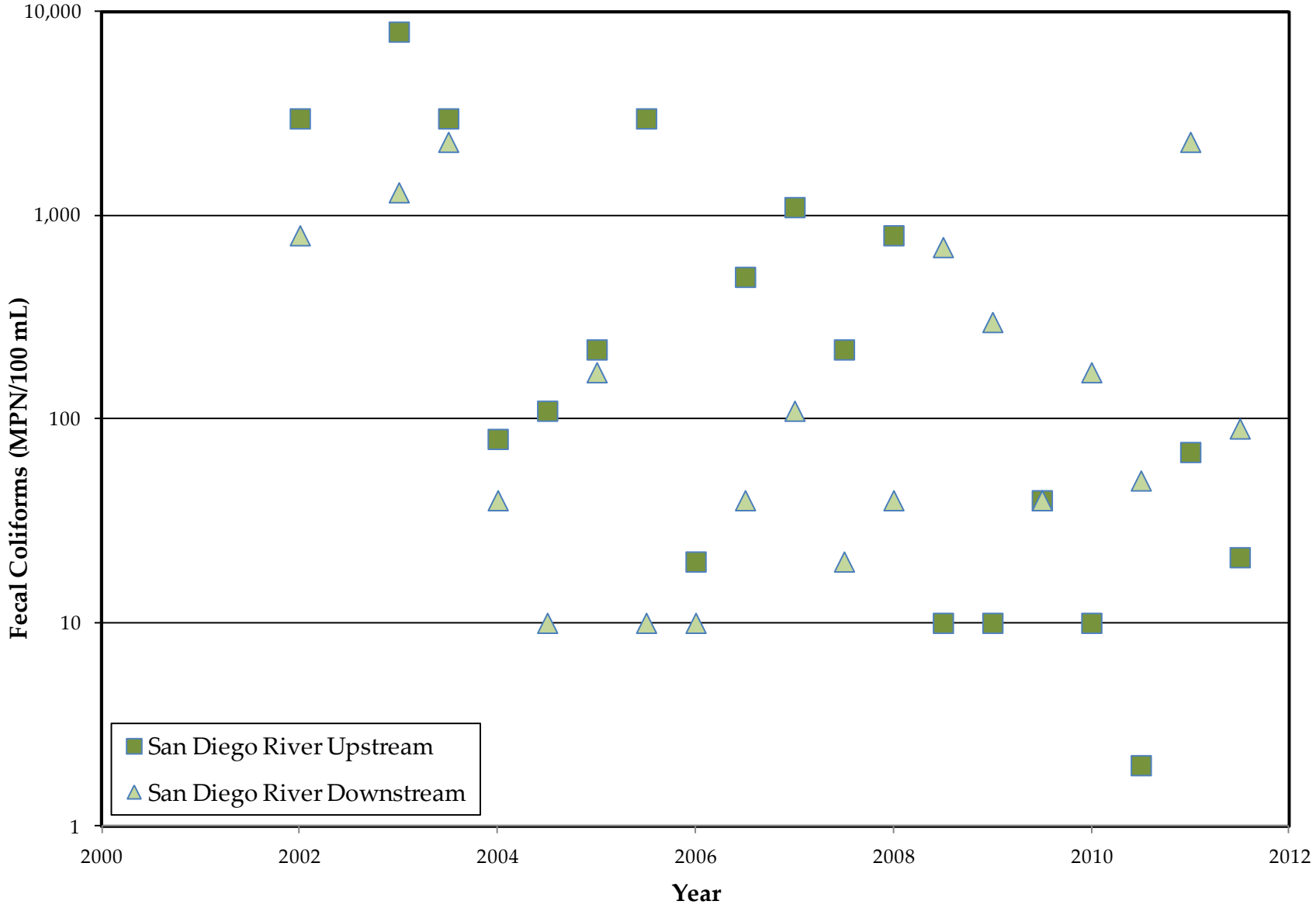
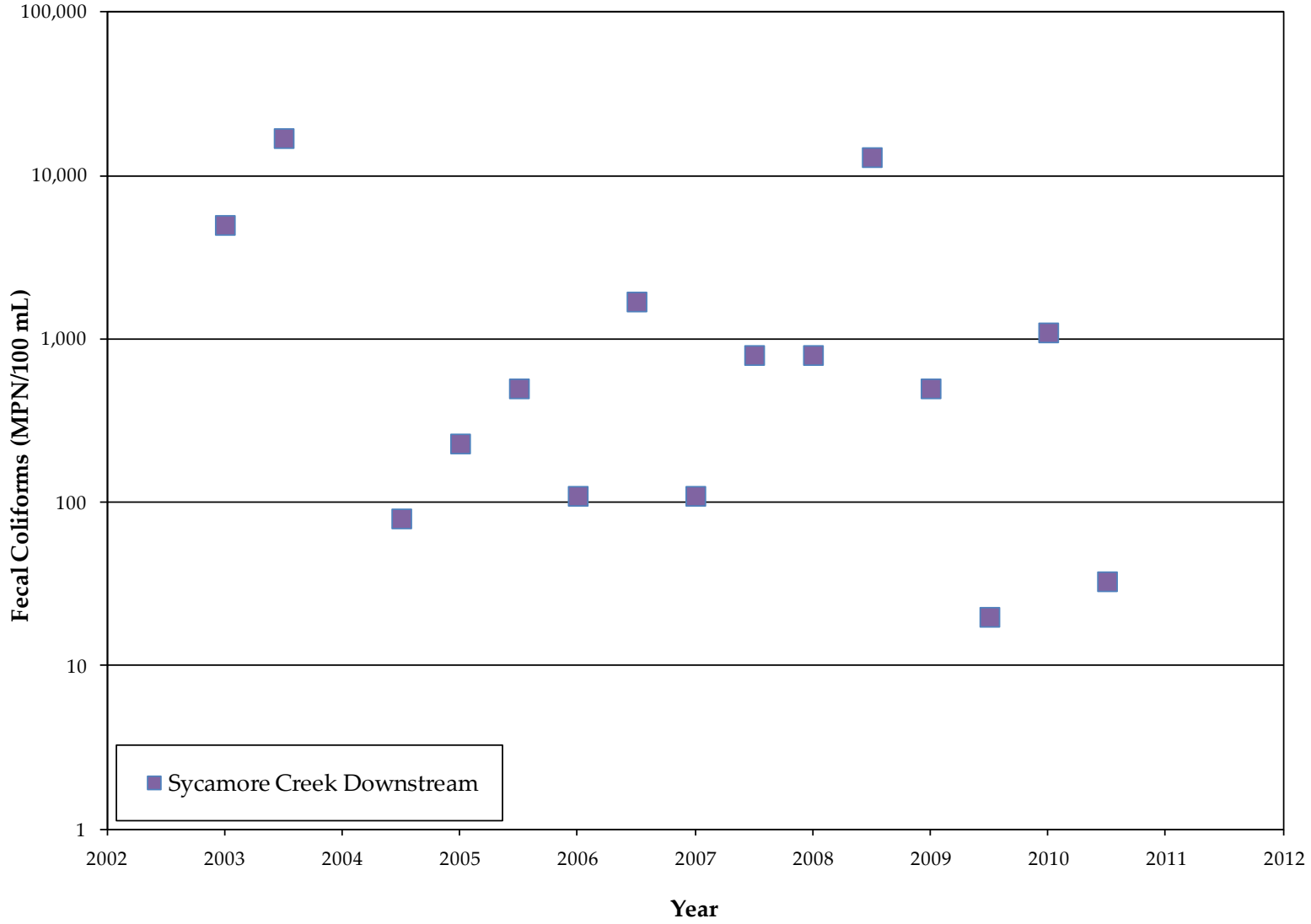


Figure 11-10
Additional Study Data: Fecal Coliforms, Sycamore Creek



Notes: Sycamore Creek was dry during Round One and Round Two visits in the summer of 2011. Because no testing could be done, results are not shown on the graph, but the bacteria level was effectively zero since the creek was dry.

12.0 SPECIAL INVESTIGATIONS

12.1 SURFACE WATER QUALITY MONITORING

The City has completed a study that includes sampling and analysis under ambient conditions at five sites in receiving water bodies in the City from 2002 through 2011. The study includes two sites in the San Diego River, two sites in Forester Creek, and one site in Sycamore Creek. Through 2011, these sites were sampled twice per year, concurrently with the two rounds of the City's Dry Weather Monitoring Program, with the most recent round completed in late August 2011. The findings of the additional study can be found in Attachment 12.1.

Notable findings from the two rounds of monitoring in 2011 included the following:

- The majority of constituents met San Diego Basin Plan Water Quality Objectives (WQO).
- Concurrent with historical findings, no pH values exceeded WQOs at any of the water bodies assessed.
- Several bacteria results were above WQOs during Round One, which was likely a consequence of a preceding rain event (0.08 inch of rain). This rain event would not be considered to trigger wet weather conditions under *Revised Total Maximum Daily Loads for Indicator Bacteria, Project I – Twenty Beaches and Creeks in the San Diego Region, including Tecolote Creek* (Bacteria TMDL). During Round Two, bacteria levels were substantially lower. Overall, bacteria results display a decreasing trend over the course of this program.
- TDS and sulfate concentrations exceeded WQOs at the Forester Creek sites during Round 2. The TDS concentration at San Diego River Downstream was above the WQO during both rounds.
- Sycamore Creek was dry during both rounds of sampling.

12.2 COMPREHENSIVE LOAD REDUCTION PLAN (CLRP)

The City of Santee, along with other San Diego River Watershed Copermittees is listed as a discharger in the Bacteria TMDL. The City of Santee contributed to the development of the CLRP by participating in a cost-share agreement for the development of the CLRP by Geosyntec Consultants; providing data on the City, as well as completed and proposed projects; hosting and participating in CLRP development meetings and providing review comments. The CLRP and monitoring plan will be finalized during the summer of 2012 for submittal to the RWQCB during October 2012. Future storm water program efforts in the City will be primarily informed by this CLRP, as well as Municipal Permit requirements.

12.2 REGIONAL BACTERIA REFERENCE STUDY

The City of Santee has contributed to the bacteria reference study that has been developed by the San Diego and Orange County Copermittees in conjunction with Southern California Coastal Water Research Project (SCCWRP) and with input from RWQCB staff. This study has been developed to assess pollutant loadings in reference conditions (i.e., unimpacted from anthropogenic activities). This data can be used to refine the requirements of the Bacteria TMDL, as they are currently developed based on data for beaches outside of the region. The data is being developed for inland waterbodies, as well as beaches. This is the first year of the multi-year study and the City will continue to contribute to this study as funds allow.

13.0 NON-EMERGENCY FIRE FIGHTING

Please reference Section 4.2.3 of this JURMP Annual Report for information about BMPs and procedures associated with non-emergency fire fighting activities.

14.0 JURMP REVISIONS

The City's JURMP was rewritten in the spring of 2008 in response to new Municipal Permit requirements. Section 14 of the updated JURMP document includes a list of the changes made to the JURMP at that time. Any other changes to the JURMP made since the overall JURMP update in the spring of 2008 are discussed in the individual "Program Review and Modification" subsections in the preceding sections in this JURMP Annual Report.

15.0 CONCLUSIONS AND RECOMMENDATIONS

During the Reporting Period, the City continued to implement the programs in its updated Jurisdictional Urban Runoff Management Plan (JURMP). A checklist matching the JURMP annual reporting requirements in the Municipal Permit with the portion(s) of this JURMP Annual Report and showing where those requirements are addressed is provided as Appendix C. The checklist demonstrates the City's compliance with applicable Municipal Permit regulations during the Reporting Period. Some notable achievements during the Reporting Period are listed below.

- The City completed 171 construction inspections. Pre-rain inspections were regularly completed at construction sites, and overall the construction inspection frequencies met and in some cases exceeded the required frequencies.
- The City conducted 185 business inspections, which is more than 25 percent of its inventory.
- Responsible parties for newly-completed priority projects are notified shortly after project completion of the requirements relating to treatment control BMP maintenance and certification.
- The City spent $116,879 to establish and maintain vegetation in the recently improved Forester Creek and Woodglen Vista Creek.
- The City has commenced a multi-year CMP storm drain replacement project.
- The City responded to 53 complaints made to its storm water hotline, to the City website, or by City staff members.
- Forty-one (41) tons of trash and debris were collected and removed during nineteen community clean-up events.
- The City removed 784 tons of debris from City streets and parking lots and 483 tons from the storm drain system.
- City streets were swept more frequently than required by the Municipal Permit.
- Residents and businesses were educated through the City's updated stormwater pages and articles including storm water pollution prevention information in the online *Santee Review*.
- The City completed one round of additional monitoring at five locations in receiving waters in the City.
- The City participated in the Bacteria Reference Study developed by copermittees in San Diego and Orange Counties.
- The City participated in the development of Comprehensive Load Reduction Plan (CLRP) for the San Diego River watershed to comply with the bacteria TMDL.

The City will continue to implement its JURMP in future reporting periods. Key components of City's plans for future program implementation include the following.

- Continue to train inspectors and contractors on BMP implementation and maintenance during construction activities.
- Continue to complete inspections before rain events, including inspections immediately preceding the rainy season, for active construction sites.
- Meet the inspection frequency requirements as stated in the Municipal Permit for the development planning (treatment control BMP), construction, municipal, and industrial and commercial components.
- Continue prompt and thorough follow-up for sites at which BMP implementation deficiencies are noted as a means to bring about improved compliance.
- Continue to develop new methods of outreach for the residential, industrial and commercial, development planning, and construction communities.
- Continue to document and respond to complaints reported to the City's storm water hotline.
- Continue to complete the City's Dry Weather Monitoring Program and to investigate any exceedances noted during routine testing.
- Increase the number of opportunities for public participation and facilitate participation in such events.
- Implement the CLRP and monitoring plan for the bacteria TMDL.
- Participate in the regional reference study, as funds allow.

The City will continue to work collaboratively with the RWQCB and other jurisdictions on both the development of the draft Municipal Permit and the TMDL requirements. The City will and continue to refine its program implementation as needed to improve its ability to reduce or eliminate the potential for pollutant discharges and meet regulatory requirements. As this Annual Report demonstrates, the City continues to contribute substantial efforts to improve water quality in the San Diego River watershed.

16.0 REFERENCES

California Regional Water Quality Control Board, 2007. Order No. R9-2007-0001. *Waste Discharge Requirements for Discharges of Urban Runoff from the Municipal Separate Storm Sewer Systems (MS4s) Draining the Watersheds of the County of San Diego, the Incorporated Cities of San Diego County, the San Diego Unified Port District, and the San Diego County Regional Airport Authority.*

California Storm Water Quality Association, 2003. *California Storm Water BMP Handbook – Construction.*

California Storm Water Quality Association, 2003. *California Storm Water BMP Handbook – Industrial & Commercial.*

California Storm Water Quality Association, 2003. *California Storm Water BMP Handbook – Municipal.*

California Storm Water Quality Association, 2007. *Municipal Stormwater Program Effectiveness Assessment Guidance.*

Caltrans Storm Water Quality Handbooks, 2003. *Construction Site Best Management Practices Manual.*

City of Santee, 2008. *Jurisdictional Urban Runoff Management Program.*

County of San Diego, 2007. *Standardized Format for Jurisdictional Urban Runoff Management Plan Annual Report.*

PBS&J, 2009. *Standardized Fiscal Analysis Method and Format.*

APPENDIX A.1

PERMANENT TREATMENT CONTROL BMP INVENTORY

APPENDIX A.1
INVENTORY OF DEVELOPMENT PROJECTS WITH APPROVED TREATMENT CONTROL BMPS

#	Project Name	Address or APN	Watershed	Project Number	Date Completed	BMP Description	Responsible Party	Responsible Party Mailing Address	TTWQ Priority
1	Altair	384-120-40	907.12	G963	12/22/09	Hydrodynamic separator, inlet filters (7)	Altair HOA	c/o Adriana Machuca, 3944 Murphy Canyon Rd, San Diego, CA 92123	High
2	American Sheet Metal	8674 Railroad Avenue	907.12	G-1003	4/4/08	Grassy swale	Ron Burner Jr.	8674 Railroad Avenue, Santee, CA 92071	Low
3	AT&T Fleet Storage**	10111 Prospect Avenue	097.13	G-1124	9/23/10	Grassy swale	Perry and Shaw Inc.	475 West Bradley, El Cajon CA 92020	Medium
4	Aubrey Glen	Hiser Road and Mission Gorge Road	907.12	G-942	06/20/08	Hydrodynamic Separator System	Aubrey Glen HOA	c/o N. N. Jaeskchay 9610 Waples Street San Diego, CA 92121	Medium
5	Autowerks	383-112-53	907.12	DR-02-10 / G818	12/15/04	Drainage inserts and grass swales	Philip H. Thearle II	8890 Mission Gorge Road, Santee CA 92071-3718	Medium
6	Autumnwood II	381-681-20	907.12	TM02-03	11/15/05	Hydrodynamic Separator System (2)	Kingsman LLC	11459 Woodside Avenue, Santee CA 92071-4729	Medium
7	Black Horse Estates*	385-010-34, -35	907.12	TM 2000-02	12/13/06	Filter inserts (5), detention basin.	City of Santee	NA	Medium
8	Boys and Girls Club	8820 Tamberley Way	907.12	G-907	06/16/08	Grassy swale, drainage inserts.	Boys and Girls Club	8820 Tamberley Way, Santee, CA 92071	Medium
9	Cabins at Lake 7	378 020 49, 376 010 07	907.12	G-1126	02/16/11	Wet pond	Padre Dam Municipal Water District	9300 Fanita Parkway, Santee, CA 92071	Low
10	Cameron II	10580 Prospect	907.13	G-947	1/23/08	Grassy swale, drainage insert (1)	Cameron Brothers Construction	10580 Prospect Avenue, Santee, CA 92071	Medium

APPENDIX A.1
INVENTORY OF DEVELOPMENT PROJECTS WITH APPROVED TREATMENT CONTROL BMPS

#	Project Name	Address or APN	Watershed	Project Number	Date Completed	BMP Description	Responsible Party	Responsible Party Mailing Address	TTWQ Priority
11	Chapparel (Mission View Estates)	West of Mesa Road.	907.12	G-1043	10/11/10	Bioswales (2) and media filter.	PHOAC	8181 Mission Gorge Road, Suite E, San Diego 92120	Medium
12	Ciraolo Industrial Building	381-540-10 and 11	907.12	G-905/DR04-09	1/5/06	Inlet filters, grass swale, downspout filters	Ciraolo Family Partners	9327 Wheatlands Road, Santee, CA 92071-2860	Medium
13	Cuyamaca Town Common	APN 381-051-01	907.12	G-873	09/05	Drainage inserts (4)	Property Owner	c/o Treitler and Hager LLP, 3737 Camino Del Rio South, Suite 109, San Diego CA 92108-4007	Medium
14	Express Performance	APN 384-141-03	907.12	G1021	5/29/08	Media filter and drainage inserts (2)	Scott and Barbara Young	8711 Magnolia Avenue, Santee, CA 92071	Medium
15	Farrington Court	Farrington Drive, west of Fanita	907.12	G-910	8/16/07	Drainage insert	Brian Snow	LUCA Inc., 8534 Hubbles Lane, Santee, CA 92071	High
16	Fred's Fences	384-250-24	907.13	G-951	10/28/07	Swale and drainage inserts	Fadi Khouri	Fred's Fencing, 10546-60 Kenney Street, Santee, CA 92071	Medium
17	Hartford Insurance*	381-050-59	907.12	DR 2002-04	12/17/03	Vegetated swale, rocky swale, and drainage inserts (3).	Hartford	101 Civic Center Dr, Santee CA 92071	Medium
18	Ladera (Morning View)**	South Woodside Terrace	907.12	G-920	5/24/12	Detention Basin	City of Santee	NA	High
19	Lunar Lane Industrial Building	384-091-38, -39	907.12	G-1118	05/16/11	Bioretention area and cobble swale	Sunset Glazing	8834 La Mesa Boulevard, La Mesa, CA 91942	Low

APPENDIX A.1
INVENTORY OF DEVELOPMENT PROJECTS WITH APPROVED TREATMENT CONTROL BMPS

#	Project Name	Address or APN	Watershed	Project Number	Date Completed	BMP Description	Responsible Party	Responsible Party Mailing Address	TTWQ Priority
20	Marketplace	Hazeldon Drive and Mission Gorge Road	907.13	G-1052	12/12/08	Grassy swale, infiltration trench, water quality inlets (4), drainage inserts (2).	Tony Gentry	Sudberry Properties Inc., 5465 Morehouse Drive, Suite 260, San Diego, CA 92121	High
21	Michael Stoff Property	9242 Abraham Way	907.12	G-1003	7/28/08	Grass swale	9424 AW LLC	6749 Top Gun Street Suite 104 San Diego, CA 92121-4151	Medium
22	Morningside	384-081-16	907.12	G-851	12/14/05	Hydrodynamic Separator System	Property Owner	Walters Management, 9665 Chesapeake Drive, Suite 300, San Diego, CA 92123	Medium
23	Padre Dam Service Center*	9300 Fanita Parkway	907.12	G-704	1/5/06	Drainage inserts (6)	Padre Dam Municipal Water District	John Dedonato PO Box 719003, Santee, CA 92072-9003	High
24	Prospect Glen*	Northwest corner of Fanita and Prospect	907.12	G-739	11/19/07	Drainage inserts (3)	Prospect Glen HOA	c/o Harland Associates, 8580 La Mesa Boulevard, Suite 105, La Mesa CA 91941	High
25	Rayo Wholesale*, Rayo II***	11495 Woodside Avenue (382-310-16, -17, -18)	907.12	IP 2001-04, G-1041	12/30/02, 06/24/08	Grass swale, Grassy detention basin with sand cone filter	Kingsmen LLC	11495 Woodside Avenue, Santee CA 92071	Medium
26	Riverwalk**	381-051-08	907.12	G924	9/15/11	Grassy swales (5) drainage inserts (25)	Allegis Residential Services	7857 Convoy Court, San Diego, CA 92111	High

APPENDIX A.1
INVENTORY OF DEVELOPMENT PROJECTS WITH APPROVED TREATMENT CONTROL BMPS

#	Project Name	Address or APN	Watershed	Project Number	Date Completed	BMP Description	Responsible Party	Responsible Party Mailing Address	TTWQ Priority
27	Santee Affordable (Cedar Creek Apartments)	386-192-39	907.12	G-1114	09/24/10	Bioretention facility	Fanita 48 L.P. c/o Chelsea Development Incorporated	Mr. Bob Haskins, 5993 Avenida Encinas, Suite 100, Carlsbad, CA 92056	Low
28	Santee Trolley Square*	381-052-02	907.12	P2001-06	12/17/03	Inlet filters (12)	Vestar Property Management	Ms. Dana Duncan, 2907 Shelter Island Drive, San Diego, CA 92106	High
29	Sky Business Park	384-091-45	907.12	G-1062	03/23/09	Grass swale, media filter, drainage insert.	Sky Investments Ltd Partnership	Mr. Charles P. Sampson Jr., 8779 Cottonwood Avenue, Santee, CA 92071	Medium
30	Sonic Car Wash	383-121-44	907.12	G-974	8/29/07	Vegetated swale and drainage insert (3)	Kalasho Inc.	Ghazwan Kalasho, 9312 Mission Gorge Road, Santee, CA 92071	Medium
31	Sonic Restaurant	384-091-65, -07	907.12	G-1088	04/02/09	Grass swale	Sonic Restaurant	Ms. Laura Hamelin Sonic Restaurant, 10515 Mission Gorge Road, Santee, CA 92071	Medium
32	Sunset Trails (Lanterncrest III)**	11010 Sunset Trails	907.12	G-1141	5/23/12	Bioretention Facility	Santee Senior Retirement Communities	Michael Grant, 110 Town Center Parkway, Santee, 92071	High
33	Town Center Community Park	381-050-51, 52, and 381-051-06, 07	907.12	2005185	6/29/2010	Media Filter, bioswales (5), buffer strips (2), inlet filters (5)	Sportsplex USA – Santee (media filter only), City of Santee	Mr. Eddie Vandiver, PO Box 711900, Santee, CA 92072	High

APPENDIX A.1
INVENTORY OF DEVELOPMENT PROJECTS WITH APPROVED TREATMENT CONTROL BMPS

#	Project Name	Address or APN	Watershed	Project Number	Date Completed	BMP Description	Responsible Party	Responsible Party Mailing Address	TTWQ Priority
34	Toyota	383-124-11	907.12	G1067	10/14/09	Extended detention basin, bioretention, inlet filters (8)	Toyota of Santee	Mr. Jeremy Cadwell, 965 Arnele Avenue, El Cajon CA 92020	Medium
35	Treviso	Northeast corner Mission Gorge Road and Westhills Parkway	907.12	G-857	10/8/08	Hydrodynamic separator and drainage inserts (2)	Treviso HOA	c/o Melanie Hudson, 3944 Murphy Canyon Road, Suite C205, San Diego CA 92123	High
36	Vista Este*	386-192-18	907.12	G-736/ TM200-03	9/20/06	Inlet filters (2)	Vista Este HOA	c/o The Daniels Company Mr. Jim Daniels, 843 Jamacha Road, El Cajon CA 92019	High
37	Walgreens 1	9305 Mission Gorge Road	907.13	G987	6/3/09	Media filter	Walgreens	Chris Mylek 12298 Pipeline Avenue Chino, CA 91710	High
38	Walgreens 2	10512 Mission Gorge Road	907.12	G1066	12/31/09	Vegetated swale, media filter	Walgreens	Chris Mylek 12298 Pipeline Avenue Chino, CA 91710	Low

Notes

* Project approved prior to development of the City's SUSMP requirements

** Priority Projects that were completed during the 2011/2012 fiscal year

*** These two projects were combined into one listing on the inventory since they are located on the same property and share the same responsible party.

APPENDIX A.2

CONSTRUCTION INVENTORY

APPENDIX A.2
CONSTRUCTION INVENTORY AND INSPECTION SUMMARY

#	Project Name	Watershed	TTWQ	Weeks Active (Wet Season)	# of Insp. (Wet Season)	# of Insp. (Dry Season)	Follow Up Insp.	Complaint Investigation Insp.	Total Insp.
1	Forester Square	907.13	Low	8	3	2	0	0	5
2	Ladera/Morning View	907.12	High	29	25	4	3	0	29
3	Las Brisas	907.12	Medium	19	10	1	0	0	11
4	Mission Trails Villas	907.12	Low	30	16	4	2	0	20
5	Riverwalk	907.12	Low	0	0	3	1	0	3
6	Ryan Residence	907.12	Low	30	21	1	5	1	22
7	Sky Ranch	907.12	High	30	22	6	2	0	28
8	Sunset Trails (Lanterncrest III)	907.12	High	28	32	6	15	0	38
9	Woodside Properties	907.12	High	12	12	3	0	0	15

APPENDIX A.3

MUNICIPAL INVENTORY

APPENDIX A.3
MUNICIPAL INVENTORY

#	Facility Name	Facility Address	TTWQ	Watershed	Facility Category
1	Big Rock Park	8125 Arlette Street	High	San Diego River	Parks, Recreational Facilities, and Other Landscaped Areas
2	Fire Station No. 4	8950 Cottonwood Avenue	High	San Diego River	Fire Stations
3	Fire Station No. 5	9130 Carlton Oaks Drive	High	San Diego River/Forester Creek	Fire Stations
4	Forester Creek Trail	West side of creek between Mission Gorge Road and Prospect Avenue	High	Forester Creek	Parks, Recreational Facilities and Other Landscaped Areas
5	Graffiti Removal	Throughout City	High	All	Mobile Municipal Activities
6	Infrastructure Maintenance	Throughout City	High	All	Mobile Municipal Activities
7	Landscaping	Throughout City	High	All	Mobile Municipal Activities
8	Mast Park including Mast Park West	9125 Carlton Hills Boulevard and west of 9125 Carlton Hills Boulevard	High	San Diego River	Parks, Recreational Facilities, and Other Landscaped Areas
9	Municipal Separate Storm Sewer	Throughout City	High	All	MS4
10	Public Services Operations Center	9534 Via Zapador	High	San Diego River/Forester Creek	Public Works Facilities
11	Roads, Streets, Highways	Throughout City	High	All	Roads, Streets, Highways, and Parking Facilities
12	Santee Mini Park	10446 Mission Gorge Road	High	San Diego River	Parks, Recreational Facilities, and Other Landscaped Areas
13	Shadow Hill Park	9161 Shadow Hill Road	High	San Diego River	Parks, Recreational Facilities, and Other Landscaped Areas
14	Sky Ranch Park	Southeast corner of Sevilla Street and Cala Lilly Street	High	San Diego River	Parks, Recreational Facilities, and Other Landscaped Areas
15	Special Events	Throughout City	High	All	Special Events

APPENDIX A.3
MUNICIPAL INVENTORY

#	Facility Name	Facility Address	TTWQ	Watershed	Facility Category
16	Town Center Community Park	9545 Cuyamaca Street	High	San Diego River	Parks, Recreational Facilities, and Other Landscaped Areas
17	Vehicle Maintenance Facility	8950 Cottonwood Avenue	High	San Diego River	Public Works Facilities
18	West Hills Park	8751 Mast Boulevard	High	San Diego River	Parks, Recreational Facilities, and Other Landscaped Areas
19	Woodglen Vista Park	10250 Woodglen Vista Drive	High	San Diego River	Parks, Recreational Facilities, and Other Landscaped Areas
20	City Activity Building #1	8115 Arlette Street	Low	San Diego River	Other Fixed Facilities
21	City Activity Building #2	10335 Mission Gorge Road	Low	San Diego River	Other Fixed Facilities
22	Santee City Hall and Civic Center	10601 Magnolia Avenue	Low	San Diego River/Woodglen Vista Channel	Other Fixed Facilities
23	Santee Teen Center	9310 Fanita Parkway	Low	San Diego River	Other Fixed Facilities

APPENDIX A.4

INDUSTRIAL/COMMERCIAL INVENTORY

Appendix A.4 Industrial/Commercial Inventory

										Potential Pollutants Generated											
Agency	Facility Name	Address Number	Suite Number	Street Name	City	Zip Code	Watershed	SIC Code	Principal Products / Services	Bacteria	Gross Pollutants	Metals	Nutrients	Oil & Grease	Organics	Pesticides	Sediment	Trash	Tributary to 303(d) Listed	Threat to Water Quality	Threat Confirmed?
SA	JAFCO BUILDING SERVICES INC	10728	109	PROSPECT AVENUE	Santee	92071	907.13	1511	Base for construction contractor, office, potential for outside storage of equipment, materials and waste.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	D C R CONSTRUCTION SERVICES	9440	4	WHEATLANDS	Santee	92071	907.12	1521	Base for construction contractor. No outdoor exposures. Some indoor storage, minimal work done onsite, as space mostly used for administrative purposes.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	FRY SPECIALTY COMPANY	11316	G	WOODSIDE AVENUE	Santee	92071	907.12	1521	Used for administrative purposes for construction contracto	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	GORDON-PRILL SAN DIEGO INC.	8400	F	MAGNOLIA AVENUE	Santee	92071		1521	Base for construction contractor, office, potential for outside storage of equipment, materials and waste.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	HARPER CONSTRUCTION	7819	C	RANCHO FANITA DRIVE	Santee	92071	907.12	1521	Base for construction contractor, office, potential for outside storage of equipment, materials and waste.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	JACOR CONSTRUCTION	8614		SIESTA ROAD	Santee	92071	907.13	1521	Base for construction contractor, office, potential for outside storage of equipment, materials and waste.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	SNOW CONSTRUCTION (also R.E. SNOW)	10107	A	PROSPECT AVENUE	Santee	92071	907.13	1521	Base for construction contractor, office, potential for outside storage of equipment, materials and waste.	No	Yes	Yes	No	Yes	No	No	No	Yes	Yes	Low	No
SA	T S C RESTORATION	8402	C	MAGNOLIA AVENUE	Santee	92071	907.13	1521	Base for construction contractor, office, potential for outside storage of equipment, materials and waste.	No	Yes	Yes	No	Yes	No	No	No	Yes	Yes	Low	No
SA	TIMBER RIDGE FRAMING INC	10744	109	ROCKVILL STREET	Santee	92071	907.12	1521	Base for construction contractor, office, potential for outside storage of equipment, materials and waste.	No	Yes	Yes	No	Yes	No	No	No	Yes	Yes	Low	No
SA	A Revitalized Bath And Kitchen	9435	D	Wheatlands	Santee	92071	907.12	1521	Base for construction contractor, office, potential for outside storage of equipment, materials and waste.	No	Yes	Yes	No	Yes	No	No	No	Yes	Yes	Medium	No
SA	AUSTIN CONSTRUCTION, JAMES F	9540	103	PATHWAY STREET	Santee	92071	907.13	1522	Base for construction contractor, office, potential for outside storage of equipment, materials and waste.	No	Yes	Yes	No	Yes	No	No	No	Yes	Yes	Low	No
SA	OLD SWEDE REPAIRS	8500		ABLETTE ROAD	Santee	92071	907.13	1522	Base for construction contractor, office, potential for outside storage of equipment, materials and waste.	No	Yes	Yes	No	Yes	No	No	No	Yes	Yes	Low	No
SA	FORDYCE CONSTRUCTION	9926	122	PROSPECT AVENUE	Santee	92071	907.13	1542	Base for construction contractor, office, potential for outside storage of equipment, materials and waste.	No	Yes	Yes	No	Yes	No	No	No	Yes	Yes	Low	No
SA	KALIN ENTERPRISES INC	9540	201	PATHWAY STREET	Santee	92071	907.13	1542	Base for construction contractor, office, potential for outside storage of equipment, materials and waste.	No	Yes	Yes	No	Yes	No	No	No	Yes	Yes	Medium	No
SA	COUVRETTE BUILDING SYSTEMS	8665	D	ARGENT STREET	Santee	92071	907.13	1542	Base for contractor installing ATM kiosks, some outside storage of equipment observed.	No	Yes	Yes	No	Yes	No	No	No	Yes	No	Low	Yes
SA	Interstate Striping of California	8511	#B	ABLETTE ROAD	Santee	92071	907.13	1611	Base for contractor installing road striping, some outside storage of equipment observed.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	Yes
SA	SUPERIOR ASPHALT	9211		SECURITY WAY	Santee	92071	907.12	1611	Base for contractor installing streets and roads, office, outside storage of equipment and materials.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Medium	Yes
SA	Provost Inc Dba Traffic Tech	11366	B	WOODSIDE AVENUE	Santee	92071	907.12	1611	Base for street and parking lot contractor, potential for outdoor storage.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	High	No
SA	T C CONSTRUCTION CO INC	10540		PROSPECT AVENUE	Santee	92071	907.13	1623	Base for contractor installing sewer and water infrastructure. Outside storage of materials, wastes and equipment. Largely gravel or soil surface. Indoor equipment washing facility.	No	Yes	Yes	No	Yes	Yes	No	Yes	No	No	Medium	Yes
SA	BOCK COMPANY	8510		RAILROAD AVENUE	Santee	92071	907.12	1623	Base for underground Utility contractor. Outside storage of equipment. Yard permeable (soil or gravel).	No	No	Yes	No	Yes	No	No	No	No	No	Low	No
SA	TAYLOR INC DBA:, K.	8614	D	ARGENT STREET	Santee	92071	907.13	1623	Base for contractor installing sewer and water infrastructure. Potential for outside storage of materials, wastes and equipment.	No	No	Yes	No	Yes	No	No	No	No	No	Low	Yes
SA	Woodruffs Trenching Inc	9735		PROSPECT AVENUE	Santee	92071	907.13	1623	Base for trenching contractor used for storage of excavation equipment. Yard permeable (soil or gravel).	No	No	Yes	No	Yes	No	No	No	No	No	Medium	Yes
SA	PRECISION EXCAVATION	9713		MAST BOULEVARD	Santee	92071	907.12	1629	Base for contractor in heavy construction. Potential for outside storage of materials, wastes and equipment.	No	No	Yes	No	Yes	No	No	No	No	No	Low	No
SA	Bluewater Marine & Dock Specialties	10520		KENNEY STREET	Santee	92071	907.13	1629	Base for contractor for marine dock fabrication.	No	Yes	Yes	No	Yes	No	No	No	Yes	No	Medium	Yes
SA	COMFORT MECHANICAL INC	10740	404	KENNEY STREET	Santee	92071	907.13	1711	Base for contractor working in plumbing, heating and air conditioning, potential for outside storage.	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	COUNTY HEATING AND AIR CONDITIONING	10020		PROSPECT AVENUE	Santee	92071	907.13	1711	Base for contractor working in heating and air conditioning, potential for outside storage.	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	FICK & SON PLUMBING INC, R L	10740	405	KENNEY STREET	Santee	92071	907.13	1711	Base for contractor working in plumbing, heating and air conditioning, potential for outside storage.	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	HALE & SONS INC	8626		SIESTA ROAD	Santee	92071	907.13	1711	Base for contractor working in plumbing, heating and air conditioning, potential for outside storage.	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	IDEAL MECHANICAL	8524		ABLETTE ROAD	Santee	92071	907.13	1711	Base for contractor working in plumbing, heating and air conditioning, potential for outside storage.	No	No	Yes	No	No	No	No	No	No	No	Low	No

Appendix A.4 Industrial/Commercial Inventory

										Potential Pollutants Generated												
Agency	Facility Name	Address Number	Suite Number	Street Name	City	Zip Code	Watershed	SIC Code	Principal Products / Services	Bacteria	Gross Pollutants	Metals	Nutrients	Oil & Grease	Organics	Pesticides	Sediment	Trash	Tributary to 303(d) Listed	Threat to Water Quality	Threat Confirmed?
SA	JERRY'S HEATING AND AIR CONDITIONING	9717		AIRPORT VISTA WAY	Santee	92071	907.13	1711	Contractor installing and service heaters and airconditioners, potential for outside storage.	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	PARADISE MECHANICAL, Inc. DBA PMI HEATING & AIR	9260		ISAAC STREET	Santee	92071	907.12	1711	Contractor installing heating and airconditioning systems, potential for outside storage.	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	R H J HI-TECH AIR CONDITIONING*	10107	B	PROSPECT AVENUE	Santee	92071	907.13	1711	Homebase for air conditioning and heating contractor, potential for outside storage	No	No	No	No	No	No	No	No	No	No	Low	No
SA	R L FICK & SON PLUMBING INC	10740	405	KENNEY STREET	Santee	92071	907.13	1711	Contractor installing heating and airconditioning systems, potential for outside storage.	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	SAN DIEGO PLUMBING AND HEATING	8775		RAILROAD AVENUE	Santee	92071	907.12	1711	Contractor installing plumbing, heating and airconditioning systems, potential for outside storage.	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	SCHOONMAKER HEATING & AIR CONDITIONER	8733	121	MAGNOLIA AVENUE	Santee	92071	907.12	1711	Base for contractor working on plumbing, air conditioning and heating, potential for outside storage.	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	SOCAL PLUMBING HEATING DRAINS	10027	F	PROSPECT AVENUE	Santee	92071	907.13	1711	Base for contractor working on plumbing, air conditioning and heating, potential for outside storage.	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	SWAIN ENTERPRISES	10017		PROSPECT AVENUE	Santee	92071	907.13	1711	Base for contractor working on plumbing, air conditioning and heating, potential for outside storage.	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	Under Pressure Testing*	10786	C	JEANNE TERRACE	Santee	92071	907.12	1711	Home base for contractor working on plumbing, air conditioning and heating, potential for outside storage.	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	Westwind Mechanical	10439	M	PROSPECT AVENUE	Santee	92071	907.13	1711	Base for contractor working on plumbing, air conditioning and heating, potential for outside storage.	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	L Seven 'n' Company, Inc.	8775		RAILROAD AVENUE	Santee	92071	907.13	1711	Base for contractor who services hoods and ducts, potential for outside storage	No	No	Yes	No	No	No	No	No	No	No	Medium	No
SA	Hurn Mechanical Heating & Cooling	8711	200	MAGNOLIA AVENUE	Santee	92071	907.12	1711	Contractor installing heating and airconditioning systems, potential for outside storage.	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	Interpipe Contracting Inc	10870		HARTLEY ROAD	Santee	92071	907.12	1711	Contractor installing plumbing, heating and airconditioning systems, potential for outside storage.	No	No	Yes	No	No	No	No	No	Yes	Yes	Low	No
SA	Peterson Drain Services	11017	1	WOODSIDE AVENUE	Santee	92071	907.12	1711	Service and repair of drains.	Yes	Yes	No	Yes	No	Yes	No	Yes	No	Yes	Medium	No
SA	DIAMOND PAINTING*	8301	52	MISSION GORGE ROAD	Santee	92071	907.12	1721	Painting contractor, possible homebase, potential for outside storage	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	L.R. KNIGHT PAINTING*	9744		VOMAC ROAD	Santee	92071	907.12	1721	Home-base for painting contractor, all materials held in trailer, no outside exposures observed.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	NEW IMAGE PAINTING DESIGN	10744	105	ROCKVILL STREET	Santee	92071	907.12	1721	Painting and paper hanging contractor, potential for outside storage	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	A-Advanced Electrical & Communications Cabling Company*	8710		RUOCCO ROAD	Santee	92071	907.12	1731	Home-base for electrical contractor, potential for outside storage	No	No	No	No	No	No	No	No	No	No	Low	No
SA	American Automatic Fire	9510	B	PATHWAY STREET	Santee	92071	907.13	1731	Base for electrical contractor, potential for outside storage	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	ARC LIGHTING AND ELECTRIC	10054	I	PROSPECT AVENUE	Santee	92071	907.13	1731	Base for electrical contractor, potential for outside storage	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	BARNER ELECTRIC	9435	K	WHEATLANDS	Santee	92071	907.12	1731	Base for electrical contractor, potential for outside storage	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	CLASSIC ELECTRIC	8531		ABLETTE ROAD	Santee	92071	907.13	1731	Base for electrical contractor, potential for outside storage	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	COPPER ELECTRIC	10054	T	PROSPECT AVENUE	Santee	92071	907.13	1731	Base for electrical contractor, potential for outside storage	No	No	Yes	No	No	No	No	No	No	No	Low	Yes
SA	G A ELECTRIC CORP	10520		KENNEY STREET	Santee	92071	907.13	1731	Base for electrical contractor, potential for outside storage	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	JAMAR ELECTRIC*	9830	D	PROSPECT AVENUE	Santee	92071	907.13	1731	Base (possibly home) for electrical contractor, potential for outside storage	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	STANDARD ELECTRONICS	9340		STEVENS ROAD	Santee	92071	907.12	1731	Base for electrical contractor, potential for outside storage	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	EcoGreen Recycling	9540	105	PATHWAY STREET	Santee	92071	907.13	1731	Electronic recycling and shipping facility. Electronics collected and packed onto pallets prior to shipping. No outside exposures.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	Paving Stone Of San Diego	9440	6	Wheatlands	Santee	92071	907.12	1741	Base for paving contractor, likely working offsite, potential for outside storage.	No	No	Yes	No	No	No	No	Yes	Yes	No	Medium	No

Appendix A.4 Industrial/Commercial Inventory

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Agency	Facility Name	Address Number	Suite Number	Street Name	City	Zip Code	Watershed	SIC Code	Principal Products / Services	Bacteria	Gross Pollutants	Metals	Nutrients	Oil & Grease	Organics	Pesticides	Sediment	Trash	Tributary to 303(d) Listed	Threat to Water Quality	Threat Confirmed?
SA	DeCrescente's Drywall & Texture*	8748		WAHL STREET	Santee	92071	907.12	1742	Home base for contractor working offiste in drywall patch & repair (residential). All outside storage is contained under cover.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	Precision Interiors	10612	102	PROSPECT AVENUE	Santee	92071	907.13	1742	Base for subcontractor working offsite in drywall, t-bar celings and demolition. Potential for outside storage.	No	No	Yes	No	No	No	No	No	No	No	Medium	No
SA	East County Tile & Marble	9855		PROSPECT AVENUE	Santee	92071	907.13	1743	Base for commercial subcontractor working in ceramic tile & marble installation. Office and indoor storage of materials.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	ASHWOOD CABINETS	8733	137	MAGNOLIA AVENUE	Santee	92071	907.12	1751	Base for carpentry contractor. Some woodworking and spray booth onsite. No outdoor exposures observed.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	COMMERCIAL OPENINGS	8630	A	ARGENT STREET	Santee	92071	907.13	1751	Base for contractor who supplies and installs doors, frames and hardware for commercial use. Potential for outside storage.	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	E.C. CABINETS	8402	H	MAGNOLIA AVENUE	Santee	92071	907.13	1751	Base for carpentry work (garage, closets and kitchen cabinets), all work done indoors, no outdoor exposures.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	GT DOOR, Inc.	10728	E	PROSPECT AVENUE	Santee	92071	907.13	1751	Base for commercial door, frank & hardware supplier. Potential for outside storage.	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	K C ARCHITECTURAL RESTORATIONS	8507		ABLETTE ROAD	Santee	92071	907.13	1751	Base for construction contractor, potential for outside storage.	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	FREEMAN'S CARPETS AND BINDING	10205		PROSPECT AVENUE	Santee	92071	907.13	1752	Base for floor laying and other floor work, potential for outside storage.	No	Yes	No	No	Yes	No	No	No	Yes	No	Low	No
SA	Valley Floor Covering	9945		PROSPECT AVENUE	Santee	92071	907.13	1752	Sales and installation of carpet, sheet vinyl, ceramic tile. Potential for outside storage.	No	Yes	No	No	Yes	No	No	No	Yes	No	Low	No
SA	Burness Flooring*	10018		THREE OAKS WAY	Santee	92071	907.12	1752	Home base for contractor working in floor laying and other floor work, potential for outside storage.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	McKay Roofing Co. Inc.	10622		KENNEY STREET	Santee	92071	907.13	1761	Base for contractor working in roofing, siding and sheet metal. Vehicles parked in gravel area, roofing materials stored on pallets in gravel area, but most materials usually delivered directly to jobsite.	No	Yes	Yes	No	No	Yes	No	No	Yes	No	Low	Yes
SA	MISSION VALLEY ROOFING INC	9908		PROSPECT AVENUE	Santee	92071	907.13	1761	Base for contractor working in roofing, siding and sheet metal. Potential for outside storage.	No	Yes	Yes	No	No	Yes	No	No	Yes	No	Low	No
SA	Blue Moon Pools	8606	H	ARGENT STREET	Santee	92071	907.13	1771	Base for contractor working in pool and spa renovation. Outside storage of materials, spills likely during loading/unloading activities.	No	Yes	Yes	No	Yes	No	No	Yes	Yes	No	Low	Yes
SA	MORELLO CONCRETE CONST. INC.	8534		HUBBLES LANE	Santee	92071	907.13	1771	Base for concrete contractor, facility hardscaped and used for vehicle parking and equipment storage.	No	Yes	Yes	No	Yes	No	No	Yes	Yes	No	Low	No
SA	Angus Asphalt Inc.	9959		PROSPECT AVENUE	Santee	92071	907.13	1771	Base for asphalt and concrete construction. Vehicle fueling and maintenance Is performed onsite. All hazardous materials kept under cover / contained. Drip pans are under all vehicles.	No	Yes	No	No	Yes	Yes	No	Yes	No	No	Medium	Yes
SA	RCI Reinforcing Steel Contractor	9409		ABRAHAM WAY	Santee	92071	907.12	1791	Base for steel work contractor, office and indoor storage. No outside exposures.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	RUSSELL GLASS	9440	13	WHEATLANDS	Santee	92071	907.12	1793	Base for glass and glazing work. Most storage indoors, some glass stored outside on racks.	No	No	No	No	No	Yes	No	No	No	No	Low	No
SA	SEA VIEW GLASS*	10307		CAREFREE DRIVE	Santee	92071	907.12	1793	Home base for glass and glazing contractor, potential for outside storage	No	No	Yes	No	No	Yes	No	No	Yes	No	Low	No
SA	TOWER GLASS INC	9570	A	PATHWAY STREET	Santee	92071	907.13	1793	Specialty contractor for glass and glazing, some outside storage of glass and frames.	No	No	Yes	No	No	Yes	No	No	Yes	No	Medium	Yes
SA	A & D Fire Protection	11465	1	WOODSIDE AVENUE	Santee	92071	907.12	1799	Base for fire protection installation contractor. Some outside storage and potential for oil leaks on unpaved yard. No storm drain inlet adjacent to property.	No	No	Yes	No	No	Yes	No	No	Yes	No	Low	Yes
SA	American Fence Co.	9944		PROSPECT AVENUE	Santee	92071	907.13	1799	Temporary fence installation company, base for office and outside storage of temporary fence panels. Property paved.	No	Yes	Yes	No	No	Yes	No	Yes	No	No	Low	Yes
SA	AWNING PRODUCTS UNLIMITED	8540	B	ABLETTE ROAD	Santee	92071	907.13	1799	Base for manufacture and installation of fabric awnings. Office and yard. Potential for outside storage.	No	Yes	Yes	No	No	Yes	No	No	Yes	No	Low	No
SA	CRAFTERS FENCE	8606	A	ARGENT STREET	Santee	92071	907.13	1799	Base (office) for fence contractor.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	GANDER COMPANY INC, THE	8665	B-2	MISSION GORGE ROAD	Santee	92071	907.12	1799	Base (office/indoor storage) for refrigeration of equipment/supplies.	No	Yes	Yes	No	No	Yes	No	No	No	No	Low	No

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SA	GOLDEN STATE GARAGE DOORS	10540		KENNEY STREET	Santee	92071	907.13	1799	Base for contractor installing garage doors, potential for outside storage	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	No
SA	JOHN'S CUSTOM BLINDS	10800	201	WOODSIDE AVENUE	Santee	92071	907.12	1799	Base for contractor working in blind installation	No	Yes	Yes	No	Yes	Yes	No	Yes	Yes	No	Low	No
SA	Falcon Landscape*	8707		LIND VERN COURT	Santee	92071	907.13	1799	Home base for landscape maintenance contractor. No outdoor exposures (such as storage) observed.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	Cabral Metal Fab & Fence, Inc.	10020		PROSPECT AVENUE	Santee	92071	907.13	1799	Base for fencing contractor. No outdoor exposures observed.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	SHOT BLASTERS INC.	9962	B	PROSPECT AVENUE	Santee	92071	907.13	1799	Shot blasting company, office and shop indoors. Potential for blast powder to be tracked out of facility.	No	No	Yes	No	No	No	No	Yes	Yes	No	Low	Yes
SA	Cascade Drilling LP	11440		North Woodside	Santee	92071	907.12	1799	Base for drilling company. Storage of rig and equipment in yard. Cleaned prior returning to facility.	No	Yes	Yes	No	Yes	Yes	No	Yes	No	No	Medium	Yes
SA	Guardian Waterproofing Inc	8622	D	ARGENT STREET	Santee	92071	907.13	1799	Base for contractor working in construction waterproofing and caulking. Potential for outside storage.	No	Yes	No	No	Yes	Yes	No	No	No	No	Medium	No
SA	Le Caramel LLC	11220		WOODSIDE AVENUE	Santee	92071	907.12	2064	Manufacturing and selling of caramel products. Some outside storage of pallets and empty containers.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	Fortina Chocolate	172		RIVER ROCK COURT	Santee	92071	907.12	2066	Home based chocolate and cocoa products preparation, potential for outside storage.	No	No	No	No	No	No	No	No	No	No	Medium	No
SA	MANZANITA BREWING COMPANY	9962	E	PROSPECT AVENUE	Santee	92071	907.13	2082	Microbrewery facility with office and tasting room. Brewing conducted indoors. No outdoor storage or consumption.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	FARACE ENTERPRISES, INC.	10759	H	WOODSIDE AVENUE	Santee	92071	907.12	2269	Silkscreening clothing, screens observed drying outside, some outside storage too.	No	Yes	No	No	No	Yes	No	No	No	No	Low	Yes
SA	NAILERS INC	10845	C	WHEATLANDS	Santee	92071	907.12	2389	Manufacture of other apparel accessories. Office and workshop in building.	No	Yes	No	No	No	Yes	No	No	Yes	No	Low	No
SA	PRIMO GRAPHICS	9263	B	ABRAHAM WAY	Santee	92071	907.12	2389	Manufacture of other apparel accessories. Office and workshop in building.	No	Yes	No	No	No	Yes	No	No	Yes	No	Low	No
SA	J & J DRAPERY WORKROOM	10054	L	PROSPECT AVENUE	Santee	92071	907.13	2391	Drapery Manufacturing. Office and workshop in building.	No	Yes	No	No	No	Yes	No	No	Yes	No	Low	No
SA	Waren Drapery Service	8733	138	MAGNOLIA AVENUE	Santee	92071	907.12	2391	Drapery Manufacturing. Office and workshop in building.	No	Yes	No	No	No	Yes	No	No	Yes	No	Low	No
SA	RACER X MOTORSPORTS	10815	K	WHEATLANDS	Santee	92071	907.12	2396	Safety/Communication distributor for off road market. Office and storage inside building.	No	Yes	No	No	No	Yes	No	No	Yes	No	Low	No
SA	T M COBB CO	9175		MISSION GORGE ROAD	Santee	92071	907.12	2431	Base for wood window and door manufacturing.	No	Yes	Yes	No	No	Yes	No	No	Yes	No	Low	No
SA	Mill Brothers Fine Woodworking	9356	C	Wheatlands	Santee	92071	907.12	2434	Manufacturer of wood kitchen cabinets, office and workshop inside building. No outside storage.	No	Yes	Yes	No	No	No	No	No	Yes	No	Low	Yes
SA	Misiano's Custom Cabinetry	9201	C	ISAAC STREET	Santee	92071	907.12	2434	Cabinet fabrication contractor. Office and workshop inside building, most work done offsite. No outdoor exposures observed.	No	Yes	Yes	No	No	No	No	No	Yes	No	Low	Yes
SA	Richardson Cabinets	9201		ISAAC STREET	Santee	92071	907.12	2434	Manufacturer of wood kitchen cabinets, office, workshop and spray booth inside building. No outside storage.	No	Yes	Yes	No	No	No	No	No	Yes	No	Low	Yes
SA	SELECT CABINETS	9937	8	PROSPECT AVENUE	Santee	92071	907.13	2434	Woodworking shop and office. No outdoor exposures.	No	Yes	Yes	No	No	No	No	No	Yes	No	Low	Yes
SA	Steagall's Custom Cabinets	10911	#H	Wheatlands	Santee	92071	907.12	2434	Woodworking shop and office. No outdoor exposures.	No	Yes	Yes	No	No	No	No	No	Yes	No	Low	Yes
SA	WoodMAST BOULEVARDer Windows	10965	Q	HARTLEY ROAD	Santee	92071	907.12	2439	Woodworking shop and office. No outdoor exposures.	No	Yes	Yes	No	No	No	No	No	Yes	No	Low	Yes
SA	Valley Box Co. Inc.	10625		PROSPECT AVENUE	Santee	92071	907.13	2441	Wooden box manufacturing. Metalworking area and woodworking area under canopies, some temporary outside storage of boxes/wood.	No	Yes	Yes	No	No	No	No	No	Yes	No	High	No
SA	VIKING LINE CELLARS	9221		SECURITY WAY	Santee	92071	907.12	2452	Building wine rooms and saunas. No outside exposures observed. May be contractor, if so, SIC will change.	No	No	No	No	No	No	No	No	No	No	High	No
SA	PECHTELS CUSTOM WOODWORKS	8733	142	MAGNOLIA AVENUE	Santee	92071	907.12	2511	Fabrication of wood household furniture within building.	No	Yes	Yes	No	No	No	No	No	Yes	No	Low	No
SA	S & S WOODCRAFTS	8733	128	MAGNOLIA AVENUE	Santee	92071	907.12	2511	Fabrication of games, toys and children's vehicles in building.	No	Yes	Yes	No	No	No	No	No	Yes	No	Low	No
SA	Westline Woodcraft	9435	F-G	Wheatlands	Santee	92071	907.12	2511	Custom wood kitchen cabinet manufacturing inside building. No outdoor exposures observed.	No	Yes	Yes	No	No	No	No	No	Yes	No	Low	Yes

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SA	Anthony Lauren & Co., Inc.	8747		MAGNOLIA AVENUE	Santee	92071	907.12	2511	Furniture manufacturing inside building. No outdoor exposures observed.	No	Yes	Yes	No	No	No	No	No	Yes	No	Low	Yes
SA	Royalty Wood	9437	A	Wheatlands	Santee	92071	907.12	2511	Cabinet shop, potential for outdoor storage and operations.	No	Yes	No	No	No	No	No	No	Yes	No	Medium	Yes
SA	INSTITUTIONAL CABINET & MILLWORK INC	10770	B	ROCKVILL STREET	Santee	92071	907.12	2531	Cabinet fabrication, no painting or finishing. Materials stored outside under cover.	No	Yes	Yes	No	No	No	No	No	Yes	No	Low	Yes
SA	DISPLAY CASE MANUFACTURING (previously Case It)	8645	A	ARGENT STREET	Santee	92071	907.13	2541	Woodworking shop used for fabrication of display cases. No outside exposures.	No	Yes	Yes	No	No	No	No	No	Yes	No	Low	Yes
SA	SUNCRAFT SHUTTERS	9344	C	WHEATLANDS	Santee	92071	907.12	2591	Office and workshop in building involved in shutter fabrication and some painting or staining. Temporary storage outside.	No	Yes	Yes	No	No	No	No	No	Yes	No	Low	Yes
SA	SCANTIBODIES LAB INC	9216		ABRAHAM WAY	Santee	92071	907.12	2835	Development of antibody testing kits. Laboratory activities conducted within building. Outdoor storage under cover, some outside picnic benches for staff.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	D S Fibertech Corp	11015		MISSION PARK PLACE	Santee	92071	907.12	2899	Operation using silica. All processing conducting indoors where dust collectors are operational. Outside storage is under cover.	No	Yes	No	No	Yes	Yes	No	No	No	No	Low	Yes
SA	J S Bluing and Metal Refinishing*	10416		LEN COURT	Santee	92071	907.12	2899	Home base for bluing and refinishing business. Outdoor exposures are unlikely.	No	No	No	No	No	No	No	No	No	No	Medium	No
SA	SCANTIBODIES CLINICAL	9236		ABRAHAM WAY	Santee	92071	907.12	2899	Development of antibody testing kits. Activities conducted within building. Outdoor storage under cover, some outside picnic benches for staff.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	OLSON IRRIGATION SYSTEMS	10910	39449	WHEATLANDS	Santee	92071	907.12	3069	Irrigation installation company. Offices and storage in building. Minor activities in hardscaped yard.	No	Yes	No	No	Yes	Yes	No	No	No	No	Low	No
SA	SEALTITE INC	10225		PROSPECT AVENUE	Santee	92071	907.13	3081	Wholesale Distributor of Packaging Materials. Office and storage within building. Potential for outside storage.	No	Yes	No	No	Yes	No	No	No	No	No	Low	No
SA	A-I-M Plastics Inc.	9326		ABRAHAM WAY	Santee	92071	907.12	3089	Industrial mold manufacturing operation, conducted inside building. Outside cooling operation in enclosure and bermed. Outside area used for extensive storage although many items covered.	No	Yes	No	No	Yes	No	No	No	No	No	Low	Yes
SA	ARGEE CORPORATION	9550		PATHWAY STREET	Santee	92071	907.13	3089	ndustrial mold manufacturing operation, conducted inside building. Potential for outside storage.	No	Yes	No	No	Yes	No	No	No	No	No	Low	No
SA	PLA-COR INC	10207	C-D	BUENA VISTA AVENUE	Santee	92071	907.12	3089	Manufacture of plastic product inside building. Potential for outside storage.	No	Yes	No	No	Yes	No	No	No	No	No	Low	No
SA	Plex Products Unlimited	10744	C	PROSPECT AVENUE	Santee	92071	907.13	3089	Manufacture of plastic product inside building. Potential for outside storage.	No	Yes	No	No	Yes	No	No	No	No	No	Low	No
SA	Red Line	10845		Wheatlands	Santee	92071	907.12	3089	Manufacture of plastic product inside building. No outdoor exposures (storage/operations).	No	Yes	No	No	Yes	No	No	No	No	No	Low	Yes
SA	Loftin GTS	8500		ABLETTE ROAD	Santee	92071	907.13	3089	Assembly and shipping of plastic parts/tools, potential for outdoor storage.	No	Yes	No	No	Yes	No	No	No	No	No	Medium	No
SA	Landmark Glass Co.	9851		PROSPECT AVENUE	Santee	92071	907.13	3211	Fabrication glass, mirrors & windows. No outside storage.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	CALIFORNIA ACRYLIC & GLASS MIRROR PLATE COMPANY	10658	C	PROSPECT AVENUE	Santee	92071	907.13	3231	Facility for cutting and polishing mirrors. All activities conducted indoors, no outside storage observed.	No	No	No	No	No	No	No	No	Yes	No	Medium	Yes
SA	R C P BLOCK & BRICK INC	9631		MAGNOLIA AVENUE	Santee	92071	907.12	3271	Concrete block and brick manufacturing. Storage of aggregate on unpaved areas. Operations conducted indoors. Above ground fuel tank and dispenser.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	High	Yes
SA	Artistic Marble and Granite, Inc.	9323		STEVENS ROAD	Santee	92071	907.12	3281	Granite and marble countertop fabrication & Installation. Fabrication conducted within workshop, installation offsite. Storage of slabs outside of building.	No	Yes	No	No	No	No	No	Yes	Yes	No	High	Yes
SA	C C M ENTERPRISES	10848		WHEATLANDS	Santee	92071	907.12	3281	Manufacturing counter tops, shower pans & tubs from cultured marble. All work done indoors. No storage done outside. Catch basin observed in yard.	No	Yes	No	No	No	No	No	Yes	Yes	No	High	Yes
SA	European Company	10051		PROSPECT AVENUE	Santee	92071	907.13	3281	Granite and marble countertop fabrication & Installation. Fabrication conducted within workshop, installation offsite. Storage of slabs and equipment outside of building. Cover over catch basin in yard.	No	Yes	No	No	No	No	No	Yes	Yes	No	High	Yes

Appendix A.4 Industrial/Commercial Inventory

										Potential Pollutants Generated												
Agency	Facility Name	Address Number	Suite Number	Street Name	City	Zip Code	Watershed	SIC Code	Principal Products / Services	Bacteria	Gross Pollutants	Metals	Nutrients	Oil & Grease	Organics	Pesticides	Sediment	Trash	Tributary to 303(d) Listed	Threat to Water Quality	Threat Confirmed?
SA	C C M ENTERPRISES	9366		ABRAHAM WAY	Santee	92071	907.12	3281	Fabrication of natural stone and quartz counter tops. Operations conducted indoors, storage of slabs outside has been observed. Minor vehicle maintenance onsite.	No	Yes	No	No	No	No	No	Yes	Yes	No	High	Yes
SA	RHINE AIR INC	10744	A	PROSPECT AVENUE	Santee	92071	907.13	3334	Indoor manufacturing facility, potential for outside storage.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	No
SA	Rainbow Steel Inc	9484		MISSION PARK PLACE	Santee	92071	907.12	3399	Metal fabrication, potential for outdoor storage and operations.	No	Yes	Yes	No	Yes	No	No	No	No	No	High	Yes
SA	Metro Steel	10520	A	KENNEY STREET	Santee	92071	907.13	3441	Fabricated structural metalworking, installation done offsite. Offices, warehouse. Some metalworking done under canopy, outdoor storage.	No	Yes	Yes	No	Yes	No	No	No	No	No	High	Yes
SA	PRODUCTION TRUSS	9925		PROSPECT AVENUE	Santee	92071	907.13	3443	Fabricated plate work (boiler shop). Potential for outside storage.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	No
SA	AMERICAN SHEET METAL	8710		RAILROAD AVENUE	Santee	92071	907.12	3444	Roofing, siding & sheet metal fabrication facility. Installation ofsite. Operations restricted to building. Grassy swale onsite.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	Yes
SA	BOWEN & WARENGO INC	10723		PROSPECT AVENUE	Santee	92071	907.13	3444	Heating equipment manufacturing facility. Some outside storage observed.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	Yes
SA	Conn's Machining	10207	B	BUENA VISTA AVENUE	Santee	92071	907.12	3444	Sheet metal working shop. No outdoor exposures (storage/operations).	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	Yes
SA	DAVIC CONSTRUCTION GENERAL CONTRACTOR	10925	N	WHEATLANDS	Santee	92071	907.12	3444	Sheet metal working shop. Potential for outdoor exposures (storage).	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	No
SA	ELECTRONIC SHEET METAL PRODUCTS	9560	5	PATHWAY STREET	Santee	92071	907.13	3444	Custom metal fabrication facility. Operations indoors, potential for outdoor storage.	No	Yes	No	No	No	No	No	No	No	No	Low	No
SA	WAYNE MILLER'S MOBILE TIRE, INC	11350		WOODSIDE AVENUE	Santee	92071	907.12	3444	Onsite and mobile vehicle maintenance. Onsite work conducted indoors.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Medium	No
SA	R S R PRECISION MACHINE	10020	G & H	PROSPECT AVENUE	Santee	92071	907.13	3444	Machine shop, potential for outside storage.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	No
SA	RALLS PRECISION MACHINE	10027	C	PROSPECT AVENUE	Santee	92071	907.13	3444	Sheet metal working facility, potential for outdoor storage	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	No
SA	SHAWZ METAL FABRICATION INC	10925		WHEATLANDS AVENUE	Santee	92071	907.12	3444	Sheet metal working facility, no outdoor exposures (storage) observed.	No	No	Yes	No	Yes	No	No	No	No	No	Low	Yes
SA	Specialty Metals Fabrication	11222		WOODSIDE AVENUE	Santee	92071	907.12	3444	Sheet metal working facility, extensive outside storage of materials. Parking for vehicles. Sump in parking lot.	No	Yes	Yes	No	Yes	No	No	No	No	No	High	Yes
SA	MTS Sheet Metal & Fabrication Inc.	8400	E	MAGNOLIA AVENUE	Santee	92071	907.13	3444	Sheet metal working facility, potential for outdoor storage	No	Yes	Yes	No	Yes	No	No	No	No	No	Medium	Yes
SA	SOUTH BAY FOUNDRY, INC.	9444		ABRAHAM WAY	Santee	92071	907.12	3446	Grind, weld (to customize) and distribution of metal products imported from China. Welding and grinding conducted indoors. Outdoor storage of product and equipment.	No	Yes	Yes	No	No	No	No	Yes	Yes	No	Low	Yes
SA	Aluminess Products Inc	9402	A	Wheatlands	Santee	92071	907.12	3465	Automotive stamping shop. Potential for outside storage.	No	Yes	Yes	No	No	No	No	No	Yes	No	Low	No
SA	Industrial Metal Processing	10145		PROSPECT AVENUE	Santee	92071	907.13	3471	Industrial painting, plating, and powdercoating, all operations indoors. Some outdoor storage.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	Yes
SA	Creative Metals Industries Inc.	10039	E	PROSPECT AVENUE	Santee	92071	907.13	3479	Custom metal etching & finishing. All operations indoors. No outdoor storage except for pallets during the day.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	Yes
SA	EL CAJON NAMEPLATE	10054	K	PROSPECT AVENUE	Santee	92071	907.13	3479	Engraving trophies, plaques & signs in shop. No outside exposures (i.e., storage) observed.	No	Yes	No	No	No	No	No	No	Yes	No	Low	Yes
SA	KTM COATING TECHNOLOGIES, Inc	10020	A33-34	PROSPECT AVENUE	Santee	92071	907.13	3479	Metal coating and allied services conducted indoor. Potential for outdoor storage.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	No
SA	SAN DIEGO PROTECTIVE COATINGS	9344	A	WHEATLANDS	Santee	92071	907.12	3479	Rust preventative coating conducted indoors. Coated items may be left outside to dry on racks. No other outside stoage.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	Yes
SA	Altech Machining	11000		WOODSIDE AVENUE	Santee	92071	907.12	3492	Manufacture aerospace parts inside building, potential for outside storage.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	No
SA	Ke-Burgmann	8575		Roland Acres	Santee	92071	907.13	3494	Manufacturing of metal joints for refineries. Operations (including testing of joints) indoors. Sand blasting operation. Some outside storage.	No	Yes	Yes	No	Yes	No	No	Yes	No	No	High	Yes
SA	KW Cages Advanced Design	9565		PATHWAY STREET	Santee	92071	907.13	3496	Fabrication and sales of wire cages for small household pets. No outdoor exposures.	No	No	Yes	No	No	No	No	No	No	No	Medium	No
SA	Bradshaw Engineering Corp.	8645	B	ARGENT STREET	Santee	92071	907.13	3498	Pipe fabrication for fire sprinkler systems. Outside storage of pipes on racks. Company vehicles park onsite.	No	Yes	Yes	No	Yes	No	No	No	No	No	High	Yes

Appendix A.4 Industrial/Commercial Inventory

										Potential Pollutants Generated												
Agency	Facility Name	Address Number	Suite Number	Street Name	City	Zip Code	Watershed	SIC Code	Principal Products / Services	Bacteria	Gross Pollutants	Metals	Nutrients	Oil & Grease	Organics	Pesticides	Sediment	Trash	Tributary to 303(d) Listed	Threat to Water Quality	Threat Confirmed?
SA	AYMAR ENGINEERING	9434	1	ABRAHAM WAY	Santee	92071	907.12	3499	Precision sheet metal fabrication for aerospace and defense. Operations conducted indoor, potential for outdoor storage.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	Yes
SA	DAVIS GREGG ENTERPRISES	10139		PROSPECT AVENUE	Santee	92071	907.13	3499	Metal fabrication facility, workshop and office inside building. Potential for outside storage.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	No
SA	Precision Water Jetting, Inc.	10031	B & C	PROSPECT AVENUE	Santee	92071	907.13	3499	Cut out various parts from metal, wood, plastic, glass using water. No outdoor storage or operations.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	Yes
SA	TECHMAST BOULEVARDER	10744	106	ROCKVILL STREET	Santee	92071	907.12	3499	Machinery fabrication shop, all work indoors. No outside storage observed.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	Yes
SA	TERRA NOVA TECHNOLOGIES, Inc.	10770		ROCKVILL STREET	Santee	92071	907.12	3535	Design conveying equipment for mines. Activities within building, outdoor exposures unlikely.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	No
SA	Accu-Tap LLC	9625	B2-305	MISSION GORGE ROAD	Santee	92071	907.12	3541	Business involved with machine tools, and metal cutting types. No outdoor exposures observed.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	Yes
SA	Watts Engineering	9920	106	PROSPECT AVENUE	Santee	92071	907.13	3541	design & machining prototypes & tool making. Activities restricted to building.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	No
SA	BTI PERFORMANCE PRODUCTS	9525		PATHWAY STREET	Santee	92071	907.13	3544	Tooling for turbine engines. Work conducted indoors, outside storage under roofed areas.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	Yes
SA	B & A WIRE EDM	8402		MAGNOLIA AVENUE	Santee	92071	907.13	3549	Machine shop for aerospace industry, all work done indoors. No outdoor exposures (storage).	No	Yes	Yes	No	Yes	No	No	No	No	No	Medium	No
SA	Frontier CNC	10728	C & D	PROSPECT AVENUE	Santee	92071	907.13	3549	Machine shop, all work done indoors, no outside storage.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	Yes
SA	P-M Machining Inc.	8630	C	ARGENT STREET	Santee	92071	907.13	3549	Precision metal shop. No outdoor exposures.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	Yes
SA	JAY MATHY ENGINEERING	9315		WHEATLANDS	Santee	92071	907.12	3559	Commercial and industrial machinery fabrication. All work is done indoors. Old coolant is kept in sealed drums in locked and partially covered area. Facility shared with Mathy Machine.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	Yes
SA	Vortex Engineering	9425		Wheatlands	Santee	92071	907.12	3559	Custom drilling equipment company, all operations indoors. Outdoor storage under cover.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	Yes
SA	Mathy Machine Inc.	9315		Wheatlands	Santee	92071	907.12	3559	Commercial and industrial machinery fabrication. All work is done indoors. Old coolant is kept in sealed drums in locked and partially covered area. Facility shared with Jay Mathy Engineering.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	Yes
SA	DISCFLO CORPORATION	10850		HARTLEY ROAD	Santee	92071	907.12	3561	Manufacture and testing of pumps and pumping equipment. Indoor operations, some storage outdoors.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	Yes
SA	Accurate Air Engineering Inc	9356		ABRAHAM WAY	Santee	92071	907.12	3563	Distrubution, servicing of air and gas compressors.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	Yes
SA	ARROW AUTOMATIC FIRE SPRINKLER	9520		PATHWAY STREET	Santee	92071	907.13	3569	Base for contractor who designs, fabricate and install automatic fire sprinklers.	No	No	Yes	No	No	No	No	No	No	No	Medium	No
SA	Quality Controlled Manufacturing	9429		ABRAHAM WAY	Santee	92071	907.12	3569	Precision machine shop, all operations indoors. Sump in yard.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	Yes
SA	Computer Integrated Machining Inc.	10960		WHEATLANDS	Santee	92071	907.12	3599	Computerized machine fabrication conducted indoors. Some outside storage.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	Yes
SA	Ascend Manufacturing	10217	G	BUENA VISTA AVENUE	Santee	92071	907.12	3599	Machine shop, all work done indoors, no outside storage.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	Yes
SA	CONTOUR TECHNOLOGY	8406	E	MAGNOLIA AVENUE	Santee	92071	907.13	3599	Machine shop working in brass. All work done indoors, no outdoor exposures.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	Yes
SA	S M L INDUSTRIES	10965	P	HARTLEY ROAD	Santee	92071	907.12	3599	Manufacture of plastic products. Potential for outside storage.	No	Yes	Yes	No	No	No	No	Yes	Yes	No	Low	No
SA	TACKETT MACHINE	10728	D	KENNEY STREET	Santee	92071	907.12	3599	Manufacture of industrial and commercial machinery. Potential for outdoor storage and activities.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	No
SA	Dragon Machine Shop	9435	G	Wheatlands	Santee	92071	907.12	3599	Family owned machine shop, all activities conducted indoors, no outdoor exposures.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	Yes
SA	Dornfeld Inc	9435	B	Wheatlands	Santee	92071	907.12	3599	Industrial and commercial machinery, activities conducted indoors, potential for outdoor storage.	No	Yes	Yes	No	Yes	No	No	No	No	No	Medium	No
SA	REPUBLIC ITS	9932	134	PROSPECT AVENUE	Santee	92071	907.13	3646	Traffic signal maintenance company. Potential for outdoor storage.	No	No	Yes	No	Yes	No	No	No	No	No	Low	No
SA	Alternative Energy Technologies	9465	B	MISSION PARK PLACE	Santee	92071	907.12	3674	Solar energy sales and installation, potential for outside storage.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	No
SA	LHV Power Corporation	10221		BUENA VISTA AVENUE	Santee	92071	907.12	3677	Manufacture of electronic coils, transformers, and other inductors. Potential for outdoor storage.	No	Yes	Yes	No	Yes	No	No	No	No	No	Medium	No
SA	Taco Magnetics	10020	B-12	PROSPECT AVENUE	Santee	92071	907.13	3679	Manufacture of electronic components. Potential for outdoor storage.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	No

Appendix A.4 Industrial/Commercial Inventory

										Potential Pollutants Generated												
Agency	Facility Name	Address Number	Suite Number	Street Name	City	Zip Code	Watershed	SIC Code	Principal Products / Services	Bacteria	Gross Pollutants	Metals	Nutrients	Oil & Grease	Organics	Pesticides	Sediment	Trash	Tributary to 303(d) Listed	Threat to Water Quality	Threat Confirmed?
SA	Matt Gyvers Custom Werks	8733	#117	MAGNOLIA AVENUE	Santee	92071	907.12	3679	Car electrical/stereo services. Potential for outside storage.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	No
SA	Speedo Shop, The	10027	E	PROSPECT AVENUE	Santee	92071	907.13	3694	Motor vehicle electrical services. No outdoor exposures (work/storage) observed.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	Yes
SA	JIMCO RACING INC.	9426		WHEATLANDS	Santee	92071	907.12	3711	Customized manufacture of offroad vehicles. Manufacturing conducted indoors, some outdoor storage, all under cover.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	Yes
SA	Alloy Studios	9435	G	Wheatlands	Santee	92071	907.12	3711	Off road vehicle fabrication, work done indoors, potential for outdoor storage.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Medium	No
SA	Action Turbo Repair Inc	10722	A	KENNEY STREET	Santee	92071	907.13	3714	Rebuilding of turbo chargers, all work conducted indoors. No outdoor exposures observed.	No	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Low	Yes
SA	Fox Racing Shox	10943		Wheatlands	Santee	92071	907.12	3714	Motor vehicle steering company. Conducted indoors, potential for outside storage.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	No
SA	FUTURE MACHINE	9440	2	WHEATLANDS	Santee	92071	907.12	3714	Non automotive machine shop, operations conducted indoors. Potential for outdoor storage.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	No
SA	HYDRAULIC ELECTRIC	9938	145	PROSPECT AVENUE	Santee	92071	907.13	3714	Assembly of commercial business parts conducted indoors. No outdoor exposures.	No	No	Yes	No	Yes	Yes	No	Yes	Yes	No	Low	Yes
SA	MAJOR PERFORMANCE	10722	C	KENNEY STREET	Santee	92071	907.13	3714	Performance engine building, all work done indoors, potential for outside storage.	No	No	Yes	No	No	Yes	No	No	No	No	Low	No
SA	Viking Battery	10759	B	WOODSIDE AVENUE	Santee	92071	907.12	3714	Battery wholesale company, all work and storage is indoors. No outdoor exposures.	No	Yes	Yes	No	No	Yes	No	No	Yes	No	Low	Yes
SA	Fiberwerx	8400	H	MAGNOLIA AVENUE	Santee	92071	907.13	3714	Installation of motor vehicle parts and accessories. All work is done indoors, no outdoor exposures.	No	No	No	No	No	Yes	No	No	No	No	Low	Yes
SA	HCM Customs	11421	B	WOODSIDE AVENUE	Santee	92071	907.12	3714	Installation of automotive repair and accessories, body work is primary function. All work is done indoors. No Outdoor Exposures.	No	Yes	Yes	No	No	Yes	No	No	Yes	No	Medium	No
SA	Aeromach	11423	B	WOODSIDE AVENUE	Santee	92071	907.12	3751	Manufacturing / machining of motorcycle parts and accessories. Potential for outdoor storage.	No	No	No	No	No	Yes	No	No	No	No	Low	No
SA	Seki'S Cycles	9932	135	PROSPECT AVENUE	Santee	92071	907.13	3751	Bicycle manufacturing and sales. Potential for outdoor storage.	No	No	Yes	No	No	Yes	No	No	Yes	No	Low	No
SA	J P Designs (Desert Fabrications dba ,)	11421		WOODSIDE AVENUE	Santee	92071	907.12	3799	Metal fabrication of offroad vehicles. Work conducted inside building. Minor storage in outside unpaved area.	No	No	Yes	No	No	No	No	No	No	No	Low	Yes
SA	Alumi Craft Inc.	10815	I	Wheatlands	Santee	92071	907.12	3799	Metal fabrication of offroad vehicles. Work conducted inside building. No outdoor exposures.	No	No	Yes	No	No	Yes	No	No	No	No	Low	Yes
SA	BUGGY WORKS	11421		WOODSIDE AVENUE	Santee	92071	907.12	3799	Dune buggy repair and fabrication facility. Potential for outdoor exposures (storage).	No	No	Yes	No	No	Yes	No	No	No	No	Low	No
SA	Ty & Bud Hitches & Welding	10229		PROSPECT AVENUE	Santee	92071	907.13	3799	Installation of vehicle hitches. Potential for outdoor exposures (storage).	No	No	Yes	No	No	Yes	No	No	No	No	Low	No
SA	Bryans Racing Enterprises	9260	A	ISAAC STREET	Santee	92071	907.12	3799	Racing vehicle fabrication, no outdoor exposures.	No	No	Yes	No	No	No	No	No	No	No	Low	Yes
SA	Advanced Electromagnetics	9311		STEVENS ROAD	Santee	92071	907.12	3812	Manufacturing of foam/rubber deflecting material for military purposes. Storage of finished product outside ready for shipping and potential for black ink to be spilled outside. Catch basin in parking lot, away from operational area.	No	No	No	No	Yes	Yes	No	Yes	Yes	No	High	Yes
SA	ROZENDAL ASSOCIATES INC	9530	101	PATHWAY STREET	Santee	92071	907.13	3812	Manufacturing of search detection equipment.	No	No	Yes	No	Yes	No	No	No	No	No	Low	No
SA	DELTATRAK TECHNOLOGIES	9260	D	ISAAC STREET	Santee	92071	907.12	3823	Manufacturing of instruments and related products. Potential for outside storage.	No	No	Yes	No	Yes	No	No	No	No	No	Low	No
SA	LARSON METERCRAFT INC	9328	A	WHEATLANDS	Santee	92071	907.12	3823	Manufacturing of instruments and related products. Potential for outside storage.	No	No	Yes	No	Yes	No	No	No	No	No	Low	No
SA	TOTAL PERFORMANCE MACHINE	10133		PROSPECT AVENUE	Santee	92071	907.13	3859	Automotive machine shop, work done indoors, some outside storage.	No	No	Yes	No	Yes	No	No	No	No	No	Low	Yes
SA	FEATHER ROCK DESIGNS	11316	B	WOODSIDE AVENUE	Santee	92071	907.12	3911	Design & fabrication of metal arts & jewelry. Potential for outside storage.	No	No	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	ARC PAINT	10925	G	HARTLEY ROAD	Santee	92071	907.12	3914	Silverware manufacturers, all operations indoors. Potential for outdoor storage.	No	No	Yes	No	Yes	Yes	No	No	No	No	Low	No
SA	JENSEN SWING PRODUCTS	9327		WHEATLANDS	Santee	92071	907.12	3949	Wholesale manufacturing and distribution of playground component parts. No outdoor storage observed.	No	No	No	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	CROWN SIGNS	9937	10	PROSPECT AVENUE	Santee	92071	907.13	3993	Signs and advertising specialties, potential for outside storage.	No	No	Yes	No	No	Yes	No	No	Yes	No	Low	No
SA	GRAPHICRETE (Q=Mila's Signs)	11571		WOODSIDE AVENUE	Santee	92071	907.12	3993	Sign painting, vinyl lettering, permanent & temporary signs, graphics, potential for outside storage.	No	No	Yes	No	No	Yes	No	No	Yes	No	Low	No

Appendix A.4 Industrial/Commercial Inventory

										Potential Pollutants Generated											
Agency	Facility Name	Address Number	Suite Number	Street Name	City	Zip Code	Watershed	SIC Code	Principal Products / Services	Bacteria	Gross Pollutants	Metals	Nutrients	Oil & Grease	Organics	Pesticides	Sediment	Trash	Tributary to 303(d) Listed	Threat to Water Quality	Threat Confirmed?
SA	R B INDUSTRIES	9919		PROSPECT AVENUE	Santee	92071	907.13	3993	Sign manufatering for hotels, resorts, casinos. Potential for outside storage.	No	No	Yes	No	No	Yes	No	No	Yes	No	Low	No
SA	Visual Marketing Associates	9560	39452	PATHWAY STREET	Santee	92071	907.13	3993	Sign manufacturing, operations indoors, potential for outside storage.	No	No	Yes	No	No	Yes	No	No	Yes	No	Low	No
SA	Albert Remolina	10020		PROSPECT AVENUE	Santee	92071	907.13	3993	Sign installation, no fabrication, potential for outside storage.	No	No	Yes	No	No	Yes	No	No	Yes	No	Medium	No
SA	MEACOR SIGNS	10039	J	PROSPECT AVENUE	Santee	92071	907.13	3993	Sign design and manufacturing. Potential for outside storage.	No	No	Yes	No	No	Yes	No	No	Yes	No	Low	No
SA	3 D LETTERS	9440	10	WHEATLANDS COURT	Santee	92071	907.12	3993	Wholesale fabricator of dimensional letters and braille signage for sign and graphics industry. All work done indoors. Scrap bins (one for plastic, one for aluminium) stored outside.	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	COMPUCRAFT INDUSTRIES INC	8787		OLIVE LANE	Santee	92071	907.13	3999	Aerospace sheet metal & machining processing. Operations indoors, potential for outdoor storage.	No	No	Yes	No	Yes	No	No	No	No	No	Low	No
SA	Kaylien Inc.	8520		RAILROAD AVENUE	Santee	92071	907.13	3999	Manufacturing facility, exposures at rear (resins, fiber glass dust, etc.), but unlikely to impact MS4. Paintbooth indoors.	No	No	Yes	No	Yes	No	No	No	No	No	Low	Yes
SA	STEWARTS RACE WORKS	9419		ABRAHAM WAY	Santee	92071	907.12	3999	Servicing of offroad racing vehicles. Work done in shop, outside storage observed.	No	No	Yes	No	Yes	No	No	No	No	No	Low	No
SA	Harrison Trucking Inc.	8801		OLIVE LANE	Santee	92071	907.13	4213	Base for trucks involved in local hauling. Area where vehicles enter/exit is covered in gravel. Truck maintenance conducted under cover, truck washing water drains to a sump, underground fuel tank and dispenser onsite.	No	Yes	No	No	Yes	No	No	No	No	No	High	Yes
SA	C & M Relocation Systems	11433		WOODSIDE AVENUE	Santee	92071	907.12	4214	Business relocation services. Trucks stored onsite. Facility sometimes used for temporary storage of client's equipment.	No	Yes	No	No	Yes	No	No	No	No	No	High	Yes
SA	TERMINALLIFT LLC	9201	C	ISAAC STREET	Santee	92071	907.12	4731	Freight forwarding facility, potential for vehicle storage.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	Pure-Flo	7737		MISSION GORGE ROAD	Santee	92071	907.12	4941	Water purification and distribution facility. Groundwater held in above ground tanks, connected to sanitary sewer. Fleet parking and maintenance onsite, but under cover. Facility for clients to collect their own drinking water.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	PADRE DAM WATER RECYCLING FACILITY	9300		FANITA PARKWAY	Santee	92071	907.12	4952	Water recycling plant (sewage), treated water drains into a series of lakes used for recreational purposes and surrounding by camping facilities. Operations yard and customer service facility. Vehicle maintenance facility (maintenance conducted indoor), underground fuel tank and fuel dispensers.	No	Yes	Yes	Yes	No	Yes	No	No	No	Yes	High	No
SA	AL MAX SANITATION (AMS)	10023		PROSPECT AVENUE	Santee	92071	907.13	4953	Pumping of residential septic tanks and restaurant grease traps. All materials stored under cover. Tankers stored in gravel yard. No direct connection to storm drain, runoff from rain drains to sump, then pumped to street. Filter on pump.	Yes	Yes	Yes	Yes	No	Yes	No	No	No	Yes	High	Yes
SA	Lowland Services*	10220		PRINCE JED COURT	Santee	92071	907.12	4953	Home base for litter control & trash removal. Potential for outside storage.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	Eliminator Motorsports	11418		WOODSIDE AVENUE	Santee	92071	907.12	5012	Custom boat and truck shop. All work is done indoors or under cover. Some vehicle washing onsite.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	C H C DIST. CO.	10925	M	WHEATLANDS	Santee	92071	907.12	5013	Motor vehicle supplies and parts, potential for outside storage.	No	Yes	Yes	No	Yes	Yes	No	No	No	Yes	Low	No
SA	Battery Systems	9465		MISSION PARK PLACE	Santee	92071	907.12	5013	Wholesale distribution of automotive batteries. All storage is kept under cover or indoors. Dead batteries are kept on pallets and picked up weekly	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	Yes
SA	CUSTOM WHEEL INDUSTRIES INC	10221		PROSPECT AVENUE	Santee	92071	907.13	5013	Facility sells wheels, tires, lug nuts, value stems, lock sets, wheel wax for cars. Some storage outdoors.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	Yes
SA	Cal Parts Connection	10658	D	PROSPECT AVENUE	Santee	92071	907.13	5013	Facility sells vehicle parts. Potential for outside storage.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	No
SA	DG Custom Auto Inc	10728	G	PROSPECT AVENUE	Santee	92071	907.13	5013	Facility sells vehicle parts. Potential for outside storage.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	No
SA	NEO TECH IMPORTS	9962	I	PROSPECT AVENUE	Santee	92071	907.13	5015	Wholesale Japanese engine importer.	No	No	Yes	No	Yes	No	No	No	No	No	Low	No
SA	TOTTEN TUBES INC	8540		ROLAND ACRES	Santee	92071	907.13	5039	Temporary storage of iron and steel tubes prior to shipping.	No	No	Yes	No	No	No	No	No	No	No	Low	Yes

Appendix A.4 Industrial/Commercial Inventory

										Potential Pollutants Generated												
Agency	Facility Name	Address Number	Suite Number	Street Name	City	Zip Code	Watershed	SIC Code	Principal Products / Services	Bacteria	Gross Pollutants	Metals	Nutrients	Oil & Grease	Organics	Pesticides	Sediment	Trash	Tributary to 303(d) Listed	Threat to Water Quality	Threat Confirmed?
SA	Southwest Entrances	8733		MAGNOLIA AVENUE	Santee	92071	907.12	5039	Repair & installation of commercail doors. Address used for storage of materials.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	MEDICAL SOLUTIONS INC	8406	A	MAGNOLIA AVENUE	Santee	92071	907.13	5047	Sales of medical equipment.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	BC Wire Rope And Rigging Inc.	10580	102	PROSPECT AVENUE	Santee	92071	907.13	5051	Processing of metal wires and ropes indoors. No outdoor exposures.	No	No	No	No	No	No	No	No	No	No	Medium	No
SA	PACIFIC COAST VALVE & SUPPLY	8614	B	ARGENT STREET	Santee	92071	907.13	5074	Plumbing and heating supplies, potential for outside storage.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	TEAL PIPE AND SUPPLY, INC.	9489		MISSION PARK PLACE	Santee	92071	907.12	5074	Plumbing wholesale supply, outside storage of plastic pipes, and storage of company vehicles.	No	No	No	No	No	No	No	No	No	No	Medium	No
SA	PRAXAIR	10728	A	PROSPECT AVENUE	Santee	92071	907.13	5084	Provider of welding supplies & industrial gas products. Potential for outside storage.	No	Yes	No	No	No	No	No	No	No	No	Low	No
SA	Preferred Pump & Equipment	9201	A	ISAAC STREET	Santee	92071	907.12	5084	Wholesale industrial machinery and equipment (pumps), warehouse and office, potential for outside storage.	No	Yes	No	No	No	No	No	No	No	No	Low	No
SA	Pro Filter Inc.	9266		ABRAHAM WAY	Santee	92071	907.12	5085	Selling filtration systems through wholesale distribution. Warehouse and office, potential for outside storage.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	IMS Recycling Services Inc	9465		MISSION PARK PLACE	Santee	92071	907.12	5093	Recycling and scrap facility. Potential for outside storage and operations.	No	No	Yes	No	No	No	No	No	Yes	No	Medium	No
SA	COASTAL SUPPLY CO INC	8650		ARGENT STREET	Santee	92071	907.13	5099	Distribute sign & screen printing supplies & equipment. All work done indoors, no outdoor exposures (storage).	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	CARROLL BUSINESS SUPPLY, INC.	10223		PROSPECT AVENUE	Santee	92071	907.13	5112	Office supply delivery, office and warehouse. Potential for fleet storage.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	PACKAGING SOLUTIONS FOR TODAY'S INDUSTRY	9402	A	WHEATLANDS	Santee	92071	907.12	5113	Distributors of industrial packaging products & design.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	SAN DIEGO SUPPLY SERVICES	8402	E	MAGNOLIA AVENUE	Santee	92071	907.13	5113	Distribution of paper products & related supplies for restrooms/buildings. Office, warehouse, potential for outside storage.	No	No	No	No	Yes	No	No	No	Yes	No	Low	No
SA	STAT PHARMACEUTICALS	9545		PATHWAY STREET	Santee	92071	907.13	5122	Drugs, drug proprietaries, and druggists' Sundries. Some storage outside building. Debris (including from landscaping) observed.	No	No	No	No	No	No	No	No	Yes	No	Low	Yes
SA	THE WEST BEAN COFFEE ROASTERS	10054		PROSPECT AVENUE	Santee	92071	907.13	5149	Coffee roasting and wholesalers. Potential for outdoor exposures low. Will like have trash enclosure.	No	No	No	No	No	No	No	No	Yes	No	Low	No
SA	MAXIMA RACING OILS	9266		ABRAHAM WAY	Santee	92071	907.12	5172	Wholesale distribution of lubricating oil, all processing and storage indoors. No outdoor exposures.	No	No	No	No	Yes	No	No	No	Yes	No	Low	Yes
SA	Mayan Trade Inc.	9437	H	Wheatlands	Santee	92071	907.12	5199	Wholesale of orthorehabilitation nondurable goods to hospitals. All storage indoors. No outdoor exposures.	No	No	No	No	No	No	No	No	Yes	No	Low	Yes
SA	8-5 Corp. / Artisan Gallery	10928	A	Wheatlands	Santee	92071	907.12	5199	Warehouse storage and distribution. No outdoor exposures observed.	No	No	No	No	No	No	No	No	Yes	No	Low	Yes
SA	CONSOLIDATED ELECTRICAL DIST	8406	H	MAGNOLIA AVENUE	Santee	92071	907.13	5211	Distribution of building material, potential for outside storage.	No	No	Yes	No	No	No	No	No	Yes	No	Low	No
SA	HOME DEPOT #673, THE	255		TOWN CENTER PARKWAY	Santee	92071	907.12	5211	Home maintenance and gardening supplies retailer. Outside area for gardening supplies storage. Catch basins in parking lot. Compactor and truck loading bay at rear of property.	No	No	No	No	Yes	No	Yes	No	Yes	No	Low	Yes
SA	PACIFIC DOOR AND TRIM	10911	C	WHEATLANDS	Santee	92071	907.12	5211	Wholesale doors and trim. Outdoor exposures unlikely	No	No	No	No	No	No	No	No	Yes	No	Low	No
SA	619 HYDROPONICS	7949		MISSION GORGE ROAD	Santee	92071	907.12	5261	Gardening consulting and equipment sales. Office and storage in building. No outdoor exposures observed.	No	No	No	Yes	No	No	Yes	No	No	No	Low	No
SA	NEW GENERATION HYDROPONICS	10658	A	PROSPECT AVENUE	Santee	92071	907.13	5261	Retail of hydroponic and organic gardening supplies. Potential for outdoor exposures.	No	No	No	Yes	No	No	Yes	No	No	No	Medium	No
SA	Walgreens #09817	9305		MISSION GORGE ROAD	Santee	92071	907.13	5399	Drive-through pharmacy and general store. No outdoor exposures observed. Swales and filtration installed at facility.	No	Yes	No	No	Yes	No	No	No	No	No	Low	Yes
SA	Walgreens #11406	10512		MISSION GORGE ROAD	Santee	92071	907.12	5399	Drive-through pharmacy and general store. No outdoor exposures observed. Filtration system installed at facility.	No	Yes	No	No	Yes	No	No	No	No	No	Low	Yes
SA	7-Eleven 19006D	9111		MISSION GORGE ROAD	Santee	92071	907.12	5411	Convenience store and gas station in shared commercial facility.	No	Yes	No	No	Yes	No	No	No	No	Yes	Low	Yes

Appendix A.4 Industrial/Commercial Inventory

										Potential Pollutants Generated											
Agency	Facility Name	Address Number	Suite Number	Street Name	City	Zip Code	Watershed	SIC Code	Principal Products / Services	Bacteria	Gross Pollutants	Metals	Nutrients	Oil & Grease	Organics	Pesticides	Sediment	Trash	Tributary to 303(d) Listed	Threat to Water Quality	Threat Confirmed?
SA	7-Eleven 20611	9805		PROSPECT AVENUE	Santee	92071	907.13	5411	Convenience store in shared commercial facility.	No	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	No
SA	7-Eleven-2121-13661C	9251		CARLTON HILLS BOULEVARD	Santee	92071	907.12	5411	Convenience store and gas station in shared commercial facility.	No	Yes	No	No	Yes	No	No	No	Yes	Yes	Low	Yes
SA	GTM Discount General Store	8967	A & B	CARLTON HILLS BOULEVARD	Santee	92071	907.12	5411	General store including food, customer parking and loading dock.	No	Yes	No	No	Yes	No	No	No	No	No	Medium	Yes
SA	7-Eleven 2121-20321D	9750		CUYAMACA STREET	Santee	92071	907.12	5411	Convenience store and gas station in shared commercial facility.	No	Yes	No	No	Yes	No	No	No	Yes	Yes	Low	Yes
SA	Albertsons #6727	9870		MAGNOLIA AVENUE	Santee	92071	907.12	5411	Grocery store in shared commercial facility, loading docks, clarifier.	No	Yes	No	No	Yes	No	No	No	No	No	Medium	Yes
SA	FOOD 4 LESS #349	9430		CUYAMACA STREET	Santee	92071	907.12	5411	Grocery store in shared commercial facility, loading docks.	No	Yes	No	No	Yes	No	No	No	No	No	Medium	Yes
SA	Oaks Market and Deli/Raini EH Enterprises, Inc	9266		CARLTON OAKS	Santee	92071	907.12	5411	Small convenience store with delicatessan. Grease trap, no outdoor exposures.	No	Yes	No	No	Yes	No	No	No	Yes	Yes	Low	Yes
SA	Santee Market	11007		WOODSIDE AVENUE	Santee	92071	907.12	5411	Convenience store and customer parking. Storm drain located at front of facility.	No	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Target Stores T-1485	9846		MISSION GORGE ROAD	Santee	92071	907.12	5411	General store including food, and garden supplies. Restaurant, grease trap, loading/unloading area. No outdoor storage, garden area drains to sanitary sewer.	No	Yes	No	No	Yes	No	No	No	Yes	No	Medium	Yes
SA	Vons #1897	9643		MISSION GORGE ROAD	Santee	92071	907.12	5411	Grocery store located in shopping center. Grease trap and rendering drum, loading dock with sump at base. Catch basins located in driveway at rear of building as well as in customer parking area.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Wal-Mart Stores #1917	170		TOWN CENTER PARKWAY	Santee	92071	907.12	5411	General store including food. McDonald's restaurant inside store, grease trap, rendering bin stored indoors. Car repair facility, all work and storage indoors. Trash for store and restaurant disposed of in compactor fed through portal in building. Gravel area at rear of facility used for temporary storage during holidays. Catch basins in parking lot and around facility.	No	Yes	No	No	Yes	No	No	No	Yes	No	Medium	Yes
SA	SPROUTS	9361		MISSION GORGE ROAD	Santee	92071	907.13	5411	Grocery store with delicatessan and loading dock at rear. Part of SUSMP project.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Santee Discount Market	11541		WOODSIDE AVENUE	Santee	92071	907.12	5411	General store selling beer, wine, liquor, and groceries. No food service, no outdoor exposures.	No	Yes	No	No	Yes	No	No	No	Yes	No	Low	Yes
SA	Fresh and Easy Neighborhood Market	9751		MISSION GORGE ROAD	Santee	92071	907.12	5411	General store mainly selling groceries. Potential for outdoor storage of dumpsters/rendering bin	Yes	Yes	No	No	Yes	No	No	No	Yes	No	Medium	No
SA	DAWSON LEASING INC., G M	11220		WOODSIDE AVENUE	Santee	92071	907.12	5511	New car dealers, repair unlikely, potential for car cleaning.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	No
SA	SILVER STAR ENTERPRISES INC	8634		SIESTA ROAD	Santee	92071	907.13	5511	Motor vehicle dealer, potential for repair and car cleaning.	No	Yes	Yes	No	No	No	No	Yes	Yes	No	Low	No
SA	Victory Auto Supply	10439	E	PROSPECT AVENUE	Santee	92071	907.13	5511	Automotive supply & delivery store, potential for outside storage.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	No
SA	Most Truck Sales	8017		MISSION GORGE ROAD	Santee	92071	907.12	5511	Truck Sales. Trucks and other vehicles stored on gravel lot. Only electrical, no mechanical work is done onsite. Vehicle batteries stored under cover.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	Yes
SA	VIP Auto Sales	9207		MISSION GORGE ROAD	Santee	92071	907.12	5521	Used car Dealers. Car repair conducted under cover. Potential for car washing and outside storage.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Medium	Yes
SA	BONDS AUTOMOTIVE SALES	11420		WOODSIDE AVENUE	Santee	92071	907.12	5521	Automotive sales, potential for repair and car cleaning.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Medium	No
SA	Tornell Motors	10554		PROSPECT AVENUE	Santee	92071	907.13	5521	Used car dealers, potential for car washing and outside storage.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Medium	No
SA	DUNCAN RACING/DANNYS MACHINE	10734		KENNEY STREET	Santee	92071	907.13	5531	Auto parts and accessory store for offroad motorcycles. No outdoor storage.	No	No	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	FIBER-TECH AUTO PARTS INC	10809		PROSPECT AVENUE	Santee	92071	907.13	5531	Auto parts and accessory store, potential for offsite storage.	No	No	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	FIBER-TECH ENGINEERING INC	10735		PROSPECT AVENUE	Santee	92071	907.13	5531	Auto and home supply stores, potential for outside storage.	No	No	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	HOUSE OF BUGGIES	10308	D	MISSION GORGE ROAD	Santee	92071	907.12	5531	Retail and service of dune buggies. Potential for outside storage and operations. Area drains to unpaved alley at rear.	No	No	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	Pep Boys Manny Moe & Jack	10041		MISSION GORGE ROAD	Santee	92071	907.12	5531	Auto parts and accessories store. Maintenance conducted in building. No outdoor storage.	No	No	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes

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										Potential Pollutants Generated												
Agency	Facility Name	Address Number	Suite Number	Street Name	City	Zip Code	Watershed	SIC Code	Principal Products / Services	Bacteria	Gross Pollutants	Metals	Nutrients	Oil & Grease	Organics	Pesticides	Sediment	Trash	Tributary to 303(d) Listed	Threat to Water Quality	Threat Confirmed?
SA	Express Tire	9535		MISSION GORGE ROAD	Santee	92071	907.12	5531	Retail tire facility, all work is done indoors. Containment for used oil and coolant is stored indoors. Water used for testing tires disposed of to sanitary sewer.	No	No	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	USA Mobile Tire Service Inc	8017		MISSION GORGE ROAD	Santee	92071	907.12	5531	Sales and repair of tires. Alignment and truck repair. Potential for outdoor working and storage.	No	No	Yes	No	Yes	Yes	No	No	Yes	No	Medium	No
SA	AUTO CORRAL	11440		WOODSIDE AVENUE	Santee	92071	907.12	5541	Gasoline station.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	CIRCLE K/76 #2702955/KAYO Oil CK	10219		MAST BOULEVARD	Santee	92071	907.12	5541	Gasoline station with convenience store.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Medium	Yes
SA	Circle K #2709450	9750		MAGNOLIA AVENUE	Santee	92071	907.12	5541	Gasoline station with convenience store.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	Speedee Mart	8011	A	MISSION GORGE ROAD	Santee	92071	907.12	5541	Convenience store.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	BP West Coast Prod. DBA Arco	9009		CARLTON HILLS BOULEVARD	Santee	92071	907.12	5541	Gasoline station with convenience store.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Medium	Yes
SA	Qwik Korner	9035		MISSION GORGE ROAD	Santee	92071	907.12	5541	Gasoline station with convenience store.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Medium	Yes
SA	Dion And Sons, Inc.	11427		WOODSIDE AVENUE	Santee	92071	907.12	5541	Gasoline station with no convenience store.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Medium	Yes
SA	BP West Coast Prod. DBA Arco #9567	9811		MISSION GORGE ROAD	Santee	92071	907.12	5541	Gasoline station with convenience store.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	ROBS R.V. APPLIANCE REPAIR	11366		WOODSIDE AVENUE	Santee	92071	907.12	5561	Recreational vehicle dealers and repair, potential for outside storage and operations.	No	No	Yes	No	Yes	No	No	No	Yes	No	Low	No
SA	RV Discount Center - Santee	8837		MAGNOLIA AVENUE	Santee	92071	907.12	5561	Recreational trailer sales, potential for outside storage.	No	No	Yes	No	Yes	No	No	No	Yes	No	Medium	No
SA	DARKSIDE CUSTOMS	11420		WOODSIDE AVENUE	Santee	92071	907.12	5571	Motorcycle dealership, potential for outside storage.	No	No	Yes	No	Yes	No	No	No	Yes	No	Low	No
SA	S & H ALL DAY CYCLES	9925		PROSPECT AVENUE	Santee	92071	907.13	5571	Sales & service of motorcycle accessories and parts. Potential for outside storage and operations.	No	No	Yes	No	Yes	No	No	No	Yes	No	Low	No
SA	S & H ALLDAY HARLEY PARTS &SVC	9925	A	PROSPECT AVENUE	Santee	92071	907.13	5571	Sales & service of motorcycles. Potential for outside storage and operations.	No	No	Yes	No	Yes	No	No	No	Yes	No	Low	No
SA	SANTEE MOTORCYCLE SUPPLY	9805	E	PROSPECT AVENUE	Santee	92071	907.13	5571	Sales & service of motorcycles. No outdoor operations, potential for outdoor storage.	No	No	Yes	No	Yes	No	No	No	Yes	No	Medium	No
SA	Blue Deuce Cycles	10739		WOODSIDE AVENUE	Santee	92071	907.12	5571	Sales motorcycles. Potential for outside storage and operations.	No	No	Yes	No	Yes	No	No	No	Yes	No	Low	No
SA	Buggy World	10350		MISSION GORGE ROAD	Santee	92071	907.12	5599	Dune buggy parts, sales and service. Potential for outside operations and storage.	No	No	Yes	No	Yes	No	No	No	Yes	No	Medium	No
SA	R T S ENTERPRISES	10965	U & V & X	HARTLEY ROAD	Santee	92071	907.12	5599	Automotive dealers, potential for outside storage.	No	No	Yes	No	Yes	No	No	No	Yes	No	Low	No
SA	Cotijas	9121		MISSION GORGE ROAD	Santee	92071	907.12	5812	Restaurant, rendering bin stored at rear, grease trap. No outside eating area.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	High	Yes
SA	DIY Yogurt	9292	D	CARLTON HILLS BOULEVARD	Santee	92071	907.12	5812	Yogurt parlor in shared commercial complex, no outdoor exposures.	No	No	No	No	No	No	No	No	No	No	Medium	No
SA	Eccentric International Chefs	8925		CARLTON HILLS BOULEVARD	Santee	92071	907.12	5812	Bakery & delicatessan, no outdoor eating or rendering bin, grease trap installed.	No	No	No	No	No	No	No	No	No	No	Medium	Yes
SA	GIANT NEW YORK PIZZA	8933		CARLTON HILLS BOULEVARD	Santee	92071	907.12	5812	Fast food restaurant, grease trap, rendering bin under cover. No outdoor eating. Spill mats not used.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Hilbertos Mexican Food	9805	F	PROSPECT AVENUE	Santee	92071	907.13	5812	Fast food restaurant, grease trap. Rendering bin outside. No outdoor eating. Spill mats not used.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	High	Yes
SA	JACK IN THE BOX #20	9337		MISSION GORGE ROAD	Santee	92071	907.13	5812	Fast food restaurant, grease trap. Rendering bin outside. No outdoor eating. Spill mats not used.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	High	Yes
SA	MARIETAS #4	8915		CARLTON HILLS BOULEVARD	Santee	92071	907.12	5812	Full service restaurant, grease trap. Rendering bin outside. No outdoor eating. Spill mats changed by contractor.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	High	Yes
SA	MARYS DONUTS	9031		MISSION GORGE ROAD	Santee	92071	907.12	5812	Donut sales & restaurant. Deck used for outside consumption. Grease trap, rendering bin stored inside. Spill mats washed in mop sink.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	High	Yes
SA	Estradas	8528	107	MAGNOLIA AVENUE	Santee	92071	907.13	5812	Full service restaurant, grease trap. Rendering bin outside.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	High	Yes
SA	Burger King	9714		MISSION GORGE ROAD	Santee	92071	907.12	5812	Fast food restaurant and drive through in commercial complex, rendering bin and trash area under roofed area, grease trap. No spill mats. Outdoor eating area.	No	No	No	No	No	No	No	No	No	No	Medium	Yes
SA	CARLS JUNIOR #385	10009		MISSION GORGE ROAD	Santee	92071	907.12	5812	Fast food restaurant and drive through in commercial complex, storm drains located in drive through and parking area. Rendering bin outside. Grease trap. No spill mats.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	High	Yes
SA	Casa Nueva Mexican Restaurant	10757		WOODSIDE AVENUE	Santee	92071	907.12	5812	Full service restaurant, no outdoor eating areas. Grease trap. Rendering bin is outside. Spill mats used and cleaned indoors.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Cohen's Knishes	9730	A	CUYAMACA STREET	Santee	92071	907.12	5812	Contract kitchen facilities, no outdoor exposures (i.e., rendering bin).	No	No	No	No	No	No	No	No	No	No	Medium	No

Appendix A.4 Industrial/Commercial Inventory

										Potential Pollutants Generated												
Agency	Facility Name	Address Number	Suite Number	Street Name	City	Zip Code	Watershed	SIC Code	Principal Products / Services	Bacteria	Gross Pollutants	Metals	Nutrients	Oil & Grease	Organics	Pesticides	Sediment	Trash	Tributary to 303(d) Listed	Threat to Water Quality	Threat Confirmed?
SA	COLD STONE	9868	A	MISSION GORGE ROAD	Santee	92071	907.12	5812	Ice cream sales, potential for outdoor exposures (dining, storage).	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Low	No
SA	COUNTRY TIME FOOD MARKET	9613		CARLTON HILLS BOULEVARD	Santee	92071	907.12	5812	Restaurant and market, no food preparation onsite.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	No
SA	DAIRY QUEEN	70	A	TOWN CENTER PARKWAY	Santee	92071	907.12	5812	Restaurant in shared commercial complex, no food preparation onsite. No rendering bin or grease trap, no outdoor exposures.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	No
SA	Daphne's Greek Café	9828	B	MISSION GORGE ROAD	Santee	92071	907.12	5812	Restaurant in shared commercial complex, spill mats not used, rendering bin stored inside. Grease trap. Outdoor dining area.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	DEL TACO #109	9822		MAGNOLIA AVENUE	Santee	92071	907.12	5812	Restaurant in shared commercial complex, spill mats not used, rendering bin stored outside. Grease trap. No outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	DENNYS RESTAURANT	140		TOWN CENTER PARKWAY	Santee	92071	907.12	5812	Restaurant in shared commercial complex, spill mats used, rendering bin stored outside. Grease trap. No outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Dominos	10251	A	MAST BOULEVARD	Santee	92071	907.12	5812	Pizza restaurant in shared commercial complex, no outdoor dining, rendering bin or grease trap.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	Don Lucio's Taco Shop	9740	D	MISSION GORGE ROAD	Santee	92071	907.12	5812	Restaurant in shared commercial complex, spill mats not used, rendering bin stored outside. Grease trap. No outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	EINSTEIN BROS BAGELS #3325	9872		MISSION GORGE ROAD	Santee	92071	907.12	5812	Restaurant and bakery. Grease trap. No rendering bin or outside dining. Spill mats not used.	No	No	Yes	No	No	No	No	No	No	No	Medium	No
SA	El Ranchito Taco Shop	9225	21	CARLTON HILLS BOULEVARD	Santee	92071	907.12	5812	Full service restaurant, no spill mats used. Grease trap. Rendering bin outside.	Yes	Yes	Yes	No	Yes	Yes	No	No	No	Yes	Medium	Yes
SA	Emma's Mexican Food	8781	L	CUYAMACA STREET	Santee	92071	907.12	5812	Full service restaurant. Grease trap. Rendering bin outside.	Yes	Yes	Yes	No	Yes	No	No	No	No	Yes	Medium	Yes
SA	Estradas Mexican Food	9292	B	CARLTON HILLS BOULEVARD	Santee	92071	907.12	5812	Restaurant in shared commercial complex, spill mats used, rendering bin stored outside. Grease trap.	Yes	Yes	Yes	No	Yes	No	No	No	Yes	Yes	High	Yes
SA	GIANT PIZZA KING #10	9614		CARLTON HILLS BOULEVARD	Santee	92071	907.12	5812	Restaurant in shared commercial complex, spill mats not used, rendering bin stored outside. Grease trap.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	GO GET YOGURT	9802	1	MAGNOLIA AVENUE	Santee	92071	907.12	5812	Yogurt shop. No outdoor exposures. No spill mats, no grease trap, no food preparation onsite.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	GOLDEN SPOON FROZEN YOGOURT	9640	C	MISSION GORGE ROAD	Santee	92071	907.12	5812	Frozen yogurt sales. Spill mats are used, but cleaned by offsite service. No grease trap, no rendering bin.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Grindz Coffee Co.	9608		CARLTON HILLS BOULEVARD	Santee	92071	907.12	5812	Full service restaurant, spill mats used. Grease trap.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	HI-C-ERA	11541	D	WOODSIDE AVENUE	Santee	92071	907.12	5812	Bar, no food preparation, no outdoor consumption.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	HOMETOWN BUFFET #720	275		TOWN CENTER PARKWAY	Santee	92071	907.12	5812	Full service restaurant, no spill mats used. Grease trap. Rendering bin outside.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	HONEY DONUTS	10718		WOODSIDE AVENUE	Santee	92071	907.12	5812	Donut & muffin sales, no rendering bin. Grease trap, no outdoor dining	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	INTERNATIONAL HOUSE OF PANCAKES	9708		MISSION GORGE ROAD	Santee	92071	907.12	5812	Restaurant in shared commercial complex, spill mats used, rendering bin stored outside. Grease trap. No outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	JACK IN THE BOX #3007	10330		MAST BOULEVARD	Santee	92071	907.12	5812	Fast food restaurant in commercial complex, grease trap, rendering bin outside. No outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	High	Yes
SA	JACK IN THE BOX #3056	8500		MAGNOLIA AVENUE	Santee	92071	907.13	5812	Fast food restaurant in commercial complex, grease trap, rendering bin inside. No outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Jamba Juice Company #517	9828		MISSION GORGE ROAD	Santee	92071	907.12	5812	Vendor of fresh juice smoothies and sandwiches . Food prepared offsite, no rendering bin or grease trap. No outdoor dining. Spill mats used.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	JIMMYS FAMILY RESTAURANT	9635		MISSION GORGE ROAD	Santee	92071	907.12	5812	Full service restaurant in commercial complex. Rendering bin outside. Spill mats used. Grease trap. No outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	KFC CORPORATION	8890		CUYAMACA STREET	Santee	92071	907.12	5812	Fast food restaurant, no spill mats used. Grease trap, rendering bin kept in contained area. No outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	LITTLE CAESER'S PIZZA	9720		MISSION GORGE ROAD	Santee	92071	907.12	5812	Take out pizza restaurant, no outdoor dining. Grease trap, no rendering bin, no spill mats.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	LOS NACHOS TACO SHOP	9740	C	CUYAMACA STREET	Santee	92071	907.12	5812	Restaurant in commercial complex, grease trap, no outdoor dining. Rendering bin stored outside. No spill mats.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	LUCKY CHINESE FAST FOOD	9740	B	MISSION GORGE ROAD	Santee	92071	907.12	5812	Restaurant in commercial complex, grease trap, no outdoor dining. Rendering bin stored outside. No spill mats.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes

Appendix A.4 Industrial/Commercial Inventory

										Potential Pollutants Generated												
Agency	Facility Name	Address Number	Suite Number	Street Name	City	Zip Code	Watershed	SIC Code	Principal Products / Services	Bacteria	Gross Pollutants	Metals	Nutrients	Oil & Grease	Organics	Pesticides	Sediment	Trash	Tributary to 303(d) Listed	Threat to Water Quality	Threat Confirmed?
SA	MCDONALDS #2441	8876		CUYAMACA STREET	Santee	92071	907.12	5812	Fast food restaurant, grease trap, used oil stored indoors. No spill mats.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	MCDONALD'S #29484	170		TOWN CENTER PARKWAY	Santee	92071	907.12	5812	Fast food restaurant within Walmart, no outdoor exposures.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	MICHAELS GRILL	9621	5	MISSION GORGE ROAD	Santee	92071	907.12	5812	Restaurant in commercial complex, grease trap. Rendering bin stored outside. Spill mats used.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	MIMI'S CAFÉ #86	9812		MISSION GORGE ROAD	Santee	92071	907.12	5812	Restaurant, rendering bin stored indoors, grease trap, spill mats used. No outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	MISSION GORGE MARKET	7757		MISSION GORGE ROAD	Santee	92071	907.12	5812	Convenience store hosting Subway sandwich counter. No rendering bin, no grease trap. No outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Oggi's Pizza & Brewing Co.	9828		MISSION GORGE ROAD	Santee	92071	907.12	5812	Restaurant, rendering bin stored outdoors, grease trap, spill mats used. Outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	OISHII JAPANESE-THAI RESTAURANT	10251		MAST BOULEVARD	Santee	92071	907.12	5812	Restaurant, rendering bin stored outdoors, grease trap, no spill mats used. No outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	OLIVE GARDEN	9800		MISSION GORGE ROAD	Santee	92071	907.12	5812	Restaurant, rendering bin stored outdoors, grease trap, no spill mats used. No outdoor dining. Dumpster area connected to grease trap.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	OMELETTE FACTORY, THE	7941		MISSION GORGE ROAD	Santee	92071	907.12	5812	Restaurant, rendering bin stored outdoors, grease trap, spill mats used. No outdoor dining, catch basin at rear of restaurant.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	PANDA COUNTRY RESTAURANT	9621	104	MISSION GORGE ROAD	Santee	92071	907.12	5812	Restaurant in commercial facility, rendering bin stored under cover, grease trap, no spill mats used. No outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	PANDA EXPRESS #739	9862		MISSION GORGE ROAD	Santee	92071	907.12	5812	Restaurant in commercial facility, rendering bin stored outdoors, grease trap, no spill mats used. No outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	PAPA JOHN'S PIZZA #2255	9490		CUYAMACA STREET	Santee	92071	907.12	5812	Take out pizza restaurant, no outdoor dining. Grease trap, no rendering bin, spill mats, no outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	PHO CA DAO RESTAURANT	9535	A	MISSION GORGE ROAD	Santee	92071	907.13	5812	Full service restaurant, potential for outdoor exposures (rendering storage).	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	No
SA	PINNACLE PEAK STEAK HOUSE	7927		MISSION GORGE ROAD	Santee	92071	907.12	5812	Full service restaurant, no outdoor dining. Grease trap, spill mats, no rendering bin.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Pizza Hut / Wing Street	9420	100	CUYAMACA STREET	Santee	92071	907.12	5812	Full service restaurant and take out in commercial facility. No outdoor dining. No rendering bin and spill mats.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	QUIZNO'S CLASSIC SUBS	9862	3F	MISSION GORGE ROAD	Santee	92071	907.12	5812	Grilled sandwich restaurant in commercial complex. Grease trap, no rendering bin.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Ranch House Restaurant	11510	#F	WOODSIDE AVENUE	Santee	92071	907.12	5812	Full service restaurant with outdoor rendering bin and grease trap. No outdoor storage.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	ROUND TABLE PIZZA	9824		MAGNOLIA AVENUE	Santee	92071	907.12	5812	Full service restaurant with grease trap, no rendering bin or spill mats, no outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	SANTEE DONUTS	9740	J	CUYAMACA STREET	Santee	92071	907.12	5812	Food preparation and service in commercial complex. No rendering bin or spill mats. Grease trap.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Smoothie King	9802	#2	MAGNOLIA AVENUE	Santee	92071	907.12	5812	Selling smoothies, no rendering bin, no grease trap.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	No
SA	SORIANA'S MEXICAN FOOD	9470	#130	CUYAMACA STREET	Santee	92071	907.12	5812	Restaurant in commercial facility, rendering bin stored outdoors, grease trap, spill mats used. No outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Starbucks Coffee #5912	9802		MAGNOLIA AVENUE	Santee	92071	907.12	5812	Coffee shop in commercial complex, no food preparation onsite, grease trap. Outdoor dining area.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Starbucks Coffee #6636	9868	B	MISSION GORGE ROAD	Santee	92071	907.12	5812	Coffee shop in commercial complex, no food preparation onsite, spill mats in service area. Outdoor dining area.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Subway Sandwiches	7757		MISSION GORGE ROAD	Santee	92071	907.12	5812	Subway shop operating in Mission Gorge Market. No outdoor dining, spill mats, rendering bin or grease trap.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Subway Sandwiches	9890		MAGNOLIA AVENUE	Santee	92071	907.12	5812	Sandwich shop in commercial facility, outside dining, grease trap. No rendering bin, no spill mats.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Subway Sandwiches	50	D	TOWN CENTER PARKWAY	Santee	92071	907.12	5812	Sandwich shop in commercial facility, no grease trap or rendering bin.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	TACO BELL #9417	9825		MISSION GORGE ROAD	Santee	92071	907.12	5812	Fast foot restaurant and drive through. Uses spill mats and grease trap. Rendering bin outside. No outdoor eating area.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes

Appendix A.4 Industrial/Commercial Inventory

										Potential Pollutants Generated												
Agency	Facility Name	Address Number	Suite Number	Street Name	City	Zip Code	Watershed	SIC Code	Principal Products / Services	Bacteria	Gross Pollutants	Metals	Nutrients	Oil & Grease	Organics	Pesticides	Sediment	Trash	Tributary to 303(d) Listed	Threat to Water Quality	Threat Confirmed?
SA	TASTY DONUTS	9802	3	MAGNOLIA AVENUE	Santee	92071	907.12	5812	Donut shop, grease trap, but no rendering bin. No outside dining. No spill mats.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	The Sandwich Bags	10769	108	WOODSIDE AVENUE	Santee	92071	907.12	5812	Sandwich shop (with delivery service) in commercial facility, spill mats, grease trap. No rendering bin, no outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	No
SA	Wendy's	9655		MISSION GORGE ROAD	Santee	92071	907.12	5812	Fast food restaurant. Uses spill mats and grease trap. Used oil stored indoors.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Wienerschnitzel #424	9650		MISSION GORGE ROAD	Santee	92071	907.12	5812	Fast food restaurant. Uses spill mats and grease trap. Rendering bin outdoors. No outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Woodside Deli	10925	B	HARTLEY ROAD	Santee	92071	907.12	5812	Sandwich shop in industrial area. No grease trap, or rendering bin. Spill mats used.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	No
SA	L&L Hawaiian BBQ	9621		MISSION GORGE ROAD	Santee	92071	907.12	5812	Restaurant in commercial facility. Spill mats and grease trap. Rendering bin shared, and stored outside.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Frubble	9628		CARLTON HILLS BOULEVARD	Santee	92071	907.12	5812	Restaurant, no rendering bin or spill mats, grease trap installed.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	ChiTown Pizza Company	8528		N. Magnolia	Santee	92071	907.13	5812	Restaurant, used oil stored indoors, grease trap.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	Starbucks Coffee #14489	9325		MISSION GORGE ROAD	Santee	92071	907.12	5812	Coffee shop in commercial complex, no food preparation onsite, grease trap. Outdoor dining area.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Cookies By Design	30	B	TOWN CENTER PARKWAY	Santee	92071	907.12	5812	Food preparation facility, grease trap. No outdoor exposures.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	Subway Sandwiches	10538	130	MISSION GORGE ROAD	Santee	92071	907.12	5812	Sandwich shop in commercial facility, no grease trap or rendering bin.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Cazadores Mexican Food	9331	111	MISSION GORGE ROAD	Santee	92071	907.13	5812	Restaurant, grease trap, rendering bin stored indoors.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	High	Yes
SA	Rubios Fresh Mexican Grill	130		TOWN CENTER PARKWAY	Santee	92071	907.12	5812	Restaurant in commercial complex. Rendering bin stored outside, grease trap, outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Filippi'S Pizza Grotto	10767		WOODSIDE AVENUE	Santee	92071	907.12	5812	Restaurant, grease trap, spill mats used, rendering bin outside.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Friendly Grounds Inc.	9225		CARLTON HILLS BOULEVARD	Santee	92071	907.12	5812	Coffee shop, no rendering bin or grease trap. Outdoor dining.	No	Yes	Yes	No	Yes	No	No	No	No	No	Medium	Yes
SA	Fox's Pizza Den	8011		MISSION GORGE ROAD	Santee	92071	907.12	5812	Restaurant, grease trap installed, no rendering bin.	No	Yes	Yes	No	Yes	No	No	No	No	No	Medium	Yes
SA	Estrada's Mexican Food	9630		CARLTON HILLS BOULEVARD	Santee	92071	907.12	5812	Restaurant, grease trap, used oil stored inside. Spill mats used.	Yes	Yes	Yes	No	Yes	No	No	No	No	Yes	High	Yes
SA	Domo Sushi	9625		MISSION GORGE ROAD	Santee	92071	907.13	5812	Restaurant, no spill mats, grease trap installed, rendering bin outside.	No	Yes	Yes	No	Yes	No	No	No	No	No	Medium	Yes
SA	Coffee Corner, The	9608		CARLTON HILLS BOULEVARD	Santee	92071	907.12	5812	Coffee Shop, potential for outside dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	No
SA	Janet's Café & Deli	9225	20	CARLTON HILLS BOULEVARD	Santee	92071	907.12	5812	Restaurant with grease trap and outdoor rendering bin.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Penguin Yogurt Factory	9621	A	MISSION GORGE ROAD	Santee	92071	907.13	5812	Yogurt shop, no rendering bin or grease trap.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	Double Double Fine Burger	9862		MISSION GORGE ROAD	Santee	92071	907.12	5812	Restaurant, grease trap, used oil stored inside.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Sonic Drive-In	10515		MISSION GORGE ROAD	Santee	92071	907.12	5812	Restaurant, rendering bin stored under cover, grease trap. Property subject to SUSMP.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Senor Pancho Mexican Grill	10320		MISSION GORGE ROAD	Santee	92071	907.12	5812	Restaurant, grease trap, rendering bin stored outside.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Italia Ristorante	8918		CARLTON HILLS BOULEVARD	Santee	92071	907.12	5812	Restaurant - spill mats are used, rendering bin outside. Grease trap. No outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Nam Long Restaurants	9828		MAGNOLIA AVENUE	Santee	92071	907.12	5812	Restaurant, grease trap, rendering bin outside. Spill mats not used.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Smoking Joe's Intl. BarBQue	205	A	TOWN CENTER PARKWAY	Santee	92071	907.12	5812	Restaurant in commercial facility, outdoor smoker used to prepare food.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Okawa Steak House And Sushi	9720	A	MISSION GORGE ROAD	Santee	92071	907.12	5812	Restaurant with grease trap. Used oil disposed of offsite.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Yogurt World	9331	110	MISSION GORGE ROAD	Santee	92071	907.13	5812	Yogurt shop, no food preparation onsite, no grease trap or rendering bin. No outdoor exposures	No	No	No	No	No	No	No	No	No	No	Medium	No
SA	Taco Loco	8667		FANITA DRIVE	Santee	92071	907.12	5812	Taco shop, grease trap and rendering bin outside.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	THE RED LOTUS	9888		MAGNOLIA AVENUE	Santee	92071	907.12	5812	Restaurant, rendering bin outside, grease trap, no outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	AMY'S FINE BURGER	9862		MISSION GORGE ROAD	Santee	92071	907.12	5812	Restaurant, no outdoor storage, spill mat by drinks dispenser, grease trap, rendering bin stored indoors.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Sab-E-Lee	9159		MISSION GORGE ROAD	Santee	92071	907.13	5812	Restauarant, no outdoor dining, no spill mats, grease trap, rendering bin in secondary containment.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	High	Yes
SA	The Coffee Brake	9161		MISSION GORGE ROAD	Santee	92071	907.13	5812	Coffee vendor in booth in parking lot. Spills only potential outside exposure.	No	No	No	No	No	No	No	No	No	No	Low	Yes

Appendix A.4 Industrial/Commercial Inventory

										Potential Pollutants Generated												
Agency	Facility Name	Address Number	Suite Number	Street Name	City	Zip Code	Watershed	SIC Code	Principal Products / Services	Bacteria	Gross Pollutants	Metals	Nutrients	Oil & Grease	Organics	Pesticides	Sediment	Trash	Tributary to 303(d) Listed	Threat to Water Quality	Threat Confirmed?
SA	Pho Santee	8790	K	CUYAMACA STREET	Santee	92071	907.12	5812	Restaurant in commercial complex, grease trap, no outdoor dining. Rendering bin stored outside. No spill mats.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	High	Yes
SA	Iwamoto'S Cafe Con Fusion	235	C	TOWN CENTER PARKWAY	Santee	92071	907.12	5812	Restaurant, potential for outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	No
SA	K 39 Taco Shop	235	H	TOWN CENTER PARKWAY	Santee	92071	907.12	5812	Restaurant, potential for outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	No
SA	Rancho Viejo	8001		MISSION GORGE ROAD	Santee	92071	907.12	5812	Mexican restaurant, potential for outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	No
SA	WANNA SAMMICH	9312		MISSION GORGE ROAD	Santee	92071	907.13	5812	Delicatessan in gas station. Outdoor exposures unlikely.	No	No	No	No	No	No	No	No	No	No	Medium	No
SA	GEORGES SALOON	9179		MISSION GORGE ROAD	Santee	92071	907.12	5813	Bar, no food preparation, no outdoor dining. Spill mats used.	No	No	No	No	No	No	No	No	No	No	Medium	No
SA	Ye Village Inn	8929		CARLTON HILLS BOULEVARD	Santee	92071	907.12	5813	Bar, no food preparation, no outdoor dining. Spill mats used.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	CHILI'S GRILL & BAR	9804		MISSION GORGE ROAD	Santee	92071	907.12	5813	Restaurant, spill mats used, grease trap, rendering bin outside. No outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Landre'S Sports Bar & Grill	70	C	TOWN CENTER PARKWAY	Santee	92071	907.12	5813	Sports bar type restaurant, potential for outside rendering bin and dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Lacey J'S Roadhouse Saloon & Grille	8861		MAGNOLIA AVENUE	Santee	92071	907.12	5813	Sports bar type restaurant, potential for outside rendering bin and dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Lakes Market and Deli	9266		CARLTON OAKS	Santee	92071	907.12	5921	Liquor store, grease trap, no rendering bin, spill mats, or outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Santee Mini Market	8781	I	CUYAMACA STREET	Santee	92071	907.12	5921	Liquor store, no grease trap, no rendering bin, spill mats, or outdoor dining.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	Santana Liquor	8959		CARLTON HILLS BOULEVARD	Santee	92071	907.12	5921	Liquor store, no food preparation, no outdoor exposures.	No	No	No	No	No	No	No	No	Yes	No	Low	Yes
SA	Fanita Liquor & Market	8663		FANITA DRIVE	Santee	92071	907.12	5921	Liquor store, grease trap, no rendering bin, spill mats, or outdoor dining.	No	No	No	No	No	No	No	No	Yes	No	Low	Yes
SA	Belvedere Liquor	10769	101	WOODSIDE AVENUE	Santee	92071	907.12	5921	Liquor store, grease trap, no rendering bin, spill mats, or outdoor dining.	No	No	No	No	No	No	No	No	Yes	No	Low	Yes
SA	ANGLERS MARINE	10960		WHEATLANDS	Santee	92071	907.12	5941	Retail boating and fishing and service center. Work conducted indoors, potential for vehicle washing. Catch basin located in yard.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Medium	Yes
SA	Pacific Sports Warehouse	10746	303	KENNEY STREET	Santee	92071	907.13	5961	Distribution center for sporting goods. Internet and catalog sales.	No	Yes	No	No	Yes	No	No	No	Yes	No	Low	No
SA	CHEVRON STATION INC #1741	8888		MAGNOLIA AVENUE	Santee	92071	907.12	5989	Gasoline station with convenience store. Dispenser area has overhead canopy.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	CHEVRON KALASHO	9312		MISSION GORGE ROAD	Santee	92071	907.13	5989	Gasoline station with convenience store. Dispenser area has overhead canopy.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Medium	Yes
SA	SMOKER'S HEAVEN	9882		MAGNOLIA AVENUE	Santee	92071	907.12	5993	Tobacco stores, unlikely to have outdoor exposures.	No	No	No	No	No	No	No	No	Yes	Yes	Low	Yes
SA	Costco Wholesale #403	101		TOWN CENTER PARKWAY	Santee	92071	907.12	5999	Club warehouse with vehicle maintenance facility, two grease traps, used oil kept indoors, loading dock, gas pumps located under cover.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	EAST COUNTY FEED AND SUPPLY	10845		WOODSIDE AVENUE	Santee	92071	907.12	5999	Animal feed supply, paved facility, all materials stored under cover.	Yes	Yes	No	No	No	No	No	No	Yes	Yes	Medium	No
SA	Living Water	235	G	TOWN CENTER PARKWAY	Santee	92071	907.12	5999	Retail store, outdoor exposures unlikely.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	So Calif Equipment	9925		PROSPECT AVENUE	Santee	92071	907.13	5999	Equipment company, potential for outdoor storage and maintenance.	No	No	Yes	No	Yes	No	No	No	No	No	Low	No
SA	Padre Dam Santee Lakes	9310		FANITA PARKWAY	Santee	92071	907.12	7033	Campground and recreation facility. Largely unpaved, area drains to lakes which discharge to river under permit.	Yes	Yes	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	High	No
SA	San Diego Flood Busters*	9943		PROSPECT AVENUE	Santee	92071	907.13	7217	Carpet and upholstery cleaning, cleaning water disposed of to sanitary sewer, chemicals stored indoors. Fleet parking.	No	Yes	No	No	No	Yes	No	No	No	No	Low	Yes
SA	CARPET CLEANER (ALAN)*	10233		MISSION GORGE ROAD	Santee	92071	907.12	7217	Home base for carpet cleaner.	No	Yes	No	No	No	Yes	No	No	No	No	Low	No
SA	GENTUE & SONS*	9802		SETTLE ROAD	Santee	92071	907.12	7217	Home base for carpet cleaner.	No	Yes	No	No	No	Yes	No	No	No	No	Low	No
SA	ALL CITIES BEE & PEST CONTROL	10201		BUENA VISTA AVENUE	Santee	92071	907.12	7342	Rat Abatement, exterminate bees, remove honey from structures. Pesticides stored inside building. Fleet parking.	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Low	Yes
SA	J & J FUMIGATION INC	10744	101	ROCKVILL STREET	Santee	92071	907.12	7342	Pest control, chemicals likely stored inside building.	No	Yes	Yes	No	No	Yes	Yes	No	No	No	Low	No
SA	Truly Nolen	8400	M & N	MAGNOLIA AVENUE	Santee	92071	907.13	7342	Pest control. Chemicals stored inside building. Fleet parking.	No	Yes	Yes	No	No	Yes	Yes	No	No	No	Medium	Yes
SA	HANSON MACHINE	10969	B	WHEATLANDS	Santee	92071	907.12	7353	Construction equipment rental, potential for outside storage of equipment, equipment maintenance and cleaning.	No	Yes	Yes	No	Yes	No	No	No	No	No	Low	No

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										Potential Pollutants Generated												
Agency	Facility Name	Address Number	Suite Number	Street Name	City	Zip Code	Watershed	SIC Code	Principal Products / Services	Bacteria	Gross Pollutants	Metals	Nutrients	Oil & Grease	Organics	Pesticides	Sediment	Trash	Tributary to 303(d) Listed	Threat to Water Quality	Threat Confirmed?
SA	TOYOTALIFT INC	11446		WOODSIDE AVENUE	Santee	92071	907.12	7353	Construction equipment rental, some outside storage of equipment on paved areas.	No	Yes	Yes	No	Yes	No	No	No	No	No	Medium	Yes
SA	Bilcan Inc. DBA El Camino Rentals	8795		CUYAMACA STREET	Santee	92071	907.12	7353	Equipment rental and leasing. Repair under roofed areas. Equipment washwater drains through clarifier through sanitary sewer.	No	Yes	Yes	No	Yes	No	No	No	No	Yes	Medium	Yes
SA	DCXcavation	8614		SIESTA ROAD	Santee	92071	907.13	7353	Equipment leasing and rental, storage of equipment onsite. Equipment repair under cover.	No	Yes	Yes	No	Yes	No	No	No	No	Yes	Medium	Yes
SA	INSTANT SIGNS OF SANTEE	10769	103	WOODSIDE AVENUE	Santee	92071	907.12	7389	Sign services, storage inside building. Potential for outside storage.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	NEW IMAGE EMBROIDERY & SIGNS	10659	B	PROSPECT AVENUE	Santee	92071	907.13	7389	Embroidery & signs, storage inside building. Potential for outside storage.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	INTER VALLEY POOL SUPPLY, INC.	8656		CUYAMACA STREET	Santee	92071	907.13	7389	Swimming pool supplies, potential for outside storage.	Yes	Yes	Yes	No	No	Yes	No	No	No	Yes	Medium	No
SA	JL Watson Distributing*	10250		PROSPECT AVENUE	Santee	92071	907.13	7389	Homebased sales, possible outside storage.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	CLEAR WATER SAN DIEGO	7967		POPLIN DRIVE	Santee	92701	907.12	7389	Water feature maintenance and repair. No exposures observed.	No	No	No	No	Yes	Yes	No	No	No	No	Low	Yes
SA	Pool Covers Unlimited	8606	E	ARGENT STREET	Santee	92071	907.13	7389	Building used for storage of pool covers. No outdoor exposures.	No	No	No	No	Yes	Yes	No	No	No	No	Low	Yes
SA	Petersen's Pool & Spa Service*	8674		WAHL STREET	Santee	92071	907.12	7389	Homebase pool and spa maintenance service. Potential for outside storage.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	Paradise Pools Service And Repair*	10906		GREENCASTLE STREET	Santee	92071	907.12	7389	Homebase pool and spa maintenance service. Potential for outside storage.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	FUN IN THE SUN POOLS*	10340		SANTANA	Santee	92071	907.12	7389	Home base for swimming pool & spa repair, potential for outdoor storage.	No	No	No	No	No	No	No	No	No	No	Medium	No
SA	Enterprise Rent-A-Car	10330		MISSION GORGE ROAD	Santee	92071	907.12	7514	Car rental facility, storage of fleet on paved area. Car washing conducted onsite.	No	Yes	Yes	No	No	Yes	Yes	No	No	Yes	Medium	Yes
SA	C & H AUTO BODY	10996		WOODSIDE AVENUE	Santee	92071	907.12	7532	Auto Body repair & painting. Larger vehicles worked on outside. Vehicle washing.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	DALTON & SON PAINT & BODY	10439		PROSPECT AVENUE	Santee	92071	907.13	7532	Auto body repair and painting. All work conducted indoors. Painting done in booth.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	M & J Restoration	10223		MAST BOULEVARD	Santee	92071	907.12	7532	Custom paint and body work on vintage cars. All work done indoors. Outside washing of vehicles occasionally occurs.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	MADRIDS AUTO BODY REPAIRS	10559		PROSPECT AVENUE	Santee	92071	907.13	7532	Top, Body, and Upholstery Repair Shops and Paint Shops, potential for outside exposures.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	METRIX AUTOBODY	10438	C	MISSION GORGE ROAD	Santee	92071	907.12	7532	Automotive collision repair, some work conducted under cover. Potential for outside exposures (repairs, detailing etc).	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	PHILIP THEARLES AUTOWERKS	8809		MISSION GORGE ROAD	Santee	92071	907.12	7532	Auto body repair, all work conducted indoors. Hazardous materials stored under cover and in secondary containment. Subject to SUSMP.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	Russos Auto Body Inc	10410		MISSION GORGE ROAD	Santee	92071	907.12	7532	Auto body and paint, no mechanical. All work conducted indoors, paintbooths onsite.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	SAN DIEGO GLASS & PAINT	8828		CUYAMACA STREET	Santee	92071	907.12	7532	Top, body, and upholstery repair shops and paint shops. Potential for outside operations and storage.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	Lloyd's Collision Care	9936		BUENA VISTA AVENUE	Santee	92071	907.12	7532	Top, body repair and paint shop. All work conducted indoors, hazardous materials stored indoors. Potential for spills from vehicles.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	MAST BOULEVARDercraft Inc.	11433		WOODSIDE AVENUE	Santee	92071	907.12	7532	Top, body, and upholstery repair and paint shop. Potential for outside exposures (operations and storage).	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	A1 Customs LLC	11491		WOODSIDE AVENUE	Santee	92071	907.12	7532	Auto repair and body work. Potential for outside exposures (storage or operations).	No	Yes	Yes	No	Yes	Yes	No	No	Yes	Yes	Medium	No
SA	Rodder's Choice	9217		SECURITY WAY	Santee	92071	907.12	7532	Automobile restoration, potential for outside exposures (storage and operations).	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Medium	No
SA	Collision Repair Specialists	10806		PROSPECT AVENUE	Santee	92071	907.13	7532	Automotive paint and body repair conducted indoors. Car detailing water disposed of to sewer.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Medium	Yes
SA	San Diego Classic Restoration	9440	#14	Wheatlands	Santee	92071	907.12	7532	Auto restoration, work conducted indoors, potential for outdoor storage.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	High	No
SA	COYOTE SERVICES LLC	8745		MAGNOLIA AVENUE	Santee	92071	907.12	7532	Repair vehicle dents, paint, dry and clean. Potential for outdoor exposures (storage, operations).	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Medium	No
SA	R.E.S. Enterprises	10965	U	HARTLEY ROAD	Santee	92071	907.12	7532	Autobody work, all work conducted indoors.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	Ozzie'S Kustom Works	10658	B	PROSPECT AVENUE	Santee	92071	907.13	7532	Autobody work, all work conducted indoors.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No

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Agency	Facility Name	Address Number	Suite Number	Street Name	City	Zip Code	Watershed	SIC Code	Principal Products / Services	Bacteria	Gross Pollutants	Metals	Nutrients	Oil & Grease	Organics	Pesticides	Sediment	Trash	Tributary to 303(d) Listed	Threat to Water Quality	Threat Confirmed?
SA	Star A Autobody & Paint	10737		WOODSIDE AVENUE	Santee	92071	907.12	7532	Autobody work, potential for outside storage and operations.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Medium	No
SA	Deep'S Garage	10911	E	Wheatlands	Santee	92071	907.12	7532	Autobody work, potential for outside storage and operations.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	Bumper Doc	8711	100	MAGNOLIA AVENUE	Santee	92071	907.12	7532	Autobody work, potential for outside storage and operations.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	John's Collision Center	10806	3	PROSPECT AVENUE	Santee	92071	907.13	7532	Autobody work, potential for outside storage and operations.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Medium	No
SA	Hard Core Muscle Motorsports	11421	D	WOODSIDE AVENUE	Santee	92071	907.13	7532	Autobody work, potential for outside storage and operations.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	DEEP'S GARAGE	10911	E	WHEATLANDS AVENUE	Santee	92071	907.12	7532	Office and shop with roll-up door. Outdoor exposures - oily staining observed outside.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	Express Automotive Enterprises	8711	300	MAGNOLIA AVENUE	Santee	92071	907.12	7533	Automotive aftermarket parts and exhaust systems, all work conducted indoors. Property subject to SUSMP.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	MAST AVENUETEST ONLY STATION	8931		MAGNOLIA AVENUE	Santee	92071	907.12	7533	Automotive exhaust system repair shops, potential for outside storage and operations.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	Absolute Exhaust Coatings	10020	B14	PROSPECT AVENUE	Santee	92071	907.13	7533	Automotive exhaust system repair, potential for outside storage and operations.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	Jack Randalls Automotive	10845	F	Wheatlands	Santee	92071	907.12	7536	Automotive glass replacement shop, no outdoor exposures.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	ONE STOP AUTO GLASS	9605		CARLTON HILLS BOULEVARD	Santee	92071	907.12	7536	Automotive glass replacement shop, potential for outdoor exposures.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	D R W TRANSMISSION SPECIALTIES	10728	B	KENNEY STREET	Santee	92071	907.13	7537	Automotive transmission repair, potential for outdoor exposures.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	East County Transmission	10227	B	PROSPECT AVENUE	Santee	92071	907.13	7537	Automotive transmission repair, all work conducted indoors, outdoor storage under cover.	No	Yes	No	No	No	No	No	No	Yes	No	Low	Yes
SA	PERFORMANCE TRANSMISSION	8501		ABLETTE ROAD	Santee	92071	907.13	7537	Transmission installation and repair, potential for storage of vehicles outdoors.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	Sparkys Transmissions	10410		MISSION GORGE ROAD	Santee	92071	907.12	7537	Automotive transmission repair, all work conducted indoors, no outdoor exposures observed.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	Factory Transmissions	10806		PROSPECT AVENUE	Santee	92071	907.13	7537	Removing and installing transmissions, all work conducted indoors, no outdoor exposures observed.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Medium	No
SA	A&I Services	8665	A	ARGENT STREET	Santee	92071	907.13	7538	Carpet cleaning supplies and equipment rental.. All work conducted indoors.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	High	No
SA	Acuhon	8665	B1	MISSION GORGE ROAD	Santee	92071	907.12	7538	General automotive repair all work conducted indoors.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	AUSTIN HEALEY MOTOR WORKS	9440		WHEATLANDS	Santee	92071	907.12	7538	General automotive repair shop, potential for outdoor exposures (storage or operations)	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	AUTO PERFECT	9937	11	PROSPECT AVENUE	Santee	92071	907.13	7538	General automotive repair, no outdoor exposures observed.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	AUTOFAB	10996		WOODSIDE AVENUE	Santee	92071	907.12	7538	General automotive repair shop, potential for outdoor exposures (storage or operations)	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	SAN DIEGO RV CENTER	8629		TUMBLEWEED	Santee	92071	907.13	7538	Recreational and trailer repair, potential for outdoor exposures (storage and operations.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	Bright Tech Auto Service	10438	B	MISSION GORGE ROAD	Santee	92071	907.12	7538	Owner operated automotive repair, outdoor operations observed.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	CARTER COLLISION SERVICE	8835		CUYAMACA STREET	Santee	92071	907.12	7538	General automotive repair, no outdoor exposures observed.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	CERTIFIED CAR CARE	11370		WOODSIDE AVENUE	Santee	92071	907.12	7538	Automotive repair and maintenance. Potential for outdoor exposures (outside storage or operations).	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Medium	No
SA	COOL MAST BOULEVARDER	8501	B	ABLETTE ROAD	Santee	92071	907.13	7538	Automotive repair and maintenance. All work conducted indoors, some outdoor storage observed.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	COUNTY FLEET SERVICE	10053		PROSPECT AVENUE	Santee	92071	907.13	7538	General automotive repair shop, potential for outdoor exposures (storage or operations)	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	D & R AUTOMOTIVE	10517		PROSPECT AVENUE	Santee	92071	907.13	7538	General automotive repair shop, all work conducted indoors or under cover. Stormwater drains through sump and pump which is regularly cleaned.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Medium	Yes
SA	DYNO SHOP, THE	10042		PROSPECT AVENUE	Santee	92071	907.13	7538	General automotive repair shop, only those vehicles too large to enter maintenance bays are maintained outside. Drip pans and other BMPs deployed for outside work.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	HI-TECH CUSTOMS	9962	G	PROSPECT AVENUE	Santee	92071	907.13	7538	General automotive repair shop, potential for outdoor expsoures (storage and operations).	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No

Appendix A.4 Industrial/Commercial Inventory

										Potential Pollutants Generated												
Agency	Facility Name	Address Number	Suite Number	Street Name	City	Zip Code	Watershed	SIC Code	Principal Products / Services	Bacteria	Gross Pollutants	Metals	Nutrients	Oil & Grease	Organics	Pesticides	Sediment	Trash	Tributary to 303(d) Listed	Threat to Water Quality	Threat Confirmed?
SA	Horsman Automotive	8891		RAILROAD AVENUE	Santee	92071	907.12	7538	General automotive repair, all work conducted indoors, vehicles stored outdoors.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	Import Auto Service	7945	111	MISSION GORGE ROAD	Santee	92071	907.12	7538	General automotive repair shop, all work conducted indoors. Storm drain in parking lot.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	J G AUTO REPAIR	10468		MISSION GORGE ROAD	Santee	92071	907.12	7538	General automotive repair, no outdoor exposures observed.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	MEINEKE 1711	9551	B	MISSION GORGE ROAD	Santee	92071	907.13	7538	General automotive repair, no outdoor exposures observed.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Medium	No
SA	MISSION GORGE AUTOMOTIVE	10332		MISSION GORGE ROAD	Santee	92071	907.12	7538	General automotive repair, no outdoor exposures observed..	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	MUELLERS TRUCK & EQUIP SERV.	8500		ABLETTE ROAD	Santee	92071	907.13	7538	Repair trucks & equipment, potential for outdoor storage.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	Phantastic Auto Repair	10223		MAST BOULEVARD	Santee	92071	907.12	7538	General automotive repair shop, outdoor storage of vehicles. Area does not drain to the storm drain system.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	RICKS MACHINE SHOP	11448		WOODSIDE AVENUE	Santee	92071	907.12	7538	General automotive repair facility, outside storage of parts under plastic sheeting. Wash area under cover and bermed.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	High	Yes
SA	RUSH MOTORSPORT	10147		MISSION GORGE ROAD	Santee	92071	907.12	7538	Automotive service, repair conducted indoors. Vehicles stored outside, BMPs used in vehicle washing area. Water drains to sump that is pumped.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	SOCAL PAINT WORKS	10009		PROSPECT AVENUE	Santee	92071	907.13	7538	Automotive repair and restoration, potential for outside exposures (storage and operations).	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	Sparks Computerized Car Care	10735		WOODSIDE AVENUE	Santee	92071	907.12	7538	General automotive repair shops, work conducted indoors, outdoor storage.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	TERRA TRAILERS & TRUCK SALES	11424		WOODSIDE AVENUE	Santee	92071	907.12	7538	Recreational vehicle repair and trailer sales. Potential for outdoor exposures (storage and operations).	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	THUNDERWORKS	10729	C	WHEATLANDS	Santee	92071	907.12	7538	General automotive repair shops, work conducted indoors, potential for outdoor exposures (storage and vehicle detailing).	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	TJM Enterprises	10027	A	PROSPECT AVENUE	Santee	92071	907.13	7538	Body shop and vehicle repair. No painting. Potential for outdoor exposures (storage and vehicle detailing)	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	VGCC Management dba Volkers	7953		MISSION GORGE ROAD	Santee	92071	907.12	7538	General automotive repair, all work conducted indoors.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	Star A Autobody & Paint	10737		WOODSIDE AVENUE	Santee	92071	907.12	7538	Auto body paint & repair, maintenance. Potential for outdoor exposures (operations and storage).	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Medium	No
SA	Four Wheel Direct	10731		WOODSIDE AVENUE	Santee	92071	907.12	7538	General automotive repair shop, all work conducted indoors. Tires stored outside temporarily prior to pick-up.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Medium	Yes
SA	Ban's Auto Repair II	8625		CUYAMACA STREET	Santee	92071	907.13	7538	General automotive repair, all work conducted indoors, outside storage observed.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Medium	Yes
SA	Toyota Certified Of Santee	9135		MISSION GORGE ROAD	Santee	92071	907.12	7538	Automotive dealer and service center. Operations and storage conducted indoors. Property subject to SUSMP.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Medium	Yes
SA	GEORGE'S AFFORDABLE ON THE SPOT	10031	D	PROSPECT AVENUE	Santee	92071	907.13	7538	General automotive repair, all work conducted indoors. Potential for outside storage.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	Mayhem Motorcycle Shop	8733	113	MAGNOLIA AVENUE	Santee	92071	907.12	7538	Motorcycle sales and service, all work conducted indoors, no outdoor exposures.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	Alba Racing	10806	1	PROSPECT AVENUE	Santee	92071	907.13	7538	Motorcycle & ATV repair, service and parts. Potential for outside exposures (storage / operations).	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Medium	No
SA	Lemon Grove Cycle Supply	10704	B	PROSPECT AVENUE	Santee	92071	907.13	7538	Motorcyle parts, equipment and service, potential for outdoor exposures (storage / operations)	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	Advanced Automotive Center	7945	108	MISSION GORGE ROAD	Santee	92071	907.12	7539	General automotive repair, all work conducted indoors, potential for outdoor storage.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	DISCOUNT TIRE CO OF SAN DIEGO	9750		MISSION GORGE ROAD	Santee	92071	907.12	7539	Automotive parts and accessory store. All work conducted indoors, no outdoor storage.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Medium	No
SA	EAST COUNTY ALIGNMENT	10741		WOODSIDE AVENUE	Santee	92071	907.12	7539	Automotive mechnical and electronic repair shop. Potential for outdoor exposures (storage / operations).	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	HP WIRING	7341		PARK VIEW COURT	Santee	92071	907.12	7539	Service electrical wiring of offroad vehicles. No outdoor exposures observed.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	ROGER DANIEL'S ALIGNMENT & BRAKE	8517	F	ABLETTE ROAD	Santee	92071	907.13	7539	Automotive alignment & brake repair shop, most work conducted indoors.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes

Appendix A.4 Industrial/Commercial Inventory

										Potential Pollutants Generated												
Agency	Facility Name	Address Number	Suite Number	Street Name	City	Zip Code	Watershed	SIC Code	Principal Products / Services	Bacteria	Gross Pollutants	Metals	Nutrients	Oil & Grease	Organics	Pesticides	Sediment	Trash	Tributary to 303(d) Listed	Threat to Water Quality	Threat Confirmed?
SA	SANTEE FOREIGN CAR REPAIR	7969		MISSION GORGE ROAD	Santee	92071	907.12	7539	Other automotive mechanical & electronic repair. All work conducted indoors, no outdoor exposures observed.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	ONE STOP AUTO TECH	9605		CARLTON HILLS BOULEVARD	Santee	92071	907.12	7539	Automotive repair shop. All work conducted indoors, no outdoor exposures observed.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Medium	Yes
SA	Logan Detailing*	9670	1	MACCOOL LANE	Santee	92071	907.13	7542	Homebase for mobile auto detailer.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	D&H RU Cleaning*	9811		PEBBLE BEACH DRIVE	Santee	92071	907.12	7542	Homebase for mobile auto detailer.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	AUTO SPA DETAILING*	9538		CARLTON HILLS BOULEVARD	Santee	92071	907.12	7542	Homebase for mobile auto detailer.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	K-KAR CENTER	8931		MAGNOLIA AVENUE	Santee	92071	907.12	7542	Car wash and general automotive repair. Potential for runoff from washing operations.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	MCLEAN DOOR & TRIM	9260	E	ISAAC STREET	Santee	92071	907.12	7542	Window, door & trim shop & installation. Potential for outdoor exposures (storage and operations).	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	MISSION GORGE CARWASH	7751		MISSION GORGE ROAD	Santee	92071	907.12	7542	Full service car wash, water discharged to 3 chamber clarifier system.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Medium	No
SA	SANTEE CAR WASH	8868		FANITA DRIVE	Santee	92071	907.12	7542	Coin operated self serve car wash, all washing conducted under cover in bermed area.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	Sonic Car Wash	9015		MISSION GORGE ROAD	Santee	92071	907.12	7542	Car wash under cover. Finishing conducted outside. Property subject to SUSMP.	Yes	Yes	No	No	Yes	No	No	No	Yes	Yes	Medium	Yes
SA	East County Lube Center	7945	161	MISSION GORGE ROAD	Santee	92071	907.12	7549	Automotive repair and maintenance. All work conducted indoors, no outside storage.	No	Yes	Yes	No	No	No	No	No	Yes	No	Low	Yes
SA	LUHRS CUSTOM UPHOLSTERY, MARK	10557		PROSPECT AVENUE	Santee	92071	907.13	7549	Automotive upholsterer. Potential for outdoor storage.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	AAA Smog Center	8781	O	CUYAMACA STREET	Santee	92071	907.12	7549	Smog test only for automobiles, conducted in service bays.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	SANTEE SMOG TEST ONLY	10529		MISSION GORGE ROAD	Santee	92071	907.12	7549	Smog test only for automobiles, conducted in service bays.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	Unlimited Smog - Test Only	10659	D	PROSPECT AVENUE	Santee	92071	907.13	7549	Smog test only for automobiles, conducted in service bays.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	Executives Garage Inc	10438	D	MISSION GORGE ROAD	Santee	92071	907.12	7549	Auotmotive repair and maintenance. Potential for outside exposures (storage / operations).	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	HOME CARE BIOMEDICAL SERVICES	8406	C	MAGNOLIA AVENUE	Santee	92071	907.13	7629	Medical equipment repair, potential for outdoor storage.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	Weekend Appliance Repair	10424		SECOND AVENUE	Santee	92071	907.12	7629	Base for in -home appliance repair, potential for outside storage.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	METAL MAGIC OF SAN DIEGO	7932		POPLIN DRIVE	Santee	92071	907.12	7629	Electrical and electronic repair shops, potential for outside storage.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	Mr. Fix-It Appliance Repair	8614	H	ARGENT STREET	Santee	92071	907.13	7629	Appliance repair - household appliances, potential for outside storage.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	SANTEE WELDING	9937	4	PROSPECT AVENUE	Santee	92071	907.13	7692	Welding repair, all work conducted indoors, no outdoor storage observed.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	WEITZEL MOTORSPORTS	9437	C	WHEATLANDS COURT	Santee	92071	907.12	7692	Welding repair, all work conducted indoors, potential for outdoor storage.	No	No	Yes	No	No	No	No	No	No	No	Low	No
SA	Adona Grinding a Divisions of	11478		WOODSIDE AVENUE	Santee	92071	907.12	7699	Repair shop, potential for outdoor storage and operations.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	No
SA	BMW MC Service of S.D., Inc.	7945	109	MISSION GORGE ROAD	Santee	92071	907.12	7699	Motorcycle repair, all work conducted indoors, no outdoor exposures observed.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Low	Yes
SA	COUNTY RV SERVICE CENTER	10229		PROSPECT AVENUE	Santee	92071	907.13	7699	R.V. repair & service, R.V.s stored in gravel-covered area.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	No
SA	CS MUSIC COMPANY	8606	B	ARGENT STREET	Santee	92071	907.13	7699	Storage & repair of coin operated machines. Potential for outside storage.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	No
SA	FORM FAB	11478		WOODSIDE AVENUE	Santee	92071	907.12	7699	Other services to buildings & homes, potential for outside storage.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	No
SA	L & S PRECISION CUTTER SERVICE	10925	O	WHEATLANDS	Santee	92071	907.12	7699	Tool & cutters sharpening service, outdoor exposures unlikely.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	No
SA	R H A	11425		WOODSIDE AVENUE	Santee	92071	907.12	7699	Commercial & industrial repair, potential for outdoor storage.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	No
SA	REBEL IRON WORKS	11521		WOODSIDE AVENUE	Santee	92071	907.12	7699	Commercial & industrial repair, potential for outdoor storage.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	No
SA	Reed Sports Buggies, Greg	9745		AIRPORT VISTA WAY	Santee	92071	907.13	7699	Commercial & industrial repair, potential for outdoor storage.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	No
SA	TAPERS REPAIRED*	9316		LAKE COUNTY DRIVE	Santee	92071	907.12	7699	Homebase for repair of drywall tools.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	Tri-City Locksmith	8781	P	CUYAMACA STREET	Santee	92071	907.12	7699	Locksmith, outdoor exposures unlikely.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	Valley Tractor & Equipment	11478		WOODSIDE AVENUE	Santee	92071	907.12	7699	Sales and services of tractors. Outside storage of vehicles.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	High	Yes

Appendix A.4 Industrial/Commercial Inventory

										Potential Pollutants Generated											
Agency	Facility Name	Address Number	Suite Number	Street Name	City	Zip Code	Watershed	SIC Code	Principal Products / Services	Bacteria	Gross Pollutants	Metals	Nutrients	Oil & Grease	Organics	Pesticides	Sediment	Trash	Tributary to 303(d) Listed	Threat to Water Quality	Threat Confirmed?
SA	Waynes Harley & Machine Shop	10020	A12	PROSPECT AVENUE	Santee	92071	907.13	7699	Sales and services of equipment. Potential for outside storage.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	No
SA	West Coast Appliance Co.	10728	B	PROSPECT AVENUE	Santee	92071	907.13	7699	Commercial & industrial machine repair, potential for outdoor storage.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	No
SA	Mueller's Machine Tool rebuilders	10945		MAGNOLIA AVENUE	Santee	92071	907.12	7699	Repair shops for machine tools, potential for outdoor storage.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Medium	No
SA	P-Wa's General Maintenance Services	9851		Mission Viejo Court	Santee	92071	907.13	7699	Repair shops, potential for outdoor storage.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	No
SA	JR'S Jack Of All Trades	9440		Wheatlands	Santee	92071	907.12	7699	General handyman and basic mechanic service, potential for outdoor storage.	No	Yes	Yes	No	Yes	Yes	No	No	Yes	No	Medium	No
SA	Scooterbug Inc.	9260	C	ISAAC STREET	Santee	92071	907.12	7699	Repair & maintenance of mobility equipment, no outdoor exposures observed.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	Yes
SA	TLR Hydraulic and Machine	11366		WOODSIDE AVENUE	Santee	92071	907.12	7699	Hydraulic repair and machine shop. Potential for outdoor exposures, such as storage.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Medium	No
SA	Full Throttle Powersports	9143		MISSION GORGE ROAD	Santee	92071	907.12	7948	Sale & minor repair of motorcycles, no outdoor exposures observed, storm drain in parking lot.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Medium	Yes
SA	REVOLUTION RACING SHOCKS	9434		ABRAHAM WAY	Santee	92071	907.12	7948	Racing, including track operation, potential for outdoor storage.	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	No
SA	William's Racing Developments	10928	A	WHEATLANDS	Santee	92071	907.12	7948	Race car transmission servicing, potential for outside exposures (storage / operations).	No	Yes	Yes	No	Yes	Yes	No	No	No	No	Low	No
SA	CARLTON OAKS COUNTRY CLUB	9200		INWOOD	Santee	92071	907.12	7992	Public golf course with restaurant. Storage of fuel in above ground tank.	Yes	Yes	No	Yes	No	No	Yes	Yes	Yes	Yes	High	Yes
SA	Rock Rental Inc.	10925		Wheatlands	Santee	92071	907.12	7999	Amusement and recreation services, potential for outdoor storage.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	Kittyhawk Energy LLC	9484		MISSION PARK PLACE	Santee	92071	907.12	8734	Biofuels facility for electricity generation, storage of woodchips outside..	Yes	Yes	Yes	Yes	No	Yes	No	No	No	Yes	Medium	Yes
SA	TAYLOR MADE POOLS*	9723		HUBER COURT	Santee	92071	907.12	8811	Home base for pool maintenance company, potential for outdoor storage.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	TOWN & COUNTRY CUSTOM POOLS	9926	121	PROSPECT AVENUE	Santee	92071	907.13	8811	Base for pool maintenance company, potential for outdoor storage.	No	Yes	No	No	Yes	No	No	Yes	Yes	No	Low	No
SA	G E LUDWIG POOLS*	9944		CARLTON PLACE	Santee	92071	907.12	8811	Home base for pool maintenance company, potential for outdoor storage.	No	No	No	No	No	No	No	No	No	No	Medium	No
SA	TINASSY'S K-9 SPLASH-R-CISE INC.	10925	E	HARTLEY ROAD	Santee	92071	907.12	8999	Dog exercise therapy conducted in indoor pools, no outdoor exposures observed.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	LA COSTA LANDSCAPE MAINT CO	10320		PROSPECT AVENUE	Santee	92071	907.13	0181	Floriculture production, no outside storage observed during inspection.	No	No	No	No	No	No	No	No	No	No	Medium	No
SA	PAX WEST IMPORTS*	7735	59	MISSION GORGE ROAD	Santee	92071	907.12	0181	Nursery and tree production, homebased, may just be an office.	No	No	No	No	No	No	No	No	No	No	Medium	No
SA	SANTEE PET HOSPITAL	8936		CARLTON HILLS BOULEVARD	Santee	92071	907.12	0742	Animal hospital services all indoors.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	Cuyamaca Animal Hospital	8802	B	Cuyamaca Street	Santee	92071	907.12	0742	Indoor services for domestic pets, outside gravel area for walking area.	No	No	No	No	No	No	No	No	No	No	Medium	No
SA	MAST BOULEVARD BLVD PET CARE CENTER	9740		MAST AVENUE	Santee	92071	907.12	0742	Indoor services for domestic pets.	No	No	No	No	No	No	No	No	No	No	Medium	No
SA	Furry Friends Resort	8802	A	Cuyamaca Street	Santee	92071	907.12	0752	Dog and cat grooming services conducted indoors.	No	No	No	No	No	No	No	No	No	No	Medium	No
SA	Doggie Station	8951		CARLTON HILLS BOULEVARD	Santee	92071	907.12	0752	Dog and cat grooming services conducted indoors.	No	No	No	No	No	No	No	No	No	No	Medium	No
SA	Essential Grooming	9225	22	CARLTON HILLS BOULEVARD	Santee	92071	907.12	0752	Pet grooming services conducted indoors.	No	No	No	No	No	No	No	No	No	No	Medium	No
SA	Aloha Pet Grooming	8011	G	MISSION GORGE ROAD	Santee	92071	907.12	0752	Pet grooming services conducted indoors.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	Meet Me At The Park Grooming	8011	G	MISSION GORGE ROAD	Santee	92071	907.12	0752	Pet grooming services conducted indoors.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	Tony's Landscaping*	9941		Lake Canyon	Santee	92071	907.12	0781	Homebased gardening and landscaping company, outdoor storage of materials, equipment and waste a possibility.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	JCMS Landscape*	10638		PROSPECT AVENUE	Santee	92071	907.13	0781	Base for landscape contracting business, verified that all materials are stored under cover.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	BOURGEOIS INC*	9406		VIA ZAPADOR	Santee	92071	907.13	0782	Base for landscaping company. No outside storage or other	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	BUTLER'S WEED ABATEMENT*	9430		GALSTON DRIVE	Santee	92071	907.12	0782	Homebased business of tree, shrub and weed abatement.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	DeCrescente's Landscaping*	8748		WAHL STREET	Santee	92071		0782	Home-based lawncare maintenance service. Any materials stored outside observed to be covered.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	Four Season Gardening & Landscaping*	9328	DRIVE	ST ANDREWS DRIVE	Santee	92071	907.12	0782	Homebased gardening business where work is conducted offsite.	No	No	No	No	No	No	No	No	No	No	Medium	No
SA	GENSCHAW'S TREE SERVICE*	10744		SAYERS COURT	Santee	92071	907.12	0782	Homebased business of tree and shrubery trimming.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	PERPETUAL TREE CARE*	9376		STARCREST DRIVE	Santee	92071	907.13	0782	Tree maintenance (trimming, removals, stump grinding) residen & comm	No	No	No	No	No	No	No	No	No	No	Low	No

Appendix A.4 Industrial/Commercial Inventory

										Potential Pollutants Generated												
Agency	Facility Name	Address Number	Suite Number	Street Name	City	Zip Code	Watershed	SIC Code	Principal Products / Services	Bacteria	Gross Pollutants	Metals	Nutrients	Oil & Grease	Organics	Pesticides	Sediment	Trash	Tributary to 303(d) Listed	Threat to Water Quality	Threat Confirmed?
SA	PROSCAPE*	9440		Leticia Drive	Santee	92071	907.12	0782	Homebased company providing offsite landscaping services, potential for outside storage of materials and waste.	No	No	No	No	No	No	No	No	No	No	Medium	No
SA	Rafael Gardening*	8843		COTTONWOOD AVENUE	Santee	92071	907.12	0782	Homebased company providing offsite landscaping services, gravel yard onsite, any storage indoors.	No	No	No	No	No	No	No	No	No	No	Low	Yes
SA	THE HAY GUY*	10932		Grand Fork Drive	Santee	92071	907.12	0782	Homebased company providing offsite landscaping services, potential for outside storage of materials and waste.	No	No	No	No	No	No	No	No	No	No	Medium	No
SA	Johnny's Lawn Service*	10062		Woodpark Drive	Santee	92071	907.12	0782	Homebased company providing offsite landscaping services, potential for outside storage of materials and waste.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	Santee Landscape*	9327		Whispering Leaves Lane	Santee	92071		0782	Homebased company providing offsite landscaping services, potential for outside storage of materials and waste.	No	No	No	No	No	No	No	No	No	No	Low	No
SA	Royal Handyman & Landscaping Services*	9233		RUFFIN ROAD	Santee	92071		0782	Homebased company providing offsite landscaping services, potential for outside storage of materials and waste.	No	No	No	No	No	No	No	No	No	No	Low	No

Notes:

*Mobile business

"Tributary to 303(d) Listed" means both tributary to a 303(d) listed waterbody and generating one or more of the pollutants associated with the listing.

APPENDIX B

SUMMARY OF DOCUMENTED COMPLAINTS AND STAFF OBSERVATIONS OF VIOLATIONS

Appendix B
Summary of Documented Complaints and Staff Observations of Violations

#	Date	Category	Type/Pollutant	Location	Notes
1	8/12/11	Residential	Oil	Avanti Avenue	Complaint from neighbor regarding cars parked on street. Resolved through sheriff and code compliance.
2	08/16/11	Commercial	Hosing Down	9740 Cuyamaca Street	Complaint about hosing down at 7-11. Mobilized to location, observed area around facility was wet. Operator claimed that it was cleaning up after a spilt drink, but seemed excessive. Sent NOV to business owner as business had been subject to inspection and training. NOV required business owner train employees in stormwater requirements and to provide evidence of training. Business owner complied.
3	08/23/11	Residential	Pet Waste	10557 Ironwood Avenue	Resident had thrown pet waste over fence into area adjacent to Woodglen Vista Channel. Public works removed material. Courtesy notice left at residence with educational information.
4	08/23/11	Residential	Pet Waste	10563 Ironwood Avenue	Resident had thrown pet waste and landscaping waste over fence into area adjacent to Woodglen Vista Channel. Public works removed the material. Spoke to resident and left courtesy notice educating them on why this should not be done.
5	8/30/11	Residential	Landscaping activities	9812 Halberns Boulevard	Landscaping waste had been disposed of adjacent to a drainage channel. City staff removed it during routine maintenance activities. Spoke to resident and left courtesy notice explaining why this should not be done.
6	9/9/11	Residential	Sediment	9626 Cambury Drive	Complaint made about construction work at address. City staff advised homeowner to remove stockpiles from the street and to use BMPs in construction area at the rear of the property. The homeowner complied.
7	9/22/11	Industrial	Undetermined discharge	8634 Siesta Road	Complaint about water at edge of property that "smelled like an open sewer." City staff immediately deployed to location, no water observed and no source of any illegal discharge. Complaint not substantiated.

Appendix B
Summary of Documented Complaints and Staff Observations of Violations

#	Date	Category	Type/Pollutant	Location	Notes
8	9/23/11	Residential	Sewer	8616 Big Rock Road	Complaint about RV parked in yard at front of home and being used for additional living space. Complaint included claim that sewage was being discharged down the cleanout into the storm drain system. Code compliance visited location to inspect various issues, including those applicable to stormwater. There was no sign of any discharge to the street or storm drain system. The use of the RV as living space was eliminated.
9	9/26/11	Municipal	Trash	Jeremy Street	Fire department called to put out fire in trash truck. Trash had to be removed for fire to be put out. No discharge reached the storm drain inlet. Public works swept street. City Stormwater Program Manager verified that discharge had not occurred.
10	9/30/11	Residential	Swimming pool maintenance	10843 Stoney Creek Court	City staff observed discharge that appeared to include diatomaceous earth. Traced it back to residence, spoke to occupant who agreed to remove material. City staff verified that this was done.
11	10/7/11	Commercial	Over-irrigation	9802-9866 Magnolia Avenue	Observation from RWQCB staff member that over-irrigation occurring at Santana Village at around 9 am. Contacted property manager who notified contractor of issue. Issue corrected based on driveby inspection within following week.
12	10/7/11	Residential	Auto repair	11050 Meadow Terrace Drive	Complaint about auto repair activity at this address and pouring chemicals in street. Joint code compliance/stormwater investigation. Could not trace any activity to address. No adjacent driveway from address onto Meadow Terrace. Discoloration and much leaf matter observed in curb and gutter. Public works removed debris and residential factsheet sent to addresses in area (as source could not be identified).
13	10/17/11	Commercial	Powerwashing	Intersection of Hartley/Abraham	Complaint about white liquid in right-of-way. City Fire Department and County Environmental Health responded to complaint. Based on investigation it was concluded that it was likely a product like Armoral. It was concluded that it was from a mobile auto detailer operating over the weekend. City crews removed the discharge.

Appendix B
Summary of Documented Complaints and Staff Observations of Violations

#	Date	Category	Type/Pollutant	Location	Notes
14	11/11/11	Commercial	Carpet cleaning	9808 Mission Gorge Road	RWQCB employee observed carpet cleaner operating at this location allowing the wash water to drain to the storm drain. The RWQCB employee told the operator that this was an illegal discharge and presented his credentials. The operator ignored the RWQCB employee. The incident was reported to the City of Santee. City staff contacted the contractor and the facility manager who hired the contractor. The company hiring the contractor was issued an NOV. The contractor was issued an NOV and an administrative citation. The contractor also had to provide evidence of staff training on appropriate BMPs for carpet cleaning. The contractor was required to sign a contract and provide a bond to continue to work in the City. The property manager for Trolley Square where the facility was located was contacted and informed of the incident. The property manager confirmed that tenants are required to comply with stormwater requirements.

Appendix B
Summary of Documented Complaints and Staff Observations of Violations

#	Date	Category	Type/Pollutant	Location	Notes
15	11/17/11	Commercial	Hosing Down	9850 Mission Gorge Road	Complaint about power washing within Trolley Square. Photograph provided showing that the water was draining to a small circular 2-inch drain that was not blocked off. Informed the property owner of Trolley Square about this violation. A meeting was arranged between the property owner, the maintenance company and City of Santee staff to discuss this incident and the incident on 11/11/11. The Property Manager explained what they had done over recent years in response to similar complaints. Staff are trained to block off storm drain inlets and to collect water. City staff have observed these methods being used. The issue seemed to arise around the lack of understanding of where the smaller circular drain was connected to. City staff explained that any drain in the open will drain to the storm drain and therefore this drain would eventually connect to the storm drain system, not the sanitary sewer. Based on this information the maintenance company will revise their training and procedures. Attendees at the meetings discussed the issue with the carpet cleaner on 11/11/11 (described above). The Property Manager stated that she would follow up with tenants on the issue. City staff offered to help with training materials and/or a presentation as the Property Manager desired.
16	11/21/11	Residential	Automotive Repair	9144 Willowgrove Avenue	Complaint about resident hoarding HHW and dumping oil in the storm drain. Code compliance and stormwater staff visited the location and observed large amount of storage at residence and dark staining in adjacent channel. A code compliance case was opened and the material was removed by the homeowner.

Appendix B
Summary of Documented Complaints and Staff Observations of Violations

#	Date	Category	Type/Pollutant	Location	Notes
17	12/2/11	Residential	Stucco	8616 Fiona Way	Complaint via County Hotline regarding contractor working on home and washing out cement mixer in gutter. Inspection did not confirm that this had occurred, although a contractor was working at the address. A courtesy notice was left with the homeowner and contractor advising them of the complaint. The location was revisited several times during the duration of this project to verify that there was no illegal discharge and that BMPs were being appropriately deployed.
18	12/13/11	Residential	Sediment	6116 Castilla Street	Complaint about sediment breaching fiber rolls during rain at recently occupied new home. Left courtesy notice at residence advising them of issue and telling them to sweep it up and to prevent it from reoccurring. Contacted HOA about this and the following complaint to ensure that they encourage homeowners to install landscaping in a timely manner.
19	12/13/11	Residential	Sediment	6104 Castilla Street	Complaint about sediment breaching fiber rolls during rain at recently occupied new home. Visited location, spoke to homeowner and left courtesy notice advising them to sweep sediment up and prevent it from reoccurring. Contacted HOA about this and the previous complaint to ensure that they encourage homeowners to install landscaping in a timely manner.
20	12/21/11	Residential	Sewer	9642 Maccool Lane	Complaint about RV at rear of apartments discharging to storm drain system. No storm drain system on Maccool Lane. Visited location, observed pipes (water/sewer) and electricity connected to RV. No sign of a discharge, not a stormwater issue. Referred to code compliance and fire to resolve other issues.

Appendix B
Summary of Documented Complaints and Staff Observations of Violations

#	Date	Category	Type/Pollutant	Location	Notes
21	12/21/11	Residential	Sediment	10009 Via Francis	City staff observed what appeared to be illegal grading of a residential lot. Plant debris and soil was observed on the sidewalk. Soil observed in curb and gutter. Left courtesy notice advising homeowner of need to remove soil/plant matter immediately and possible need for a grading permit. Compliance (including clean up of the curb and gutter and slope stabilization) was achieved through a grading permit enforcement process.
22	1/4/12	Residential	Pet waste	326 River Trail Place	Complaint about resident throwing pet waste over yard fence into City easement in Mast Park. Visited location, observed accumulation of pet waste. Left courtesy notice and residential factsheet at address. Public Works removed waste. Sent courtesy letter to residents advising them that it was a violation and that we would reinspect area. Reinspected twice to confirm that activity had ceased.
23	1/5/12	Residential	Landscaping activities	9616 St Andrews Drive	Complaint about neighbor with son who sweeps the street outside his home and brushes the debris into a storm drain inlet. Visited address and spoke to parent about how this is illegal.
24	1/17/12	Residential	Automotive products	9779 Lutheran Way	Complaint about car leaking oil onto the street. Inspector confirmed presence of oily marks on the street and left a courtesy notice at the address advising the owner to repair the leak.
25	1/27/12	Residential	Hosing Down	9945 Watergum Trail	City staff observed a discharge from inside a garage. Appeared to have hosed inside the garage and allowed water to drain out. Left courtesy notice at address.
26	2/6/12	Commercial	Undetermined discharge	9035 Mission Gorge Road	City staff observed a pipe protruding under metal plates from which water periodically pulsed. Operator of facility unable to explain cause. Property owner said that there was a water line leak and said that he was waiting for PDMWD to correct it. Issued NOV and confirmed with PDMWD that they were not responsible for the discharge. It was from a lateral, which the property owner was responsible to repair. Pipe and discharge was removed.

Appendix B
Summary of Documented Complaints and Staff Observations of Violations

#	Date	Category	Type/Pollutant	Location	Notes
27	2/8/12	Residential	Homeless Encampment	West of West Hills Parkway Bridge	Complaint from County staff working on flood control gauge who observed a homeless encampment and a pile of spray paint cans by San Diego River. Notified Sheriff and Public Works to remove encampment and trash. Encampment located on City of San Diego land, removal coordinated with their Public Works Department.
28	2/17/12	Residential	Swimming pool maintenance	10048 Cedar Springs Drive	Complaint regarding pool company discharging blue chemicals to storm drain. Immediately mobilized to site where inspector observed contractor hosing down driveway. Blue material observed on the driveway. Discharge stopped, informed contractor why it was illegal and alternative clean-up methods. Checked storm drain downgradient of the discharge and verified that it was clean. Wrote courtesy notice and left copy with homeowner. Followed up with NOV to business owner with requirement for training. Business owner complied. Entered violation on regional mobile business database.
29	2/27/12	Residential	Construction material	9220 Mast Boulevard	A contractor had placed construction materials in the street with rain imminent. Observed by code enforcement team who tried to located contractor. Public Works removed the materials and the associated equipment was ticketed. A NOV was sent to the HOA who had hired the contractor.
30	2/29/12	Commercial	Over irrigation	9802-9866 Magnolia Avenue	Observed pools of water in parking lot at Santana Village in early morning. Contacted property manager about apparent over-irrigation, who verbally confirmed that this issue would be addressed, City staff will continue to monitor this facility, as this seems to be a reoccurring issue..
31	3/2/11	Municipal	Hydraulic Oil	Cambury and Lutheran	Complaint about hydraulic oil leak from trash truck. Referred to Waste Management for clean-up, which was done.

Appendix B
Summary of Documented Complaints and Staff Observations of Violations

#	Date	Category	Type/Pollutant	Location	Notes
32	3/8/12	Residential	Automotive Products	10500 Princess Joann Road	City staff observed a fresh pool of oil on the street at this address. A courtesy notice was left at the address advising the resident that they may have a leak from their car that needs to be repaired and its potential impact to water quality. Resident used absorbent to remove the spill.
33	3/14/12	Municipal	Trash	Forester Creek	Inquiry from RWQCB regarding maintenance issues at Forester Creek and potential for trash accumulation and establishment of homeless camps. Inspected location and identified areas for specific clean-up, in addition to the routine weekly maintenance. Contacted Caltrans about need to maintain specific areas relating to SR52 flyover. Maintenance activities reported on Santee website to educate residents not to drop trash.
34	3/15/12	Residential	Landscaping activities	8668 Atlas View Drive	Complaint that resident does not remove grass clippings from sidewalk when mowing lawn. City staff mobilized to location, observed grass clippings and left courtesy notice with educational information. Tenant (duplex) volunteered to remove grass clippings before rain.
35	3/16/12	Commercial	Paint	9440 Wheatlands Court, Suite 104	Discharge of paint from building, did not reach curb and gutter. Code compliance sent Courtesy notice to tenant, included stormwater issues. Told property owner that it is ultimately their responsibility. Follow-up visit confirmed paint no longer present.

Appendix B
Summary of Documented Complaints and Staff Observations of Violations

#	Date	Category	Type/Pollutant	Location	Notes
36	33/22/12	Municipal	Sand Blasting	Ironwood at intersection of Woodglen Vista	Complaint that City staff were conducting sandblasting activities the day before without using BMPS. Went to location and observed residue on sidewalk and in gutter, likely from an incomplete clean-up. Contacted Public Works Manager who confirmed that there had been an issue and the resident had been confrontational. The crew who had been conducting the sand blasting did not normally conduct that work and was reminded of the BMP requirements. This will also be reinforced during future stormwater training of public works staff. Public works remobilized to the location to remove the remaining residue.
37	3/27/12	Commercial	Trash	8918 Carlton Hills Boulevard	Complaint from neighbor about restaurant that appeared to have stopped paying for trash service. Cardboard observed by dumpster, generated by delivery that day, advised business owner to get additional pickup for cardboard. Owner complied.
38	3/29/12	Residential	Construction material	10148 Lakeland Drive	Complaint from neighbor regarding trash and unprotected slopes at the site. City staff notified contractor and owner of violations. These were corrected within 24 hours.
39	3/29/12	Residential	Construction material	10126 Lakeland Drive	Complaint about contractor who had stockpiles of concrete and soil in the right-of-way during driveway work. Needed to clean-up and use BMPs. City staff notified contractor and stormwater issues were addressed within 24 hours.
40	4/18/12	Residential	Automotive products	10711 Valor Place	Complaint about a vehicle leaking excessive oil. Visited location and spoke to vehicle owner to advise them that the leak needed to be corrected. Advised Public Works of the leak that needed to be cleaned up from the street; Public Works responded and performed cleanup.

Appendix B
Summary of Documented Complaints and Staff Observations of Violations

#	Date	Category	Type/Pollutant	Location	Notes
41	4/18/12	Residential	Irrigation	10008 Burrock Drive	Observed water running down street, traced it to this address. Leak apparently from irrigation. No one home, property for sale. Left courtesy notice, called PDMWD (regarding water waste) and code compliance (possible foreclosure property management issue).
42	4/18/12	Commercial	Car washing	9015 Mission Gorge Road	Observed vehicle washing outside of car wash facility. Stopped washing, directed manager to remove water. This was done. Sent NOV with training requirement.
43	5/3/12	Residential	Swimming Pool Water	Padre Lane	Complaint from resident about neighbor discharging swimming pool water. Based on description of discharge, the water complied with storm water requirements; rather it was the volume that concerned the resident. Not a storm water violation.
44	5/9/12	Residential	Swimming Pool Water	Sheriff's Office	Complaint routed from Sheriff's office regarding swimming pool discharge. Investigated on receipt of the complaint. No water or swimming pool debris observed on street. Not a storm water violation.
45	5/9/12	Residential	Landscaping activities	9753 Settle Road	City staff observed debris in street from landscaping activities. Spoke to resident who said it was her husband. Advised her and she agreed to get him to sweep it up.
46	5/14/12	Commercial	Hosing down	9820 Mission Gorge Road	Observed water across sidewalk and parking lot near unit being renovated (former La Salsa location). Hosepipe observed. Spoke to contractor who agreed to remove the discharge via wet vacuum and to prevent it from reoccurring. Followed up with property manager and notified them of the issue. Contractor called to confirm that they were aware of the incident and of the need to prevent it from reoccurring.

Appendix B
Summary of Documented Complaints and Staff Observations of Violations

#	Date	Category	Type/Pollutant	Location	Notes
47	5/16/12	Commercial	Potable water	10850 Hartley Road	A resident complained that they had observed water being discharged from this address occupied by Discflo Corporation on a Saturday morning. Discflo had been contacted about this activity over recent years. Discflo was notified that the complaint had been filed and that the discharge was not allowed. A copy of the previous Notice of Violation was attached. The Sheriff's unit was advised of the complaint and requested to patrol this area on Saturday mornings. The complainant was invited to notify the City if they observe the issue again.
48	5/21/12	Residential	Construction material	3153 Mirador Street	Observed construction material on street and cage used by landscapers to store materials that could result in a discharge. Left a courtesy notice with the homeowner and called the contractor advising them that the material needed to be removed. Based on a follow up inspection, this was removed.
49	5/22/12	Residential	Construction material	6107 Cala Lily Street	City staff observed a stockpile of construction material on street. Associated with Rivers Landscape working at this address. Spoke to occupant, left courtesy notice and called contractor. Still present on 5/30/12. Sent NOV to contractor and courtesy notice to owner and HOA. Stockpile had been removed by 5/31/12.
50	5/30/12	Residential	Construction material	3159 Mirador Street	Observed stockpile of construction material on street. Notified homeowner and contractor (Mission Pools) and left courtesy notice with homeowner. Sent NOV to contractor. Removed by 5/31/12.
51	6/1/12	Residential	Carpet & fabric care	9806 Medina Drive	Complaint about carpet cleaner based at this address, liquid being discharged from van. Investigated, spoke to resident and left factsheet. Business owner called back to say that they already had a laminated copy of the factsheet in their field vehicle and did not discharge wastewater. City staff verified by conducting driveby checks at various times.

Appendix B
Summary of Documented Complaints and Staff Observations of Violations

#	Date	Category	Type/Pollutant	Location	Notes
52	6/12/12	Residential	Automotive Products	8048 Linen Drive	Complaint via County Hotline regarding vehicle leaking oil on driveway and street at this address. Mobilized to location immediately on receipt of referral, spoke to resident. Upon investigation, found that the subject vehicle had been removed prior to receipt of the notification from the County. No evidence of fresh oil at location. Educated resident about why discharges of oil to the storm drain system were not acceptable.
53	6/28/12	Residential	Landscaping waste	10168 Montura Avenue	Complaint received about person at this address throwing leaf litter into street. City staff mobilized to location and could not find evidence of this activity. Called complainant back to ask for clarification, but the resident did not respond. Based on a conversation with code compliance this is part of a neighborhood dispute. No storm water violation observed.

APPENDIX C

JURMP ANNUAL REPORT REQUIREMENTS CHECKLIST

Appendix C
JURMP Annual Report Requirements Checklist

Development Planning Component

Permit Annual Reporting Requirement—Section J.3.a.(3).(a)	Location in Report
i. A description of any amendments to the General Plan, the environmental review process, development project approval processes, or development project requirements.	2.2, 2.3, 2.4
ii. Confirmation that all development projects were required to undergo the Copermittee's urban runoff approval process and meet the applicable project requirements, including a description of how this information was tracked.	2.4.4.2
iii. A listing of the development projects to which SUSMP requirements were applied.	2.4.4.2, Table 2-1
iv. Confirmation that all applicable SUSMP BMP requirements were applied to all priority development projects, including a description of how this information was tracked.	2.4.3, 2.4.4.2
v. At least one example of a priority development project that was conditioned to meet SUSMP requirements and a description of the required BMPs.	2.4.4.2
vi. A listing of the priority development projects which were allowed to implement treatment control BMPs with low removal efficiency rankings, including the feasibility analyses which were conducted to exhibit that more effective BMPs were infeasible.	2.4.4.2
vii. An updated treatment control BMP inventory.	Appendix A.1
viii. The number of treatment control BMPs inspected, including a summary of inspection results and findings.	2.4.4.3, Table 2-2 and 2-3
ix. A description of the annual verification of operation and maintenance of treatment control BMPs, including a summary of verification results and findings.	2.4.4.3
x. Confirmation that BMP verification was conducted for all priority development projects prior to occupancy, including a description of how this information was tracked.	2.4.4.2
xi. A listing of any projects which received a SUSMP waiver.	2.4.4.2
xii. A description of implementation of any SUSMP waiver mitigation program.	2.4.4.2
xiii. A description of Hydromodification Management Plan (HMP) development collaboration and participation.	2.4.4.2
xiv. A listing of development projects required to meet HMP requirements, including a description of hydrologic control measures implemented.	2.4.4.2
xv. A listing of priority development projects not required to meet HMP requirements, including a description of why the projects were found to be exempt from the requirements.	2.4.4.2

Development Planning Component

Permit Annual Reporting Requirement—Section J.3.a.(3).(a)	**Location in Report**
xvi. A listing of development projects disturbing 50 acres or more, including information on whether Interim Hydromodification Criteria were met by each of the projects, together with a description of hydrologic control measures implemented for each applicable project.	N/A, IHC no longer applicable
xvii. The number of violations and enforcement actions (including types) taken for development projects, including information on any necessary follow-up actions taken. The discussion should exhibit that compliance has been achieved, or describe actions that are being taken to achieve compliance.	2.4.4.3
xviii. A description of notable activities conducted to manage urban runoff from development projects.	Throughout Section 2

Construction

Permit Annual Reporting Requirement—Section J.3.a.(3).(b)	Location in Report
i. Confirmation that all construction sites were required to undergo the Copermittee's construction urban runoff approval process and meet the applicable construction requirements, including a description of how this information was tracked.	3.5
ii. Confirmation that a regularly updated construction site inventory was maintained, including a description of how the inventory was managed.	3.2
iii. A description of modifications made to the construction and grading ordinances and approval processes.	3.3, 3.4, 3.5
iv. Confirmation that the designated BMPs were implemented, or required to be implemented, for all construction sites.	3.5
v. Confirmation that a maximum disturbed area for grading was applied to all applicable construction sites.	3.5
vi. A listing of all construction sites with conditions requiring advanced treatment, together with confirmation that advanced treatment was required at such construction sites.	3.5
vii. For each construction site within each priority category (high, medium, and low), identification of the period of time (weeks) the site was active within the rainy season, the number of inspections conducted during the rainy season, and the number of inspections conducted during the dry season, and the total number of inspections conducted for all sites.	3.5, Appendix A.2
viii. A description of the general results of the inspections.	3.5
ix. Confirmation that the inspections conducted addressed all the required inspection steps to determine full compliance.	3.5
x. The number of violations and enforcement actions (including types) taken for construction sites, including information on any necessary follow-up actions taken. The discussion should exhibit that compliance has been achieved, or describe actions that are being taken to achieve compliance.	3.1.1, 3.5 Table 3-1
xi. A description of notable activities conducted to manage urban runoff from construction sites.	Throughout Section 3

Municipal

Permit Annual Reporting Requirement—Section J.3.a.(3).(c)	**Location in Report**
i. Any updates to the municipal inventory and prioritization.	4.2.2, Appendix A.3
ii. Confirmation that the designated BMPs were implemented, or required to be implemented, for municipal areas and activities, as well as special events.	4.2.3, 4.2.4, 4.3.4, 4.4.4, 4.5.4, 4.6.4, 4.7.4
iii. A description of inspections and maintenance conducted for municipal treatment controls.	Table 2-3, 4.2.4
iv. Identification of the total number of catch basins and inlets, the number of catch basins and inlets inspected, the number of catch basins and inlets found with accumulated waste exceeding cleaning criteria, and the number of catch basins and inlets cleaned.	4.4
v. Identification of the total distance (miles) of the MS4, the distance of the MS4 inspected, the distance of the MS4 found with accumulated waste exceeding cleaning criteria, and the distance of the MS4 cleaned.	4.4
vi. Identification of the total distance (miles) of open channels, the distance of open channels inspected, the distance of open channels found with anthropogenic litter, and the distance of open channels cleaned.	4.4
vii. Amount of waste and litter (tons) removed from catch basins, inlets, the MS4, and open channels, by category.	4.4
viii. Identification of any MS4 facility found to require inspection less than annually following two years of inspection, including justification for the finding.	N/A
ix. Confirmation that the designated BMPs for pesticides, herbicides, and fertilizers were implemented, or required to be implemented, for municipal areas and activities.	4.2.3
x. Identification of the total distance of curb-miles of improved roads, streets, and highways identified as consistently generating the highest volumes of trash and/or debris, as well as the frequency of sweeping conducted for such roads, streets, and highways.	4.3 Table 4-1
xi. Identification of the total distance of curb-miles of improved roads, streets, and highways identified as consistently generating moderate volumes of trash and/or debris, as well as the frequency of sweeping conducted for such roads, streets, and highways.	4.3 Table 4-1

Municipal

Permit Annual Reporting Requirement—Section J.3.a.(3).(c)	Location in Report
xii. Identification of the total distance of curb-miles of improved roads, streets, and highways identified as consistently generating low volumes of trash and/or debris, as well as the frequency of sweeping conducted for such roads, streets, and highways.	4.3 Table 4-1
xiii. Identification of the total distance of curb-miles swept.	4.3
xiv. Identification of the number of municipal parking lots, the number of municipal parking lots swept, and the frequency of sweeping.	4.3 Table 4-1
xv. Amount of material (tons) collected from street and parking lot sweeping.	4.3
xvi. A description of efforts implemented to prevent and eliminate infiltration from the sanitary sewer to the MS4	4.5
xvii. Identification of the number of sites requiring inspections, the number of sites inspected, and the frequency of the inspections.	4.2.4, 4.7.4
xviii. A description of the general results of the inspections.	4.2.4, 4.7.4
xix. Confirmation that the inspections conducted addressed all the required inspection steps to determine full compliance.	4.2.4
xx. The number of violations and enforcement actions (including types) taken for municipal areas and activities, including information on any necessary follow-up actions taken. The discussion should exhibit that compliance has been achieved, or describe actions that are being taken to achieve compliance.	4.2.4, 4.10
xxi. A description of notable activities conducted to manage urban runoff from municipal areas and activities.	Throughout Section

Industrial and Commercial

Permit Annual Reporting Requirement—Section J.3.a.(3).(d)	**Location in Report**
i. Any updates to the industrial and commercial inventory.	5.2.2 (stationary), 5.3.2 (mobile), Appendix A.4
ii. Confirmation that the designated BMPs were implemented, or required to be implemented, for industrial and commercial sites/sources.	5.2.3, 5.2.4, 5.3.3
iii. A description of efforts taken to notify owners/operators of industrial and commercial sites/sources of BMP requirements, including mobile businesses.	5.2.4, 5.3.4
iv. Identification of the total number of industrial and commercial sites/sources inventoried and the total number inspected.	5.2.2, 5.3.2; 5.2.4, 5.3.4
v. Justification and rationale for why the industrial and commercial sites/sources inspected were chosen for inspection.	5.2.4
vi. Confirmation that all inspections conducted addressed all the required inspection steps to determine full compliance.	5.2.4
vii. Identification of the number of third party inspections conducted.	5.2.4
viii. Identification of efforts conducted to verify third party inspection effectiveness.	5.2.4
ix. A description of efforts implemented to address mobile businesses.	5.3.4
x. The number of violations and enforcement actions (including types) taken for industrial and commercial sites/sources, including information on any necessary follow-up actions taken. The discussion should exhibit that compliance has been achieved, or describe actions that are being taken to achieve compliance.	5.1.1, 5.2.4, 5.3.4 , Table 5-2, Appendix B
xi. A description of steps taken to identify non-filers and a list of non-filers (under the General Industrial Permit) identified by the Copermittees.	5.2.4, Table 5-1
xii. A description of notable activities conducted to manage urban runoff from industrial and commercial sites/sources.	Throughout Section

Residential

Permit Annual Reporting Requirement—Section J.3.a.(3).(e)	Location in Report
i. Identification of the high threat to water quality residential areas and activities that were focused on.	6.2
ii. Confirmation that the designated BMPs were implemented, or required to be implemented, for residential areas and activities.	6.3, 6.4
iii. A description of efforts implemented to facilitate proper management and disposal of used oil and other household hazardous materials.	6.4
iv. Types and amounts of household hazardous wastes collected, if applicable.	6.4
v. A description of any evaluation of methods used for oversight of residential areas and activities, as well as any findings of the evaluation.	6.4 (see discussion in JURMP)
vi. The number of violations and enforcement actions (including types) taken for residential areas and activities, including information on any necessary follow-up actions taken. The discussion should exhibit that compliance has been achieved, or describe actions that are being taken to achieve compliance.	6.4, Appendix B
vii. A description of collaboration efforts taken to develop and implement the Regional Residential Education Program.	6.4
viii. A description of notable activities conducted to manage urban runoff from residential areas and activities.	6.1, 6.4

IDDE*

Permit Annual Reporting Requirement—Section J.3.a.(3).(f)	Location in Report
* Section 7, the Illicit Discharge Detection and Elimination component, of the 2011/2012 JURMP Annual Report will be submitted to the RWQCB no later than December 15, 2012.	

IDDE—Additional Dry Weather Monitoring Program Requirements*

Permit Annual Reporting Requirement—Attachment B and Receiving Waters Monitoring and Reporting Program No. R9-2007-0001, Section II.B.3.c,d	Location in Report
* Section 7, the Illicit Discharge Detection and Elimination component, of the 2011/2012 JURMP Annual Report will be submitted to the RWQCB no later than December 15, 2012.	

Education

Permit Annual Reporting Requirement—Section J.3.a.(3).(g)	Location in Report
i. A description of education efforts conducted for each target community.	8.3
ii. A description of how education efforts targeted underserved target audiences, high-risk behaviors, and "allowable" behaviors and discharges.	8.3
iii. A description of education efforts conducted for municipal departments and personnel.	8.2
iv. A description of education efforts conducted for the new development and construction communities.	8.3
v. A description of jurisdictional education efforts conducted for residents, the general public, and school children.	8.3

Public Participation

Permit Annual Reporting Requirement—Section J.3.a.(3).(h)	Location in Report
i. A description of public participation efforts conducted.	9.2 and 9.3

Effectiveness Assessment

Permit Annual Reporting Requirement—Section J.3.a.(3).(i)	Location in Report
i. An assessment of the effectiveness of the Jurisdictional Urban Runoff Management Program which meets all requirements of section I.1 of this Order.	11

Fiscal Analysis

Permit Annual Reporting Requirement—Section J.3.a.(3).(j)	Location in Report
i. A fiscal analysis of the Copermittee's urban runoff management programs which meets all requirements of section G of this Order. (For 2007-2008, the requirements that apply are essentially the same as those found in Order No. 2001-01)	10

Same as old Permit for 2007-2008

Special Investigations

Permit Annual Reporting Requirement—Section J.3.a.(3).(k)	Location in Report
i. A description of any special investigations conducted.	12

Non-Emergency Firefighting

Permit Annual Reporting Requirement—Section J.3.a.(3).(l)	Location in Report
i. A description of efforts conducted to reduce pollutant discharges from non-emergency fire fighting flows.	4.2.3, 13

JURMP Revisions

Permit Annual Reporting Requirement—Section J.3.a.(3).(m)	Location in Report
i. A description of any proposed revisions to the JURMP.	14 and each program component section

ATTACHMENT 5.1

STORMWATER FACTSHEETS

CITY OF SANTEE

STORMWATER INFORMATION

STORMWATER FACT SHEET 01

STORMWATER INFORMATION

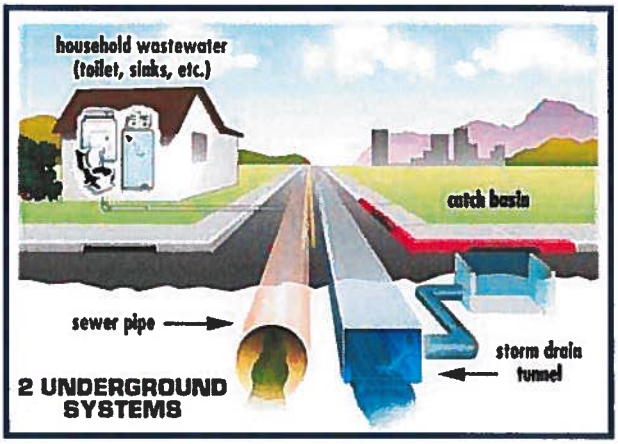
What is Stormwater Pollution?

WHAT IS STORMWATER POLLUTION?

Stormwater pollution is the untreated, contaminated water that drains from streets, parking lots, industrial yards, driveways, sidewalks and other impervious surfaces. Water from such sources as rain, hoses, power washers, sprinklers, and car-washing activities carry pollutants to the storm drain system.

WHERE DOES IT GO?

The storm drain system is made up of a series of curbs, gutters, drainage channels, culverts, inlets and pipes. All water that drains off of the streets, parking lots, driveways and sidewalks, and through the storm drain system ends up in our creeks, rivers, and ultimately the Pacific Ocean completely untreated! Just remember, the storm drain system is SEPARATE from the sanitary sewer system.



WHY IS IT A PROBLEM?

It is important to remember that the City of Santee is host to the San Diego River as it flows towards the Pacific Ocean. The River offers tremendous biological resources within its reach through Santee and beyond, supporting a diverse population of plant and animal life. The health and the beauty of the San Diego River is directly dependent on the actions of all Santee residents, and deserving of our protection from stormwater pollution!

WHAT CAN I DO TO HELP?

Everyone can be part of the solution to stormwater pollution. We can have a positive impact on water quality by changing the way we go about some of our most basic day to day activities.

- Pick Up After Your Pets
- NO DUMPING!
- Sweep It, Don't Hose It Down.
- Wash Paint Brushes in the Sink
- Properly Dispose of Trash
- Report Illegal Dumping.

TO REPORT STORMWATER POLLUTION IN SANTEE CALL (619) 258-4100 x168

CITY OF SANTEE

STORMWATER INFORMATION

STORMWATER FACT SHEET 02

Water Quality Impacts

STORMWATER INFORMATION

POLLUTANT TYPE	POLLUTANT SOURCES AND IMPACTS
SEDIMENT	Sediment is a common component of stormwater, and can be a significant pollutant. Sources of sediment in stormwater include construction activities and slope erosion. Sediment can be detrimental to aquatic life by impeding such natural functions as photosynthesis, respiration, growth, reproduction and oxygen exchange in the water column. Additionally, sediment in stormwater will carry other pollutants such as oil, grease, and metals.
NUTRIENTS	Nutrients including nitrogen and phosphorous are commonly found in fertilizers used in landscaping. Nutrients are found in stormwater through over irrigation of lawns and other landscaped areas. Nutrients in local water bodies will result in excessive growth of aquatic vegetation such as algae, and a rapid reduction in oxygen that supports fish populations.
BACTERIA & VIRUSES	Sources of bacteria and viruses in stormwater include improperly disposed pet waste, illegal sewer connections, and sanitary sewer overflows. High levels of indicator bacteria lead to the closure of beaches, lakes, rivers, and bays throughout the County of San Diego.
OIL & GREASE	Oil and grease compounds may be toxic to aquatic environments, compromising the survival of aquatic plant and animal species. Sources of oil and grease include illegal dumping, oil spills, automotive fluid leaks, and restaurant grease.
METALS	Metals including lead, zinc, cadmium, copper, chromium, and nickel are commonly found in stormwater runoff. Materials such as galvanized metal, brake pads, corroded paints, and automobiles contribute to the metals found in stormwater. Heavy metals are of concern to the aquatic environment as they can be potentially toxic to organisms, and accumulate to toxic levels in fish.
PESTICIDES	Including herbicides, fungicides, rodenticides, and insecticides are frequently detected in stormwater at toxic levels. Excessive use of these chemicals at home or in commercial settings, will have a detrimental impact on human as well as environmental health.

CITY OF SANTEE

STORMWATER INFORMATION

STORMWATER FACT SHEET 03

STORMWATER INFORMATION

Wet Weather...Are You Ready?

What is stormwater pollution?
Stormwater pollution is the untreated water that drains from streets, parking lots, industrial yards, driveways, sidewalks and other impervious surfaces. Stormwater runoff containing pollutants can contaminate our local creeks, rivers, streams and ultimately the Pacific Ocean.

REMEMBER

The Rainy Season lasts from October 1 - April 30

Is your home or business ready for wet weather?
Use the following wet weather checklist to prepare for the rain, and to do your part to prevent pollution in runoff.

WET WEATHER CHECKLIST

- ☑ COVER exposed material stockpiles including soil, sand, gravel, fertilizers, auto parts, tires, batteries, storage containers, etc.
- ☑ CLEAN significant fluid spills (oil, grease, paint, solvents) from drive ways, parking lots, parking spaces, and sidewalks. Use a mop and bucket and dispose of the water in a sanitary sewer drain (sink, toilet, floordrain).
- ☑ CLEAR earthen channels, culverts, brow ditches, and other drainage structures within and surrounding your property.
- ☑ REMOVE and PROPERLY DISPOSE of waste materials.
- ☑ INSPECT the property for potential sources of pollution.
- ☑ AVOID using chemicals (pesticides, herbicides, and fertilizers) and irrigation when rain is forecast within 48 hours.
- ☑ CALL the City of Santee at (619) 248-4100 x177 with any questions.

TO REPORT STORMWATER POLLUTION IN SANTEE CALL (619) 258-4100 x168

CITY OF SANTEE

STORMWATER INFORMATION

STORMWATER FACT SHEET 04

STORMWATER INFORMATION

Restaurants & Bars



RESTAURANTS & WATER QUALITY IMPACTS

The City of Santee has adopted the Stormwater Management and Discharge Control Ordinance (SMC 13.42) to regulate the discharge of pollutants to the storm drain system. Pollutants typically associated with food establishments include grease, food waste, cleaners, trash and debris. As a business owner or operator, you are legally responsible for ensuring that stormwater pollutants are properly managed.

BEST MANAGEMENT PRACTICES (BMPs)

Best Management Practices are practical and cost effective approaches to day to day business operations that reduce, control, or prevent water pollution. The following is a list of Minimum Best Management Practices that are required at all Food Establishments in the City of Santee.

- ☑ Employee Training.
- ☑ Clean Floor Mats Inside.
- ☑ Maintain Outdoor Grease Bins.
- ☑ Keep Dumpster Lids Closed.
- ☑ Maintain Dumpster Areas Using Dry Cleanup Techniques.
- ☑ Use a Mop and Bucket for Outdoor Cleaning Activities. Dispose of mop water in a sanitary drain. (Sink, Toilet)
- ☑ Sweep It, Never Hose It Down.
- ☑ Keep Absorbent Material or Other Spill Response Materials On Site.
- ☑ Maintain Good Housekeeping Practices.
- ☑ Contain, Control & Capture All Water Used in Cleaning Activities.
- ☑ Dispose of All Wastewater into a Sanitary Sewer Connection. (Sink, Floor Drain, Toilet)
- ☑ Adjust Sprinklers to Avoid Overspray from Irrigation of Landscaped Areas.
- ☑ Ensure that Pressure Washing of Sidewalks, Drive Thrus, or Parking Lots is Conducted with Adequate Controls in Place.
- ☑ Direct Runoff to Landscaped Areas.
- ☑ Clean Outdoor Spills Immediately.
- ☑ Properly Maintain Sinks and Drains to Avoid Sewer Overflows.

TO REPORT STORMWATER POLLUTION IN SANTEE CALL (619) 258-4100 x177

CITY OF SANTEE

STORMWATER INFORMATION

STORMWATER FACT SHEET 05

Automotive Industry



AUTOMOTIVE INDUSTRY & WATER QUALITY IMPACTS

The City of Santee has adopted the Stormwater Management and Discharge Control Ordinance (SMC 13.42) to regulate the discharge of pollutants to the storm drain system. Pollutants typically associated with automotive maintenance and repair include antifreeze, fuels, waste oils, solvents and paints. As a business owner or operator, you are legally responsible for ensuring that stormwater pollutants are properly managed.

BEST MANAGEMENT PRACTICES (BMPs)

Best Management Practices are practical and cost effective approaches to day to day business operations that reduce, control, or prevent water pollution. The following is a list of Minimum Best Management Practices that are required at all Automotive repair, servicing, and maintenance facilities in the City of Santee.

- ☑ Employee Training.
- ☑ Service Indoors When Applicable.
- ☑ Ensure that Floor Drains Are Plumbed to the Sanitary Sewer.
- ☑ Place Drip Pans Under Vehicles in Exposed Outdoor Areas.
- ☑ Keep Absorbent Materials / Pads Readily Accessible at All Times.
- ☑ Properly Dispose of Hazardous Wastes.
- ☑ Drain all Fluids Indoors.
- ☑ Wash Equipment & Vehicles in Designated Areas to Avoid Discharge to the storm drain.
- ☑ Maintain Good Housekeeping Practices.
- ☑ Utilize "Dry" Cleanup Methods. (Sweep, Vacuum)
- ☑ Dry Sweep All Work Areas Before Mopping.
- ☑ Use a Mop and Bucket to Clean Shop Floors and/or Outdoor Areas. Dispose of mop water in a sanitary drain.
- ☑ Collect All Dust, Grindings and Shavings at Work Stations.
- ☑ Remove or Cover All Materials Stored in Outdoor Areas.
- ☑ Recycle oil, antifreeze, batteries, etc.

TO REPORT STORMWATER POLLUTION IN SANTEE CALL (619) 258-4100

STORMWATER INFORMATION

CITY OF SANTEE

STORMWATER INFORMATION

STORMWATER FACT SHEET 06

STORMWATER INFORMATION

Mobile Auto Detailing



MOBILE AUTO DETAILING & WATER QUALITY IMPACTS

The City of Santee has adopted the Stormwater Management and Discharge Control Ordinance (SMC 13.42) to regulate the discharge of pollutants to the storm drain system. Pollutants typically associated with mobile auto detailing include oil, grease, heavy metals (brake dust), and detergents. As a business owner or operator, you are legally responsible for ensuring that stormwater pollutants are properly managed.

BEST MANAGEMENT PRACTICES (BMPs)

Best Management Practices are practical and cost effective approaches to day to day business operations that reduce, control, or prevent water pollution. The following is a list of minimum Best Management Practices that are required at all mobile auto detailing activities in the City of Santee.

- ☑ Contain, Control and Capture ALL Wash Water.
- ☑ Train Employees to Use Practices that will Eliminate Discharge to a Storm Drain.
- ☑ Locate and Protect All Nearby Storm Drains or Water Bodies.
- ☑ Utilize a "Shop Vacuum" to Capture all Wash Water.
- ☑ Service Vehicles on or Near Vegetated Areas.
- ☑ Minimize or Eliminate the Use of Soaps or Detergents.
- ☑ Confine Washing and Cleaning Activities within a burmed Area.

REMEMBER

- Biodegradable Soaps Only Degrade Faster, And May Be Detrimental to Water Quality.
- Curbs, Gutters, Drainage Channels, Curb Inlets, Brow Ditches, Channels and Culverts are ALL Connected to the San Diego River and Ultimately the Pacific Ocean.
- ONLY RAIN BELONGS IN THE STORM DRAIN!

TO REPORT STORMWATER POLLUTION IN SANTEE CALL (619) 258-4100 X168

CITY OF SANTEE

STORMWATER INFORMATION

STORMWATER FACT SHEET 07

STORMWATER INFORMATION

Power Washing Activities



POWER / PRESSURE WASHING & WATER QUALITY IMPACTS

The City of Santee has adopted the Stormwater Management and Discharge Control Ordinance (SMC 13.42) to regulate the discharge of pollutants to the storm drain system. Pollutants typically associated with power washing activities include sediment, grease, oil, food waste, and trash. As a business owner or operator, you are legally responsible for ensuring that stormwater pollutants are properly managed.

BEST MANAGEMENT PRACTICES (BMPs)

Best Management Practices are practical and cost effective approaches to day to day business operations that reduce, control, or prevent water pollution. The following is a list of Minimum Best Management Practices that are required at all power washing activities in the City of Santee.

POWER WASHING REQUIREMENTS

The following BMPs are REQUIRED for ALL Power Washing Activities including but not limited to vehicle maintenance & fuel dispensing areas, power washing buildings, sidewalks, parking lots, loading docks and common areas.

1. Block all storm drain inlets and collect water/waste for disposal to the sanitary sewer. No water can drain to the street or catch basins.
2. Prior to washing activities, clean and/or sweep all loose debris from the area.
3. Clean any significant oil / auto fluid spills with an appropriate dry method prior to cleaning.
4. If possible, direct divert runoff to a vegetated area where water can absorb into the ground.
5. If visual observation of runoff indicates contamination (cloudy, discolored, presence of suspended materials), stop activities immediately, and use additional BMPs (i.e. filtration) to eliminate polluted runoff to vegetation.

REMEMBER THE THREE C's

Contain , Control , & Capture
All Waste & Wash Water

TO REPORT STORMWATER POLLUTION IN SANTEE CALL (619) 258-4100 X168

CITY OF SANTEE

STORMWATER INFORMATION

STORMWATER FACT SHEET 08

STORMWATER INFORMATION

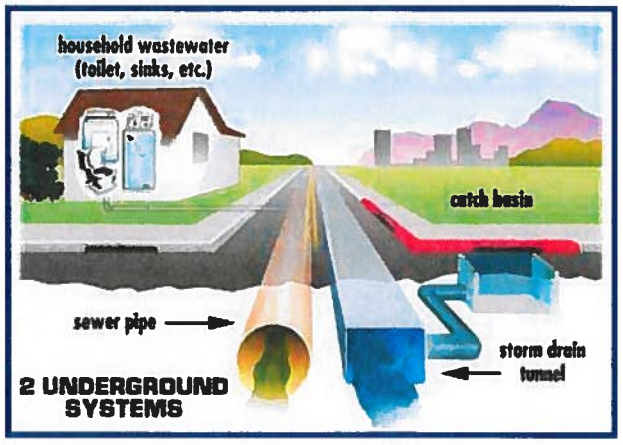
Industrial & Commercial Activities

WHAT IS STORMWATER POLLUTION?

Stormwater pollution is the untreated, contaminated water that drains from streets, parking lots, industrial yards, driveways, sidewalks and other impervious surfaces. Water from such sources as rain, hoses, power washers, and other maintenance activities carry pollutants to the storm drain system.

WHERE DOES IT GO?

The storm drain system is made up of a series of curbs, gutters, drainage channels, culverts, inlets and pipes. All water that drains off of the streets, parking lots, driveways and sidewalks, and through the storm drain system ends up in our creeks, rivers, and ultimately the Pacific Ocean completely untreated! Just remember, the storm drain system is SEPARATE from the sanitary sewer system.



WHAT IS REQUIRED OF INDUSTRIAL & COMMERCIAL FACILITIES?

Essentially, the use of applicable Best Management Practices (BMPs) are required of all industrial and commercial activities in the City. As such activities are varied, a set of minimum BMPs have been established in order to minimize polluted runoff. Additionally, activity-specific BMPs have been established for various business sectors, which will be reviewed and/or recommended through the industrial and commercial facility inspection process.

MINIMUM BEST MANAGEMENT PRACTICES (BMP)

Minimum BMPs for industrial and commercial activities in the City are broken into 3 categories. The following list provides a summary of required BMPs:

1. **Good Housekeeping BMPs**: Regular Sweeping, Dry Cleanup, Proper Waste Disposal, Employee Training, Spill Cleanup.

2. **Materials Handling BMPs**: Hazardous Materials Storage, Outdoor Material Storage, Proper Labeling, Spill Prevention.

3. **Equipment Maintenance BMPs**: Perform Work Indoors, Repair Leaks, Designated Wash Areas, Drip Pan Use, Proper Cleaning Techniques.

CITY OF SANTEE

STORMWATER INFORMATION

STORMWATER FACT SHEET 09

Swimming Pool & Spa Maintenance

SWIMMING POOL DISCHARGE

The City of Santee has adopted the Stormwater Management and Discharge Control Ordinance (SMC 13.42) to regulate the discharge of pollutants to the storm drain system. Pollutants typically associated with swimming pool and spa maintenance activities include chlorine, pH, organic matter (decaying plants & algae), and copper.

WHERE DOES IT GO?

All water that drains off of the streets, parking lots, driveways and sidewalks, and through the storm drain system ends up in our creeks, rivers, and ultimately the Pacific Ocean, completely untreated! Just remember, the storm drain system is SEPARATE from the sanitary sewer system.

CAN IT BE DISCHARGED INTO THE STORM DRAIN?

If it is not a saline pool, you can discharge water with NO chemicals into the storm drain. The water must:

1. Be water only (no debris)
2. Be de-chlorinated
3. Have a pH range of 7-8.
4. Have no algae present
5. Be a controlled flow to avoid erosion problems or cause a traffic hazard.

Can I get rid of chlorine?

Chlorine will naturally dissipate, and pool water will become de-chlorinated over time. Monitor the pool over a period of 3-5 days until NO chlorine is detected.

How do I Clean Pool Filters?

It's best to clean pool filters over a lawn, dirt, planter box, vegetated hillside, or something to absorb the discharge. Collect materials on filter cloth, then throw the filter cloth away. Rinse cartridge and diatomaceous earth material onto a dirt area, and spade filter residue into soil.

If you retain a pool company to take care of your pool, please make sure that they comply with these regulations. By doing your part, you will help reduce the pollution problems in the community where your family lives, works and plays.

TO REPORT STORMWATER POLLUTION IN SANTEE CALL (619) 258-4100 x168

CALL PADRE DAM MUNICIPAL WATER DISTRICT ON (619) 258-4664 FOR INFORMATION ON DISCHARGES TO SEWER.

STORMWATER INFORMATION

CITY OF SANTEE

STORMWATER INFORMATION

STORMWATER FACT SHEET 10

STORMWATER INFORMATION

Residences

Although many residents may not realize it, everyday activities that we conduct at home have the potential to impact the quality of water which drains from the street into our municipal storm drain. This eventually discharges UNTREATED into the San Diego River. The cumulative impact of discharges from each residence has the potential to directly impact the San Diego River. Here are some examples of common household activities of concern:

PET WASTE

This may be considered "natural," but did you know that the water quality of San Diego River is considered to be impaired due to the presence of bacteria from fecal discharges? *ALWAYS pick up after your pet, even at home, and dispose of pet waste in the trash.* Don't throw pet waste in any drainage channel, culvert, gutter or drain.

AUTOMOTIVE

Reduce or eliminate the release of motor oil from leaking cars, detergents from washing and gasoline from fuel drips. Do not maintain your vehicle in the street and clean up fluid spills and leaks immediately. *Use drip pans under leaking vehicles and properly dispose of automotive fluids.*

HOME IMPROVEMENT AND GARDEN CARE

Many home improvement projects may involve the use of hazardous materials (paints, solvents etc.). Powder materials (e.g.,concrete, sand, and grout) can form harmful sediment if washed into the San Diego River via the storm drain. Rinse concrete or grout residue into a hole dug into a dirt area. Let the water infiltrate into the ground and throw away the residue. *Sweep, do not hose down* when cleaning and *do not blow plant debris into the storm drain.* Dispose of household hazardous wastes including paint, cleaners, and batteries for FREE at one of the following locations:

Clean Harbors Environmental Services, 12325 Crosthwaite Circle, Poway, CA 92064. 1-800-444-4244. Saturdays 9 am to 3 pm.

Waste Management, City of El Cajon, end of O' Conner Street, El Cajon CA 619-596-5100. Household pickup by appointment.

- Pick Up After Your Pets
- NO DUMPING!
- Sweep It, Don't Hose It Down.
- Wash Paint Brushes in the Sink
- Do not overwater
- Report illegal dumping

TO REPORT STORMWATER POLLUTION IN SANTEE CALL (619) 258-4100 x168

CITY OF SANTEE

STORMWATER INFORMATION

STORMWATER FACT SHEET 11

Demolition & Construction

Non-rainwater discharges from demolition and construction sites are illegal and could be subject to clean up costs, as well as fines and other penalties. With a few simple steps contractors on these sites can prevent illegal discharges.

WHERE DOES IT GO?

All water that drains off of the streets, parking lots, driveways and sidewalks enters the storm drain and is discharged into the San Diego River completely untreated!

KEEP YOUR SOIL ON YOUR PROPERTY

It is illegal to allow soil discharges into the street. Plan to use measures to prevent erosion (for example, preservation of current landscaping, expedited planting, blankets, hydroseeding, or bonded fiber matrix); and sediment control measures (silt fence, gravel bags, and fiber rolls) to prevent discharges, particularly between the months of October and May. Use silt-free gravel, not sand, in gravel bags. Be prepared to stop liquid discharges during demolition.

MANAGE A TIDY SITE

It is a violation of City ordinance to discharge airborne dust or allow the tracking of soil onto the street. Sweep or vacuum, DO NOT HOSE DOWN, any material that strays onto the street. Keep liquid materials in a covered second container. Do not discard waste materials to the ground. Instead, immediately place it into a trash container. Order an extra trash pickup if more waste is generated than usual. Dispose of hazardous materials properly. Use drip pans under vehicles and promptly remove spills.

CONCRETE AND POWDER MATERIALS

The pH content of cement mix can be high enough to classify it as hazardous waste! When concrete waste gets into a gutter and then the storm drain, it eventually ends up in the San Diego River. If allowed to dry in gutters or catch basins, it can disrupt the proper flow of rainwater. Other powdery material (stone dust, grout, and masonry), if discharged to the storm drain, will result in increased sediment in the San Diego River, having a negative effect on aquatic life. Place concrete waste into a container, and let it dry before disposal.

KEEP OUT OF THE GUTTER!

The gutter is not the place to clean any piece of equipment, large or small. It is a violation of the City's ordinance to park heavy vehicles in the street.

TO REPORT STORMWATER POLLUTION IN SANTEE CALL (619) 258-4100 x168

STORMWATER INFORMATION

CITY OF SANTEE

STORMWATER INFORMATION

STORMWATER FACT SHEET 12

STORMWATER INFORMATION

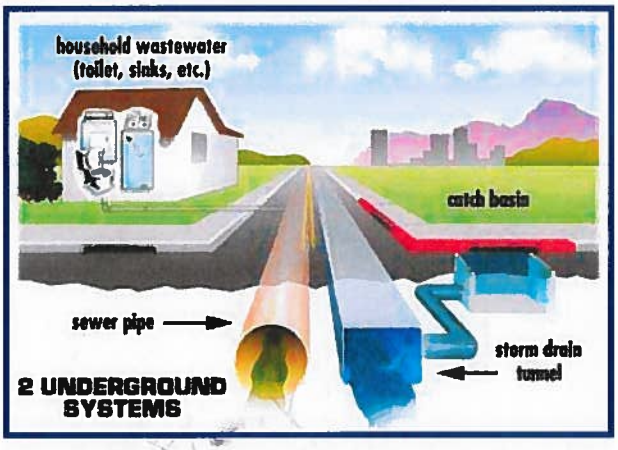
Pollution Prevention at Special Events

WHAT IS STORMWATER POLLUTION?

Stormwater pollution is the untreated, contaminated water that drains from streets, parking lots, industrial yards, driveways, sidewalks and other impervious surfaces. Water from such sources as rain, hoses, power washers, sprinklers, and car-washing activities carry pollutants to the storm drain system.

WHERE DOES IT GO?

The storm drain system is made up of a series of curbs, gutters, drainage channels, culverts, inlets and pipes. All water that drains off of the streets, parking lots, driveways and sidewalks, and through the storm drain system ends up in our creeks, rivers, and ultimately the Pacific Ocean completely untreated! Just remember, the storm drain system is SEPARATE from the sanitary sewer system.



HOW CAN A SPECIAL EVENT CAUSE STORMWATER POLLUTION?

An event can result in the generation of a large amount of litter. Plastic bags and other light material may be blown into creeks and channels. Other items may enter curb inlets, either blocking the structure, or being washed via runoff through the stormdrain system into nearby rivers and creeks. Food and pet waste can be sources of bacteria and nutrients. Protect water quality by using the following best management practices:

- Portable toilets shall have secondary containment.
- Have materials available (cloths, paper towels, a dustpan and brush, etc.) to promptly remove spills as they occur.
- Install temporary fencing to prevent trash from being dispersed.
- Use temporary screens on catch basins and storm drain inlets.
- Provide plenty of trash and recycling bins. Promptly dispose of trash into dumpsters with lids and do not allow dumpsters to overfill.
- Sweep the area after the event. Clean catch basins as necessary.

TO REPORT STORMWATER POLLUTION IN SANTEE CALL (619) 258-4100 x168

Carpet and Upholstery Cleaning

Carpets and upholstery are regularly cleaned in homes and commercial businesses to prolong the life of carpets and furniture, and to ensure a hygienic living and working space. Wastewater from carpet cleaning usually contains detergents, other potentially hazardous chemicals and extracted carpet residues, some of which are known pollutants.

It is illegal to discharge wastewater from these cleaning activities to the storm drain.

WHERE DOES IT GO?

All water that drains off of the streets, parking lots, driveways and sidewalks enters the storm drain and is discharged into the San Diego River completely untreated!

- Any wastewater poured into streets, gutters, or stormdrain inlets will make its way into sensitive waterways that support aquatic plants and animals. Carpet cleaning chemicals and other residues in carpet cleaning wastewater may damage fragile ecosystems.
- Many carpet cleaning agents are toxic to aquatic plant and animal life.
- Residues from carpet cleaning can contribute to nutrient loadings that will result in explosive algal growth and deplete waterbodies of oxygen.

WHAT ARE THE REQUIREMENTS?

Wastewater and residue from carpet cleaning must NEVER be discharged to any roadside gutter, parking lot drain, stormdrain, curb inlet, drainage channel, or watercourse.

- Wastewater and residue from carpet cleaning should be discharged to a sanitary sewer connection such as a sink, floor drain, toilet sewer clean-out, or septic tank.
- Clean or flush hoses to a vegetated or dirt area and let the water infiltrate the ground.
- Contain, control, and capture all wastewater or chemicals.

TO REPORT STORMWATER POLLUTION IN SANTEE CALL (619) 258-4100 x168

CITY OF SANTEE

STORMWATER INFORMATION

STORMWATER FACT SHEET 14

STORMWATER INFORMATION

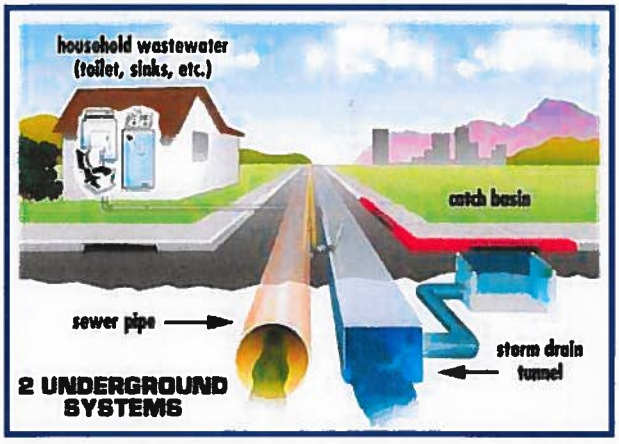
Pollution Prevention during Community Activities

WHAT IS STORMWATER POLLUTION?

Stormwater pollution is the untreated, contaminated water that drains from streets, parking lots, industrial yards, driveways, sidewalks and other impervious surfaces. Water from such sources as rain, hoses, power washers, sprinklers, and car-washing activities carry pollutants to the storm drain system.

WHERE DOES IT GO?

The storm drain system is made up of a series of curbs, gutters, drainage channels, culverts, inlets and pipes. All water that drains off of the streets, parking lots, driveways and sidewalks, and through the storm drain system ends up in our creeks, rivers, and ultimately the Pacific Ocean completely untreated! Just remember, the storm drain system is SEPARATE from the sanitary sewer system.



HOW CAN COMMUNITY ACTIVITIES CAUSE STORMWATER POLLUTION?

Any activity that results in runoff discharging into catch basins on private property or into the street (such as washing cars or cleaning up after an event) can cause stormwater pollution. These types of discharges are illegal. In addition, community events can result in the generation of litter which can get into the storm drain system. Simple steps can be take to prevent pollution and protect **a valuable community resource — our river**.

- Use trays under portable toilets (secondary containment).
- Have materials available at an outdoor event (cloths, paper towels, a dustpan and brush, etc.) to promptly remove spills as they occur.
- Promptly dispose of trash into dumpsters with lids and do not allow dumpsters to overfill.
- Sweep after an outdoor event and clean catch basins as needed.
- Contact the City for pollution prevention methods during special events and car washing activities (look at www.ci.santee.ca.us/For Residents).

TO REPORT STORMWATER POLLUTION IN SANTEE CALL (619) 258-4100 x168

CITY OF SANTEE

STORMWATER INFORMATION

STORMWATER FACT SHEET 15

STORMWATER INFORMATION

Benefits of Low Impact Development and Site Design Practices

WHAT IS STORMWATER POLLUTION?

Stormwater pollution is the untreated, contaminated water that drains from streets, parking lots, industrial yards, driveways, sidewalks and other impervious surfaces. Water from such sources as rain, hoses, power washers, sprinklers, and car-washing activities carry pollutants to the storm drain system. The storm drain system discharges this water directly to our creeks, rivers, and ultimately the Pacific Ocean UNTREATED.



HOW DOES DEVELOPMENT AFFECT THIS?

The addition of impervious area removes the natural absorption and infiltration abilities of the land. This results in a greater volume, velocity, rate and duration of runoff from the property, than in its predevelopment condition. It can result in the mobilization of a wide range of pollutants that would normally remain on the property and transport these pollutants to surface waters. *This cocktail of pollutants can destroy aquatic life.*

WHAT IS THE SOLUTION?

Since 2002, all major development incorporated a mixture of best management practices (BMPs) to reduce its impact on stormwater quality. Site Design BMPs and Low Impact Development BMPs include the following:

- Reduce directly connected paved areas.
- Direct runoff to landscaping to reduce runoff from the property.
- Use grassed swales to facilitate infiltration.
- Use drought tolerant or native vegetation
- Conserve natural areas.
- Protect slopes (i.e. with vegetation) to prevent erosion.

The objective of this is to mimic the natural hydrologic conditions of the site to minimize the increase in volume, velocity, rate and duration of the property after development.

Please preserve these features on your property and protect our river! Do not destroy these features and maintain them to remain effective.

TO REPORT STORMWATER POLLUTION IN SANTEE CALL (619) 258-4100 x168

CITY OF SANTEE

STORMWATER INFORMATION

STORMWATER FACT SHEET 16

STORMWATER INFORMATION

YARD & GARDEN MAINTENANCE



HOW CAN GARDENING HARM OUR WATERWAYS?

Yard maintenance can directly impact the quality of our local surface waters. When soil, organic wastes, dirt, leaves, grass clippings, and chemicals leave your yard, they flow directly into creeks and the ocean harming the health of humans and wildlife that swim in the waters, impacting the environment and water quality.

BEST MANAGEMENT PRACTICES (BMPs)

Whether you take care of your own yard or contract a professional service, you are responsible for ensuring that BMP's are implemented to reduce storm water pollution, protect water quality and conserve our valuable water and natural resources. By implementing the simple solutions in this fact sheet you can take part in protecting our local waterways and beaches.

- Use fertilizers sparingly and possibly consider using an organic fertilizer.
- Use an efficient irrigation method and try to avoid over-watering.
- Break watering down into five minute intervals, or less. This will allow water to soak in before the next application.
- Rather than applying a temporary, chemical only approach, try a natural method such as hand weeding and planting diverse native plants. This will result in a safer long term solution to weed and insect problems.
- Improve the health of your soil by adding compost and using organic mulches. You'll reduce the need for fertilizers and your plants will be healthier. You will also prevent soil erosion.

REMEMBER : When using a professional landscaping service

- **Make sure they sweep up clippings and dispose of them properly, rather than blowing them out into the street.**
- **If you decide to use pesticides, check to make sure the service is properly trained and licensed to apply them.**
- **Know how often fertilizers are used. Even professionals over -fertilize.**
- **The property owner is responsible for violations of the Clean Water Act.**

TO REPORT STORMWATER POLLUTION IN SANTEE CALL (619) 258-4100 X167

CITY OF SANTEE

STORMWATER INFORMATION

STORMWATER FACT SHEET 17

Fire Prevention and Erosion

During dry and hot seasons, vegetation can pose a fire risk, and requires proper management.

WHICH FIRE PREVENTION MEASURES ARE RECOMMENDED?

Vegetation on open lots should be *mowed* to a height of approximately four inches. The clippings can be left on top of the stubble, providing additional fire suppression. Dead shrubs, dead trees or limbs, and rubbish should be removed. The City's Municipal Code requires property owners to mow and/or clear a distance of one hundred feet from any structure and up to thirty feet along each side of roadways or driveways. Fire prevention measures should be implemented during late spring and early summer.

When a rare, threatened, or endangered plant or wildlife may be present on the property to be cleared, it is the responsibility of the owner, occupant or person in charge of the property to obtain all required permits or approvals from all other governmental agencies prior to removal of the nuisance. This includes California State Fish and Game and the U.S. Fish and Wildlife Service can be contacted at (760) 4341-9440). If you have questions contact City Development Services at (619) 258-4100 x168 with any questions.

WHY SHOULDN'T I JUST CLEAR THE GROUND OF VEGETATION?

Not only is this unattractive and unnecessary, but you risk losing the most valuable component of your ground through erosion. The top layer of soil tends to be rich in organic matter providing nutrients and a soil matrix hospitable to plant life. Once that has been removed, it will be difficult for plants to grow in this soil without the addition of expensive soil amendments.

Cutting vegetation allows the plant roots to help hold the soil in place minimizing erosion. Erosion prevention is important to prevent loss of land, damage of property downgradient of the erosion and potential pollution through the discharge of sediment to the storm drain system. The storm drain system conveys runoff from streets and private property to the river *untreated*. Blockages of the storm drain system may result in property damage and are costly to remove. Sediment discharged into our creeks and rivers is harmful to river life, including plants, insects and fish. If you are concerned about potential erosion, install erosion prevention measures (see http://www.cabmphandbooks.com/Construction.asp for more information).

Call Fire Prevention at (619) 258-4100 x184 for additional information.





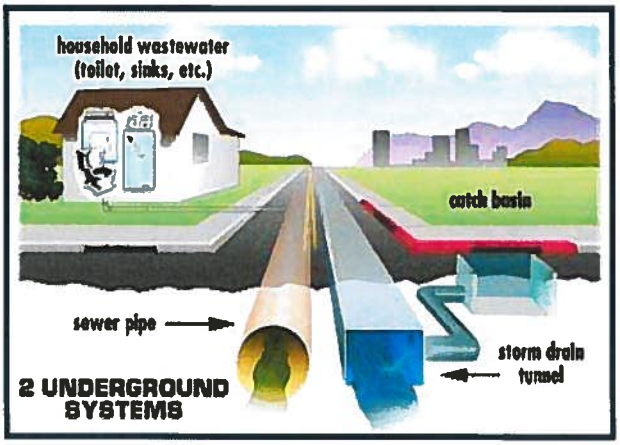
Area of eroded soil versus a slope stabilized with erosion prevention measures.

TO REPORT STORMWATER POLLUTION IN SANTEE CALL (619) 258-4100 x167

STORMWATER INFORMATION

Responding to Sewage Spills

Many people mistakenly believe that storm drains are connected to Padre Dam's sanitary sewer system and that any wastewater dumped into an alley, street or storm drain is treated at Padre Dam's sewage treatment plant. This is not the case. Any material discharged or washed into the street ends up in the San Diego River.



Raw sewage is a biohazard to people, and adds pollutants such as sediment and nutrients to the environment. The source of any sewage spill must be immediately stopped, and the spill must be contained. The affected area must be isolated to keep the public from exposure to the hazard. Sewage must be removed and the area disinfected by a properly trained person. Raw sewage may be discharged into the wastewater system with permission from Padre Dam.

Any sewage discharge into the storm water conveyance system, even from a blocked lateral line, is a violation of federal, state and local laws. These laws apply to individuals, businesses and public agencies. There are no exceptions.

Please ensure that any contractor you hire to respond to a sewage spill understands these regulations and has the ability to comply with them. By doing this you help to protect your family, and the environment from exposure to the sewage spill.



TO REPORT STORMWATER POLLUTION IN SANTEE CALL (619) 258-4100 x168

ATTACHMENT 8.1

OIL LEAK PREVENTION TIP CARD

PREVENT OIL LEAKS



HELPFUL TIPS

Promptly repair leaks as you discover them.

Use a tray or similar to "catch" the spill until repairs are completed.

Kitty litter can be used as an asborbant to remove spills.

***Do not* forget to sweep it up immediately after use, or it will end up in the storm drain system anyway.**

Avoid washing the residue into the storm drain system.

HELP PROTECT OUR RIVER!

Oil spills on the street are not only unsightly, they pollute our river.

When it rains, the residue is washed into the curb and gutter transporting hydrocarbons and metals into the storm drain system.

The storm drains system discharges runoff into the river UNTREATED.

PREVENT POLLUTION AND SHOW NEIGHBORHOOD PRIDE BY PROMPTLY REPAIRING LEAKS AND CLEANING UP SPILLS.

ATTACHMENT 8.2

SANTEE WEBSITE ARTICLES

Santee

Santee Review · Post

Keep Pesticides and Fertilizers Out of Our River

Update | Revert to draft | Preview

Compose | HTML

Normal

Link

Many folks don't make the connection between the health of the San D they apply to their lawns, gardens and landscaping.



The fact is, rain transports fertilizers and pesticides to the nearest creek or storm drain, and it ends up in the river where it can harm wildlife.

To protect the river's water quality, please do not fertilize your garden or landscaping within three days of a weather forecast predicting rain. When applying pesticides, follow the manufacturer's directions and use only the amount your plants need.

Unused fertilizer cannot be tossed in the trash. It must be taken to a household hazardous waste facility. Call the Waste Management customer service department at (619) 596-5100 to set up an appointment.

Thank you for helping to protect our river.

Post settings

Labels

Hazardous Waste, Stormwater

Published on

3/8/12 8:06 AM
Pacific Daylight Time

Links

Location

Options

Send feedback

Santee Review
Your update for city news and activities

Tuesday, May 15, 2012

Keeping the River Clean: Consider Compost

Little known fact: Yard waste such as cut grass that ends up in your local storm drain can adversely affect water quality in the San Diego River and other local waterways.

As it decomposes, rotting yard waste releases nutrients that promote the growth of algae, which can lower the river's dissolved oxygen level. It can also promote bacteria growth. The result is a triple-whammy of low dissolved oxygen, high nutrients and elevated bacteria levels that can cause problems for fish and other creatures in the river. Also, these stagnant conditions make the river less attractive for recreational use. Residents can prevent yard waste from reaching waterways by adding leaves and clippings to a compost pile or placing it in a curbside yard waste recycling container.



You can make a backyard compost pile by mixing grass clippings with leaves. Compost can return nutrients to the soil and help conserve water. Click here to watch a video on how to make your own compost.

This message is brought to you by the clean water team at Santee City Hall.

POSTED BY SANTEE AT 5/15/2012 08:48:00 AM

Recommend this on Google

LABELS: CLEAN WATER; STORM WATER

No comments:

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Note: Only a member of this blog may post a comment.

City of Santee, California

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Spring Cleaning at Forester Creek

Update | Revert to draft | Preview

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A crew of about a dozen workers, including Public Services Manager Bob Stein, (shown here), removed more than 15 cubic yards of trash and debris from Forester Creek Thursday.

Santee routinely cleans the concrete-lined channel to protect water quality in the San Diego River, which receives the flow from the tributary creek.

"We try to clean out the channel after every storm with city crews, volunteers and our contractors," Stein said.

Most of the trash, which includes tons of plastics, is transported by rai of El Cajon and gets flushed downstream to Santee, Stein explained.

Santee's stream cleaning effort is necessary to fulfill requirements of i permit, which is aimed at enforcing the federal Clean Water Act.

"To promote better water quality in the San Diego River, we regularly drainage channels and hire a contractor to perform street sweeping," S

Post settings

Labels

Forester Creek, Public Services Division

Published on

3/15/12 3:28 PM
Pacific Daylight Time

Links

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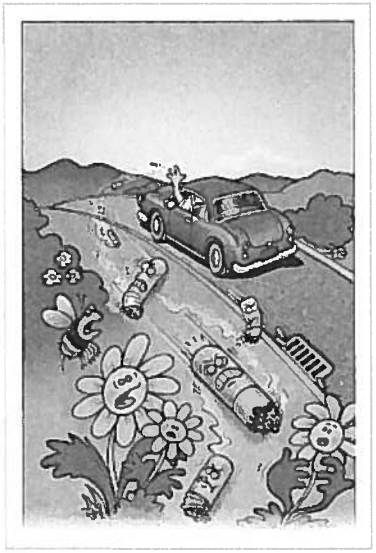
Santee Review
Your update for city news and activities

Thursday, February 2, 2012

No ifs, ands or butts, please



There's a simple solution to keeping cigarette butts out of our waterways: Don't toss them on the ground.

Seems like a no-brainer, right? The message is worth reinforcing because there are still too many cigarette butts that end up along our rivers and beaches.

Last year, cigarette butts were the most common item collected along the county's beaches, with more than 50,000 reported in 2011 compared to about 35,000 five years ago.

Cigarette filters are made from cellulose acetate, a hardy plastic that takes 15 to 20 years to decompose. Discarded filters contain chemicals that can harm aquatic life. They often end up on beaches because they're flicked out of moving vehicles or dropped on sidewalks then travel to storm drains and streams.

So if you're a smoker, please use portable ashtrays to store cigarette butts until they can be properly disposed of in a trash can.

POSTED BY SANTEE AT 2/02/2012 11:24:00 AM

+1 Recommend this on Google

LABELS: DEVELOPMENT SERVICES, STORMWATER

No comments:

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Post a Comment

Note: Only a member of this blog may post a comment.

City of Santee, California

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Santee Review

Your update for city news and activities

Wednesday, January 4, 2012

Only Rain in the Storm Drain

Please help the city of Santee keep trash and other waste out of our municipal storm drains.

Many folks don't realize that our storm drains are not connected to sewage treatment plants, where solids are screened out and liquids are treated.



This means that everything that finds its way into a city storm drain ends up in a creek or drainage channel that flows into the San Diego River. Much of the material that gets into the river, including plastic bags, eventually finds its way to the ocean.

Harm can occur even if you use a blower to push leaves into the storm drain. Leaves can not only clog a storm drain, they also decompose and promote bacteria growth, which can affect water quality in the river. Instead of using a blower, rake your leaves and bag them for disposal on the green waste trash pickup days.

And of course, never dispose of used oils, paints or household cleaners by dumping them into a storm drain. Those are toxic substances that can harm wildlife. The city provides a free disposal service to residents with household hazardous waste. To learn more, visit the city's website.

Hey, it's easy if you remember this: Only rain in the storm drain.

This message is brought to you by the clean water folks at Santee City Hall.

POSTED BY SANTEE AT 1/04/2012 03:54:00 PM

Recommend this on Google

LABELS: HAZARDOUS WASTE

No comments:

Post a Comment

City of Santee, California

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ATTACHMENT 12.1

ADDITIONAL STUDY

CITY OF SANTEE
2011 ADDITIONAL STUDY
RIVERS AND CREEKS






Submitted to:

City of Santee
Development Services
10601 Magnolia Avenue
Santee, CA 92071-1266

Prepared by:

D-MAX Engineering, Inc.
7220 Trade Street, Suite 119
San Diego, CA 92121
Tel: (858) 586-6600
Fax: (858) 586-6644

D-MAX Engineering, Inc.

Consultants in Water & Environmental Sciences

December 14, 2011
Project No. 201122W-4

Ms. Helen Perry
Storm Water Program Manager
City of Santee
10601 Magnolia Avenue
Santee, CA 92107-1266

Re: City of Santee 2011 Additional Study, Rivers and Creeks

Dear Ms. Perry:

Enclosed please find our final report for the City of Santee 2011 Additional Study. This report presents the results of the two rounds of monitoring conducted at five river and creek locations in the City of Santee during the 2011 dry weather season. The contents include field screening data and analytical laboratory test results, historical data, and photographs of sampling locations.

Review comments from the draft report submitted to the City have been incorporated into this final report. It has been our pleasure working with the City of Santee on this project.

Sincerely,
D-MAX Engineering, Inc.



Sara Dadkhah
Assistant Project Scientist

7220 Trade Street ■ Suite 119 ■ San Diego, CA 92121 ■ (858) 586-6600 ■ Fax (858) 586-6644

Table of Contents

Section **Page**

EXECUTIVE SUMMARY ..... ES- 1

1 INTRODUCTION 1

1.1 Objective 1
1.2 Geographical Setting 1
1.3 303(d) Listings 1
1.4 Monitoring Locations 1

2 FIELD AND LABORATORY ANALYTICAL METHODS 4

2.1 Field Screening Procedures 4
2.2 Laboratory Analytical Methods 5
2.3 Program Enhancements 7

3 FIELD SCREENING RESULTS 8

3.1 Qualitative Observations 8
3.2 Field Analytical Results 10

4 LABORATORY ANALYTICAL RESULTS 14

4.1 Summary 14

5 DATA ANALYSIS 17

6 CONCLUSIONS 22

7 REFERENCES 23

TABLES

1-1 2011 River and Creek Monitoring Stations
2-1 Field Analytical Methods
2-2 Laboratory Analytical Methods
3-1 Field Observations – Round One
3-2 Field Observations – Round Two
3-3 Statistical Summary of Field Analytical Results – Round One
3-4 Statistical Summary of Field Analytical Results – Round Two
3-5 Field Analytical Results – Round One
3-6 Field Analytical Results – Round Two
4-1 Laboratory Analytical Results – Round One
4-2 Laboratory Analytical Results – Round Two

FIGURES

1-1 City of Santee 2011 Additional Study Sampling Location Map
5-1 Additional Study Data: pH
5-2 Additional Study Data: Fecal Coliform Forester Creek
5-3 Additional Study Data: Fecal Coliform San Diego River
5-4 Additional Study Data: Fecal Coliform Sycamore Creek

APPENDICES

A Historical Monitoring Data
B Photographs of Sampling Locations
C Laboratory Analytical Reports
D Field Data and Trash Assessment Sheets

EXECUTIVE SUMMARY

The City of Santee Rivers and Creeks Additional Study is conducted in order to evaluate water quality in the city's major receiving waters, and to assess changes in water quality as flow passes through urbanized areas. The City of Santee (City) has monitored five receiving water sites twice per year since 2002. These include Forester Creek Downstream and Upstream, San Diego River Downstream and Upstream, and Sycamore Creek Downstream.

In 2011, the program was updated to include the analysis of *Escherichia coli* (*E. coli*) bacteria. In addition, all enhancements made to the program in 2010 were retained, which included the following:

- A project-specific Quality Assurance Project Plan was followed to ensure compatibility of collected data with the State's Surface Water Ambient Monitoring Program.
- In light of Clean Water Act Section 303(d) listings, the City elected to monitor receiving waters for selenium. Water samples from each site were analyzed for total selenium concentrations using two different methods. Inaccuracies have been reported with the standard method for selenium; therefore samples have been analyzed using another method to assess the data generated by the standard method.
- Sulfate testing was also added to the program based on findings that sulfate affects the availability and toxicity of selenium in water.

Notable findings from this year's program include:

- The majority of constituents met San Diego Basin Plan Water Quality Objectives (WQO).
- Concurrent with historical findings, no pH values exceeded WQOs at any of the water bodies assessed.
- Several bacteria results were above WQOs during Round One, which was likely a consequence of a preceding rain event (0.08 inch of rain). This rain event would not be considered to trigger wet weather conditions under *Revised Total Maximum Daily Loads for Indicator Bacteria, Project I – Twenty Beaches and Creeks in the San Diego Region, including Tecolote Creek* (Bacteria TMDL). During Round Two, bacteria levels were substantially lower. Overall, bacteria results display a decreasing trend over the course of this program.
- Total dissolved solids (TDS) and sulfate concentrations exceeded WQOs at the Forester Creek sites during Round 2. The TDS concentration at San Diego River Downstream was above the WQO during both rounds.
- Sycamore Creek was dry during both rounds of sampling.

1 INTRODUCTION

1.1 Objective

The objective of the City of Santee Rivers and Creeks Additional Study (Additional Study) is to evaluate water quality in the San Diego River, Forester Creek, and Sycamore Creek within the City of Santee (City) and to assess any changes in water quality as the waterbodies flow through urbanized areas of the City. This Additional Study is not required by any specific regulatory measure. However, water samples taken from these receiving waterbodies will be compared to the pertinent water quality objectives (WQO), as listed in the Water Quality Control Plan for the San Diego Basin 9 (Basin Plan).

The City has conducted this additional study of its receiving waterbodies twice each year since 2002. The data collected will serve to establish a baseline historical data set against which future monitoring results can be compared. This may prove especially useful in the City's efforts to comply with total maximum daily loads and other applicable requirements. Historical monitoring data is included as Appendix A to this report. Two rounds of Additional Study monitoring were conducted concurrently with the 2011 Dry Weather Field Screening and Analytical Monitoring Program in June, July, and August of 2011.

1.2 Geographical Setting

The City of Santee is located entirely within the San Diego River Watershed, Hydrologic Unit (HU) 907. The largest receiving waterbody in the City is the San Diego River, which enters the City in the east and flows west towards the Pacific Ocean. Other major receiving waterbodies include Forester Creek and Sycamore Creek, both of which eventually drain to the San Diego River. Forester Creek enters the City from the southeast and drains into the San Diego River at a location west of Carlton Hills Boulevard. Sycamore Creek enters the City from the north, flows southward, entering the San Diego River just west of Santee Recreation Lakes. All storm water drainage in the City of Santee flows either directly or indirectly to these creeks and ultimately to the San Diego River. The entire City of Santee, along with the whole of the City of El Cajon and portions of the cities of La Mesa, San Diego, and Poway, lie within the Lower San Diego River Hydrologic Area (HA) 907.1.

1.3 303(d) Listings

Portions of the San Diego River and Forester Creek have been placed on the Clean Water Act Section 303(d) list of impaired waters. In October 2011, the Environmental Protection Agency (EPA) approved the California 2008-2010 Section 303(d) List identifying parts of the lower San Diego River as impaired for *Enterococcus*, fecal coliform, low dissolved oxygen, manganese, nitrogen, phosphorus, total dissolved solids, and toxicity. Portions of Forester Creek have been listed for fecal coliform, selenium, total dissolved solids, and pH.

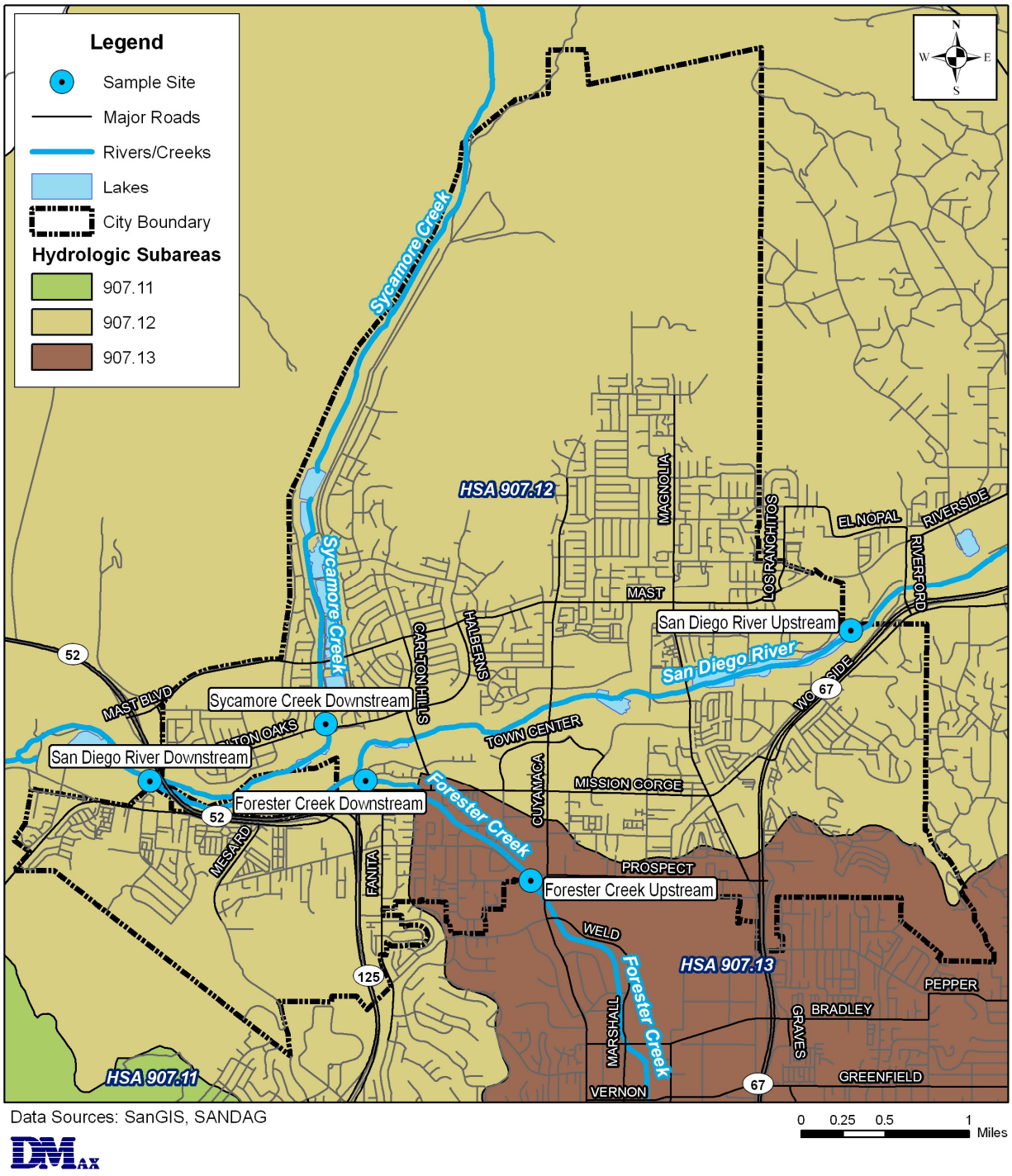
1.4 Monitoring Locations

The five monitoring sites selected for the Additional Study are presented in Table 1-1. The table provides the site number, location, conveyance configuration, land uses, hydrologic subarea, and GPS coordinates of each sampling locations. A map of sampling locations is included as Figure 1-1. Photographs of sampling locations are included in Appendix B.

TABLE 1-1
2011 RIVER AND CREEK MONITORING STATIONS

Site Name	Location	Conveyance	Primary Land Use	Secondary Land Use	Hydrologic Subarea	Latitude	Longitude
Forester Creek Downstream	Approximately 200 feet north of the Mission Gorge Road and Fanita Drive intersection, east of Fanita Creek	Natural Creek	Open	Commercial	907.12	32.83953	-117.00241
Forester Creek Upstream	Beneath the Prospect Avenue bridge, west of Cuyamaca Street	Concrete Channel	Industrial	Commercial	907.13	32.83093	-116.98543
San Diego River Downstream	Beneath the West Hills Parkway bridge	Natural Creek	Open	Residential	907.12	32.83936	-117.02450
San Diego River Upstream	Approximately 200 feet downstream of the rock dam at the east end of the RCP service road.	Natural Creek	Open	Industrial	907.12	32.85282	-116.95281
Sycamore Creek Downstream	Beneath the Carlton Oaks Drive bridge, west of the Santee Recreation Lakes	Natural Creek	Open	Residential	907.12	32.84441	-117.00652

FIGURE 1-1
CITY OF SANTEE 2011 ADDITIONAL STUDY SAMPLING LOCATION MAP



2 FIELD AND LABORATORY ANALYTICAL METHODS

2.1 Field Screening Procedures

Field screening techniques consist of qualitative field observations, flow measurements, and quantitative field analyses of selected water quality parameters. Weather conditions and time since last rainfall are also recorded. Specific observations and results of the field water quality analyses are documented on field data sheets, which serve as a record of the field visit and are included in Appendix D.

A Quality Assurance Project Plan (QAPP) was developed in 2010 describing the Quality Assurance/Quality Control (QA/QC) procedures associated with the project. The QAPP helps ensure that sampling is compatible with the State of California Surface Waters Ambient Monitoring Program (SWAMP) requirements for data quality.

Field screening and analyses were conducted according to the following procedures and methods.

Qualitative Observations

Qualitative field observations include a general site assessment and description of water odor, clarity, the presence of floatable materials, visible deposits or stains, and organisms. Each field screening location is photographed to document site conditions. Photographs are included in Appendix B.

Flow Measurement

Flow measurements can be used to estimate pollutant mass loading. The field method used to estimate the flow rate in this study consisted of measuring the velocity, depth, and width of the flowing water. The flow rate for the San Diego River Downstream location was taken from the Unites States Geological Survey (USGS) flow gauge.

Field Water Quality Analyses

At each site, water samples were collected and analyzed in the field for the following constituents:

- Temperature
- pH
- Specific Conductance
- Dissolved Oxygen

The methods used to perform the above field analyses, along with the reporting limit, range, and accuracy of each method, are listed in Table 2-1.

TABLE 2-1
FIELD ANALYTICAL METHODS

Parameter	Method*	Method Reporting Limit	Range	Accuracy
Temperature	Hanna Instruments HI 991301 Portable pH/EC/TDS/Temperature Meter	0.1°C	0.0°C – 60.0°C	± 0.5°C
pH	Hanna Instruments HI 991301 Portable pH/EC/TDS/Temperature Meter	0.01	0.00 – 14.00	± 0.01
Specific Conductance	Hanna Instruments HI 991301 Portable pH/EC/TDS/Temperature Meter	0.01 mS/cm	0 – 20 mS/cm	± 2% of FS[1]
Dissolved Oxygen	Hanna Instruments HI 9145 Portable Dissolved Oxygen Meter	0.00 mg/L	0.00 to 45.00 mg/L	± 1.5% of range

Notes:
EC = electrical conductivity; TDS = total dissolved solids; mS/cm = millisiemens per centimeter; °C = Degrees Celsius
[1] Functional sensitivity (FS) represents the lowest limit at which quantitative information is reliable. FS is estimated as the mean concentration for a spiked sample whose coefficient of variance (CV) is 20%. CV is the standard deviation divided by the mean.
*Test method information taken from Hanna Instruments manuals, available online at www.hannainst.com.

2.2 Laboratory Analytical Methods

At each site, samples were collected in sterile bottles for transport to the laboratory for analysis. Samples were submitted to laboratories certified by the California Department of Health Services. The laboratories were EnviroMatrix Analytical, Inc. (EMA), Sierra Analytical Labs, Inc. (Sierra), and Institute for Environmental Health, Environmental Engineering Laboratory, Inc. (IEH-EEL). The following constituents were analyzed:

- Nitrate/Nitrite as N
- Total Kjeldahl Nitrogen
- Total Nitrogen
- Orthophosphate as P
- Total Phosphorus
- Total Dissolved Solids
- Sulfate
- Total Selenium
- Total Coliform bacteria
- Fecal Coliform bacteria
- *Enterococcus* bacteria
- *E. coli* bacteria

The methods used to perform each of the above analyses along with method reporting limits and holding times are listed in Table 2-2. Water samples were collected, placed on ice in a cooler, and then submitted to the analytical laboratory within four hours of sampling to ensure that water samples for total coliform, fecal coliform, *Enterococcus,* and *E. coli* tests met standard bacteria holding time requirements.

TABLE 2-2
LABORATORY ANALYTICAL METHODS

Analyte	Analytical Method	Method Reporting Limit	Method Detection Limit	Maximum Holding Time
Institute for Environmental Health – Environmental Engineering Laboratory, Inc. (IEH-EEL)				
Total Coliform (MTF)	SM 9221B	2-1,600,000 MPN/100 mL	2 MPN/100 mL	6 hours
Fecal Coliform (MTF)	SM 9221E	2-160,000 MPN/100 mL	2 MPN/100 mL	6 hours
E. Coli (MTF)	SM 9221F	2-160,000 MPN/100 mL	2 MPN/100 mL	6 hours
EnviroMatrix Analytical, Inc. (EMA)				
Enterococcus (MTF)	SM 9230A,B	2-160,000 MPN/100 mL	2 MPN/100 mL	6 hours
Nitrate/Nitrite as N	SM4500 NO_3 E	0.05 mg/L	0.009 mg/L	48 hours
Total Kjeldahl Nitrogen	SM4500 N C	0.5 mg/L	0.3 mg/L	28 days
Total Nitrogen	Calculation*	0.5 mg/L	0.5 mg/L	na
Orthophosphate as P	SM4500 P E	0.05 mg/L	0.007 mg/L	48 hours
Total Phosphorus	SM4500 P B, E	0.05 mg/L	0.02 mg/L	28 days
Total Dissolved Solids	SM2540 C	20.0 mg/L	1.0 mg/L	7 days
Sulfate	SM4500 SO_4 E	50.0 mg/L	10.0 mg/L	28 days
Total Selenium	EPA 200.8	1 µg/L	0.5 µg/L	6 months
Total Selenium	EPA 200.8 modified**	1 µg/L	0.5 µg/L	6 months
Sierra Analytical Labs, Inc. (Sierra)				
Total Coliform (MTF)	SM 9221B	2-1,600,000 MPN/100 mL	2 MPN/100 mL	6 hours
Fecal Coliform (MTF)	SM 9221E	2-160,000 MPN/100 mL	2 MPN/100 mL	6 hours
Enterococcus (MTF)	SM 9230B	2-1,600,000 MPN/100 mL	2 MPN/100 mL	6 hours
E. Coli (MTF)	SM 9221E/F	2-160,000 MPN/100 mL	2 MPN/100 mL	6 hours
Nitrate/Nitrite as N	EPA 353.3/ SM4500 NO_2 B	0.02 mg/L	0.02 mg/L	48 hours
Total Kjeldahl Nitrogen	EPA 351.3	0.1 mg/L	0.1 mg/L	28 days
Total Nitrogen	SM4500-N	0.10 mg/L	0.10 mg/L	na
Orthophosphate as P, Total Phosphorus	EPA 365.2	0.05 mg/L	0.05 mg/L	48 hours
Total Dissolved Solids	EPA 160.1	1.0 mg/L	1.0 mg/L	7 days
Sulfate	EPA 375.4	0.5 mg/L	0.5 mg/L	28 days

Notes:
MTF = Multiple Tube Fermentation
MPN/100 mL = most probable number (of colony-forming units) per 100 milliliters
na = not applicable; µg/L = micrograms per liter
* Total Nitrogen is calculated as the sum of Nitrate/Nitrite as N and Total Kjeldahl Nitrogen
** Only nitric acid is used in the digestion (i.e., without hydrochloric acid) prior to analysis in accordance with EPA 200.8

2.3 Program Enhancements

Beginning in 2011, the Additional Study was updated to include *E. coli* monitoring. In light of Clean Water Act Section 303(d) listings, since 2010 the City elected to monitor receiving waters for selenium. Total selenium was prepared, digested, and analyzed twice: once per standard EPA Method 200.8 and once using a modified method in which only nitric acid is used in the digestion (i.e., without hydrochloric acid) prior to analysis in accordance with EPA 200.8. These different digest methods were used to compare the data generated, as the digest method has been reported to influence the final result. A statistical analysis was conducted to identify if differences between the methods were significant. The results of this analysis are discussed in Section 5. Sulfate testing was also added to the program based on findings that sulfate effects the availability and toxicity of selenium in water.

3 FIELD SCREENING RESULTS

3.1 Qualitative Observations

Round One

During Round One, all site visits were performed under partly cloudy or sunny conditions. During Round One, the Sycamore Creek monitoring location was dry. All water samples collected were clear, odorless, and yellow in color. No floatables were observed on the surface of the water at any site. Normal vegetation was observed at all sites. Algae were present at Forester Creek Upstream and at San Diego River Downstream. Insects were observed at all sites except Forester Creek Upstream, and ducks and fish were observed at several locations.

Qualitative observations made during Round One are presented in Table 3-1.

Round Two

Light conditions were sunny during all site visits in Round Two. As in Round One, the Sycamore Creek monitoring location was dry. All water samples collected were clear, odorless, and colorless with no floating materials present. Normal vegetation was observed at all sites. Insects were present at all sites, and a few sites also supported algae or fish.

Qualitative observations made during Round Two are presented in Table 3-2.

TABLE 3-1
FIELD OBSERVATIONS – ROUND ONE

Site	Date	Time	Light Conditions	Odor	Color	Clarity	Floatables	Deposits	Vegetation	Biology
Forester Creek Downstream	6/6/11	10:40	Partly Cloudy	None	Yellow	Clear	None	Sediment	Normal	Insects, ducks
Forester Creek Upstream	6/6/11	11:25	Partly Cloudy	None	Yellow	Clear	None	Sediment, Gravel, Fine Particulates	None	Algae
San Diego River Downstream	6/7/11	10:45	Sunny	None	Yellow	Clear	None	Sediment, Gravel, Fine Particulates	Normal	Insects, Algae
San Diego River Upstream	6/7/11	11:40	Sunny	None	Yellow	Clear	None	Sediment, Gravel, Fine Particulates	Normal	Insects, Fish
Sycamore Creek Downstream	7/19/11	8:15	Sunny	ns	ns	ns	ns	Sediment, Gravel, Fine Particulates	Normal	Insects

TABLE 3-2
FIELD OBSERVATIONS – ROUND TWO

Site	Date	Time	Light Conditions	Odor	Color	Clarity	Floatables	Deposits	Vegetation	Biology
Forester Creek Downstream	8/31/11	10:00	Sunny	None	None	Clear	None	Fine Particulates	Normal	Insects
Forester Creek Upstream	8/31/11	11:15	Sunny	None	None	Clear	None	Fine Particulates	None	Insects, Algae
San Diego River Downstream	8/30/11	10:00	Sunny	None	None	Clear	None	Sediment, Gravel, Fine Particulates	Normal	Insects, Algae
San Diego River Upstream	8/30/11	11:10	Sunny	None	None	Clear	None	Sediment, Fine Particulates	Normal	Insects, Fish
Sycamore Creek Downstream	8/29/11	11:00	Sunny	ns	ns	ns	ns	Sediment, Gravel, Fine Particulates	Normal	Insects

Note: ns = not sampled, dry site

3.2 Field Analytical Results

Descriptions of the field constituents measured during field monitoring are provided below.

Flow rate quantifies the volume of fluid passing across a given surface per unit time. Flow rate measurements are needed to calculate the load or particular amount of a pollutant discharged.

Water temperature is needed to assess the significance of other parameters, such as pH and conductivity. Also, the aquatic habitat must remain within a certain temperature range in order to sustain sensitive aquatic life. In the field, water temperature is measured immediately upon sample collection at each site.

The **pH** is an expression of acidity or alkalinity of a water sample. The pH of an aquatic system will affect a variety of chemical reactions, including the availability of nutrients and the solubility of chemical substances, particularly heavy metals.

Specific conductance (conductivity) measurements indicate the total concentration of ions in an aquatic system and the ability of the water to conduct electricity. This parameter can be used to assess the mineral content of water and potentially help indicate the presence of dissolved pollutants.

Dissolved Oxygen measurements indicate the amount of gaseous oxygen (O_2) dissolved in the water. Oxygen is added to water through photosynthesis by aquatic biota and diffusion from the surrounding air. The decomposition of organic material depletes oxygen levels, which can be detrimental to aquatic life. Excessive algal growth due to nutrient enrichment is frequently the source of decomposing material. In addition, higher values of dissolved oxygen often correspond with lower temperatures.

Statistical summaries of field analytical data are presented in Table 3-3 for Round One results and 3-4 for Round Two results. Data from field duplicate or dry sites has not been included in statistical summaries. Complete field analytical results are presented in Table 3-5 for Round One data and Table 3-6 for Round Two data.

TABLE 3-3
STATISTICAL SUMMARY OF FIELD ANALYTICAL RESULTS – ROUND ONE*

Parameter	Maximum	Minimum	Mean	Median
Flow (gpm)	3142	525	1199	565
Temperature (°C)	27.3	19.7	23.0	22.4
pH	8.5	7.6	7.9	7.8
Specific Conductance (mS/cm)	1.91	1.79	1.86	1.87
Dissolved Oxygen (mg/L)	8.79	5.54	6.89	6.62

TABLE 3-4
STATISTICAL SUMMARY OF FIELD ANALYTICAL RESULTS – ROUND TWO*

Parameter	Maximum	Minimum	Mean	Median
Flow (gpm)	807.9	155	404.0	326.5
Temperature (°C)	31.2	21.8	26.4	26.3
pH	8.31	7.49	7.87	7.84
Specific Conductance (mS/cm)	2.91	1.90	2.55	2.70
Dissolved Oxygen (mg/L)	7.84	5.27	6.35	6.15

Note: *All parameters met Basin Plan Water Quality Objectives

TABLE 3-5
FIELD ANALYTICAL RESULTS – ROUND ONE

Site	Date	Time	Flow[1] (gpm)	Temp. (ºC)	pH	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)
Forester Creek Downstream	6/6/11	10:40	603	19.7	7.6	1.91	5.91
*Forester Creek Downstream Duplicate**	*6/6/11*	*10:50*	603	*19.5*	*7.7*	*1.92*	*5.83*
Forester Creek Upstream	6/6/11	11:25	525	27.3	8.5	1.85	8.79
San Diego River Downstream	6/7/11	10:45	3142[2]	19.8	7.6	1.89	5.54
San Diego River Upstream	6/7/11	11:40	527	25.0	7.9	1.79	7.32
Sycamore Creek Downstream	7/19/11	8:15	Dry	ns	ns	ns	ns
Water Quality Objective			**	**	**> 6.5, < 9.0**	**20**	**5.0**

Notes: [1] Flow could not be assessed on the sampling date due to equipment malfunction. Flow was measured with a flow meter during an additional site visit.
[2] Flow measurement was taken directly from the USGS Stream flow data at http://waterdata.usgs.gov/ca/nwis/current/?type=flow&group_key=huc_cd.
* Field duplicate data as required by the Quality Assurance Project Plan are reported.
** No established WQO
ns = not sampled, dry site

TABLE 3-6
FIELD ANALYTICAL RESULTS – ROUND TWO

Site	Date	Time	Flow (gpm)	Temp. (ºC)	pH	Conductivity (mS/cm)	Dissolved Oxygen (mg/L)
Forester Creek Downstream	8/31/11	10:00	317	21.8	7.66	2.91	5.56
Forester Creek Upstream	8/31/11	11:15	336	31.2	8.31	2.6	7.84
San Diego River Downstream	8/30/11	10:00	807.9[1]	22.4	7.49	2.79	5.27
San Diego River Upstream	8/30/11	11:10	155	30.2	8.01	1.9	6.73
*San Diego River Upstream Duplicate**	*8/30/11*	*11:20*	*155*	*30.5*	*8.04*	*1.9*	*6.73*
Sycamore Creek Downstream	8/29/11	11:00	Dry	ns	ns	ns	ns
Water Quality Objective			**	**	**> 6.5, < 9.0**	**20**	**5.0**

Note: [1] Flow measurement was taken directly from the USGS Stream flow data at http://waterdata.usgs.gov/ca/nwis/current/?type=flow&group_key=huc_cd.
* Field duplicate data in accordance with the project QAPP
** No established WQO
ns = not sampled, dry site

4 LABORATORY ANALYTICAL RESULTS

4.1 Summary

Descriptions of the laboratory constituents for analytical monitoring conducted during both rounds are shown below.

Total Nitrogen is the sum of nitrate/nitrite as N and total Kjeldahl nitrogen. **Nitrate-N** is a common sign of nutrient pollution from agricultural or household fertilizer runoff. Nitrate pollution can cause excessive algal growth, resulting in oxygen depletion as algae decomposes and may eventually suffocate other aquatic life. **Total Kjeldahl Nitrogen** (TKN) is composed of organic nitrogen, ammonia, and ammonium and encompasses all components of the total nitrogen not available as nitrate or nitrite.

Total Phosphorus is the total amount of phosphorus, including both orthophosphate and less reactive forms. **Orthophosphate-P** is also an indicator of nutrient pollution from agricultural or household fertilizer runoff. Similar to nitrate-N, orthophosphate-P pollution can cause nutrient enrichment, stimulate algal growth, and thus deplete oxygen in the water to levels that are dangerous for aquatic life. Even low levels of orthophosphate-P can cause significant algal growth, as it is commonly the limiting nutrient in plant growth.

Total Dissolved Solids (TDS) measurements quantify the amount of dissolved minerals in water. Dissolved solids may originate from natural sources or be indicative of anthropogenic contribution. High levels of TDS can be toxic to aquatic life. In southern California, imported water may also be a source of TDS.

Sulfate is naturally occurring in most waterbodies. Within the San Diego region, sulfate primarily originates from the gypsiferous deposits and sulfide minerals associated with crystalline rocks. Sulfate is also a component of TDS.

Selenium is a naturally occurring element that can be toxic to aquatic life at high concentrations. Fish and invertebrates are primarily exposed to selenium through their diet, which bioaccumulates and can be passed to higher trophic levels, such as birds.

Coliform bacteria are relatively harmless to humans and are present in mammalian digestive tracts, most surface waters, and soils. Testing water samples for total coliform bacteria is a standard practice in public health. Total coliform is measured as an indicator of other more harmful pathogens, since these pathogens are generally present in much smaller quantities and are difficult to detect.

Fecal coliform, a subset of coliform bacteria, ***E. coli***, and ***Enterococcus*** are found primarily in the gastrointestinal tracts of humans and animals and are commonly used as indicators of water contamination by fecal matter. Recent studies have shown that Enterococci may also be associated with non-fecal sources such as plants. Without the use of significantly more sophisticated methods, such as ribotyping, it is not possible to determine the precise origin of these bacteria. Human fecal material is known to contain pathogens dangerous to humans, but the relationship between animal waste and threat to human health is less certain.

Complete laboratory analytical results are presented in Table 4-1 for Round One data and Table 4-2 for Round Two data. Laboratory reports are included in Appendix C.

TABLE 4-1
LABORATORY ANALYTICAL RESULTS – ROUND ONE

Site	Date	Time	Nitrate/Nitrite as N (mg/L)	Total Kjeldahl Nitrogen (mg/L)	Total Nitrogen (mg/L)	Orthophosphate as P (mg/L)	Total Phosphorus (mg/L)	Total Dissolved Solid (mg/L)	Sulfate (mg/L)	Total Selenium* (µg/L)	Total Selenium Modified* (µg/L)	Total Coliform (MPN/100 mL)	Fecal Coliform (MPN/100 mL)	*Enterococcus* (MPN/100 mL)	*E. coli* (MPN/100 mL)
Forester Creek Downstream	6/6/11	10:40	3.37	2.4	5.8	0.06	0.16	1,180	267	1	2	160,000	**54,000**	**9,000**	**54,000**
Forester Creek Upstream	6/6/11	11:25	4.06	1.8	5.9	0.04 J	0.05	1,150	246	2	1	54,000	**780**	**220**	490
San Diego River Downstream	6/7/11	10:45	0.79	1.8	2.6	0.15	0.19	**1,200**	246	0.6 J	nd	160,000	**2,300**	**1,300**	490
San Diego River Upstream	6/7/11	11:40	0.03 J	1.4	1.4	0.06	0.15	1,100	239	2	2	13,000	69	50	69
Sycamore Creek Downstream**	7/19/11	8:15	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
Reporting Limit			0.05	0.5	0.5	0.05	0.05	20	50	1	1	2	2	2	2
Water Quality Objective			**10**[1]	[1]	[1]	[1]	[1]	**1,500/ 1,000**[2]	**500**	**5**	**5**	[3]	**400**[4]	**151**[4]	**576**[4]

Notes:
Bold font = at or above WQO
*Total selenium was analyzed twice: once per EPA Method 200.8 and once per EPA Method 200.8 modified. The modified EPA method did not use hydrochloric acid.
** Additional data exists for a visit on 6/6/2011; however bacteria was analyzed past the holding time and the data is therefore invalid. Upon the 7/19/2011 revisit the site was dry.
nd = not detected; ns = not sampled, dry site; J = Value reported is below the reporting limit; measurements have an increased percent error.
[1] Regional guidance suggests using the EPA's nutrient endpoint tool to determine the Water Quality Objective (WQO). This tool requires more data than what has been collected within the scope of this study.
[2] WQO varies by watershed. WQO for Forester Creek and San Diego River Upstream is 1,500 mg/L. WQO for San Diego River Downstream and Sycamore Creek Downstream is 1,000 mg/L.
[3] No established limit.
[4] All sites are listed as REC-1 beneficial use, although they are not intensively used for this purpose.

TABLE 4-2
LABORATORY ANALYTICAL RESULTS – ROUND TWO

Site	Date	Time	Nitrate/Nitrite as N (mg/L)	Total Kjeldahl Nitrogen (mg/L)	Total Nitrogen (mg/L)	Orthophosphate as P (mg/L)	Total Phosphorus (mg/L)	Total Dissolved Solid (mg/L)	Sulfate (mg/L)	Total Selenium* (µg/L)	Total Selenium Modified* (µg/L)	Total Coliform (MPN/100 mL)	Fecal Coliform (MPN/100 mL)	*Enterococcus* (MPN/100 mL)	*E. coli* (MPN/100 mL)
Forester Creek Downstream	8/31/11	10:00	2.00	1.30	3.3	0.66	0.69	**1,970**	**550**	1	1	900	300	**300**	300
Forester Creek Upstream	8/31/11	11:15	4.40	1.25	5.65	0.69	0.73	**1,690**	**600**	2	2	1,500	**700**	**600**	350
San Diego River Downstream	8/30/11	10:00	1.30	1.45	2.75	0.32	0.34	**1,930**	400	0.8	0.8	8,000	90	80	70
San Diego River Upstream	8/30/11	11:10	1.40	1.28	2.68	0.33	0.35	1,280	275	2	2	3,300	21	40	14
San Diego River Upstream Duplicate	8/30/11	11:20	*1.50*	*1.24*	*2.74*	*0.34*	*0.37*	*1,270*	*285*	*2*	*2*	*3,000*	*40*	*70*	*24*
Sycamore Creek Downstream	8/29/11	11:00	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
Reporting Limit			0.05	0.5	0.5	0.05	0.05	20	5.0	0.5	0.5	2	2	2	2
Water Quality Objective			**10**[1]	[1]	[1]	[1]	[1]	**1,500/ 1,000**[2]	**500**	**5**	**5**	[3]	**400**[4]	**151**[4]	**576**[4]

Notes:
Bold font = at or above WQO
QA/QC duplicate sample
*Total selenium was analyzed twice: once per EPA Method 200.8 and once per EPA Method 200.8 modified. The modified EPA method did not use hydrochloric acid.
nd = not detected; ns = not sampled, dry site; J = Value reported is below the reporting limit; measurements have an increased percent error.
[1] Regional guidance suggests using the EPA's nutrient endpoint tool to determine the WQO. This tool requires more data than what has been collected within the scope of this study.
[2] WQO varies by watershed. WQO for Forester Creek and San Diego River Upstream is 1,500 mg/L. WQO for San Diego River Downstream and Sycamore Creek Downstream is 1,000 mg/L.
[3] No established limit.
[4] All sites are listed as REC-1 beneficial use, although they are not intensively used for this purpose.

5 DATA ANALYSIS

This section provides an overall evaluation of historical trends for the Additional Study.

A portion of Forester Creek outside of the City of Santee has been listed as impaired for pH; however, no samples in the history of the City of Santee Additional Study have had pH values outside of the Basin Plan WQO. A graph of historical pH results at the receiving water locations is provided in Figure 5-1.

Bacteria Analysis

Figures 5-2, 5-3, and 5-4 present historical fecal coliform measurements for Forester Creek, San Diego River, and Sycamore Creek, respectively, collected as part of the Additional Study. In general, fecal coliform levels in recent years are lower than the levels recorded in the earlier years of the program.

In comparison to historical data, bacteria levels measured at Forester Creek Upstream, Forester Creek Downstream, and San Diego River Downstream monitoring locations were relatively higher during the first round of sampling in 2011. Site conditions did not appear substantially different than previous years. It is likely that the elevated measurements were a result of the 0.08 inch rain event that occurred one day prior to sampling, although it was expected to have minimal to no impact on water quality. This data is significant as it demonstrates that even rain events smaller than 0.2 inch, which are counted as "dry weather" conditions in the Bacteria TMDL to which the City is subject, can result in significant increases in bacteria levels when compared to true dry weather conditions—no runoff within the last 72 hours. Considering small rain events "dry weather" makes compliance more difficult because the Bacteria TMDL has a built in allowable exceedance frequency for wet weather conditions but does not allow exceedances for dry weather conditions.

It is also important to note that single sample maximum water quality objectives were used to calculate bacteria exceedances in this report, as is appropriate when only one sample is taken at a site over a period of a month or more. The Bacteria TMDL, however, requires compliance with even lower standards that are applicable to 30-day calculated geometric means. This means that Bacteria TMDL monitoring requires more sampling and also applies stricter limits. For example, the single sample maximum standards for fecal coliforms and Enterococci are 400 MPN/100 mL and 151 MPN/100 mL, respectively. The 30-day geometric mean standards are much lower: 200 MPN/100 mL and 33 MPN/100 mL.

Bacteria levels were significantly lower during the second round of monitoring, which is consistent with typical results for the receiving waterbodies.

Total Selenium Methods

Total selenium results were obtained using the EPA 200.8 method and the modified method. Results from all analyses indicated selenium levels below WQOs at all sampled sites. The differences between results obtained during the 2010 and 2011 programs using the two methods were analyzed for statistical significance using the Wilcoxon Signed-Rank Test, a non-parametric statistical analysis, and a paired t-test. Based on the results of the 20 paired samples (two years of data), the statistical analyses identified the differences between samples as not statistically significant.

Figure 5-1
Additional Study Data: pH

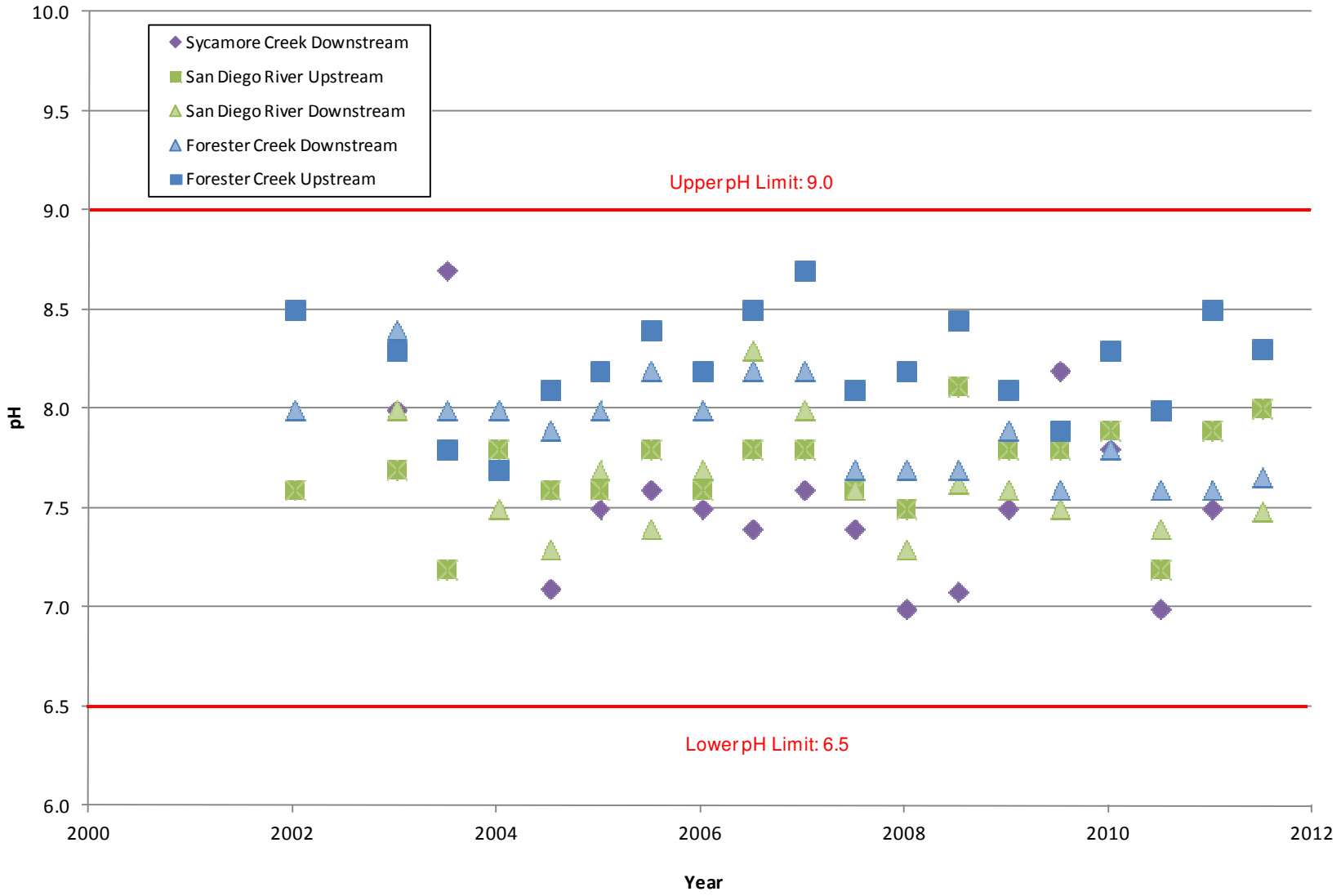


Figure 5-2
Additional Study Data: Fecal Coliform, Forester Creek

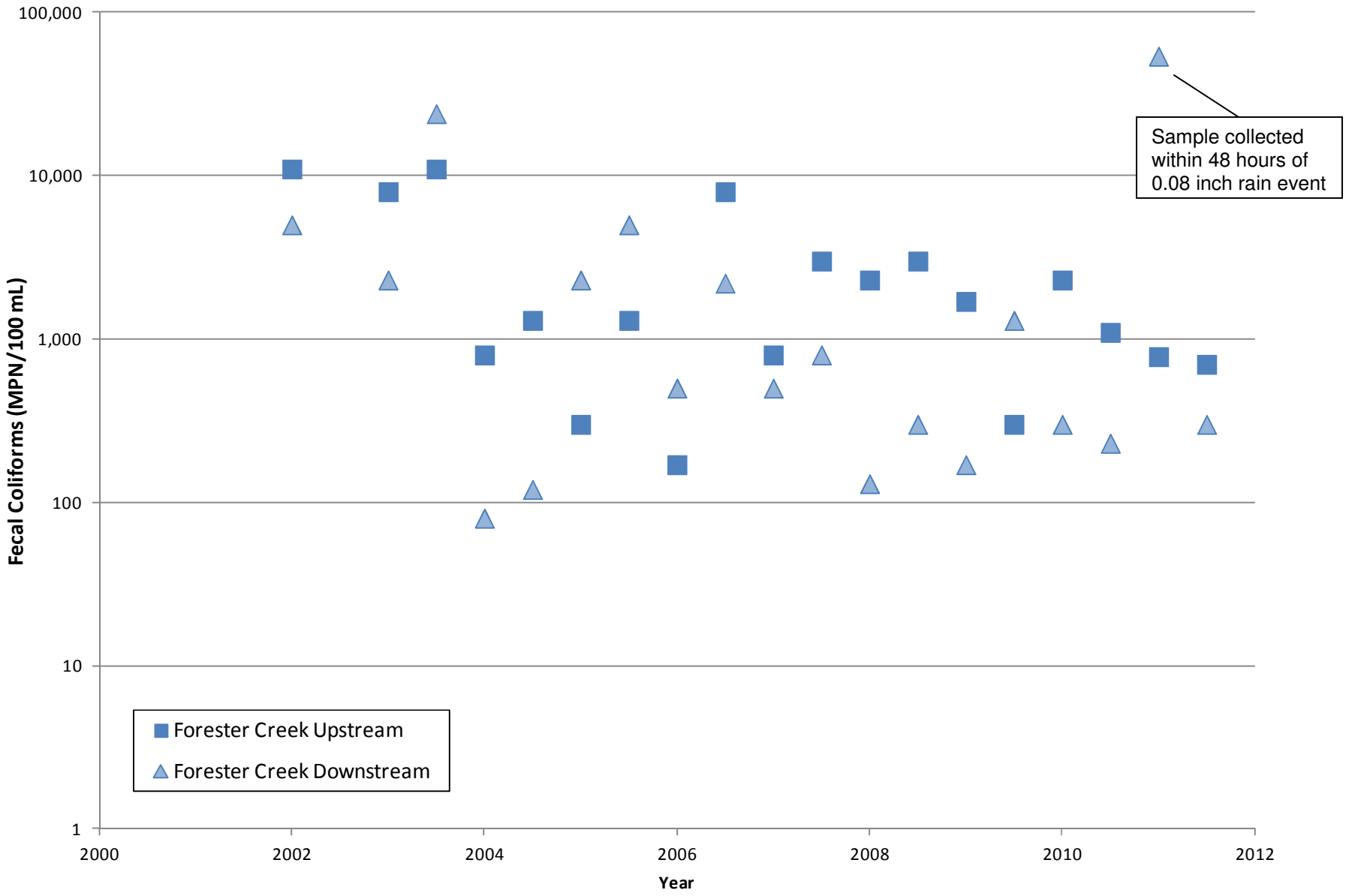


Figure 5-3
Additional Study Data: Fecal Coliform, San Diego River

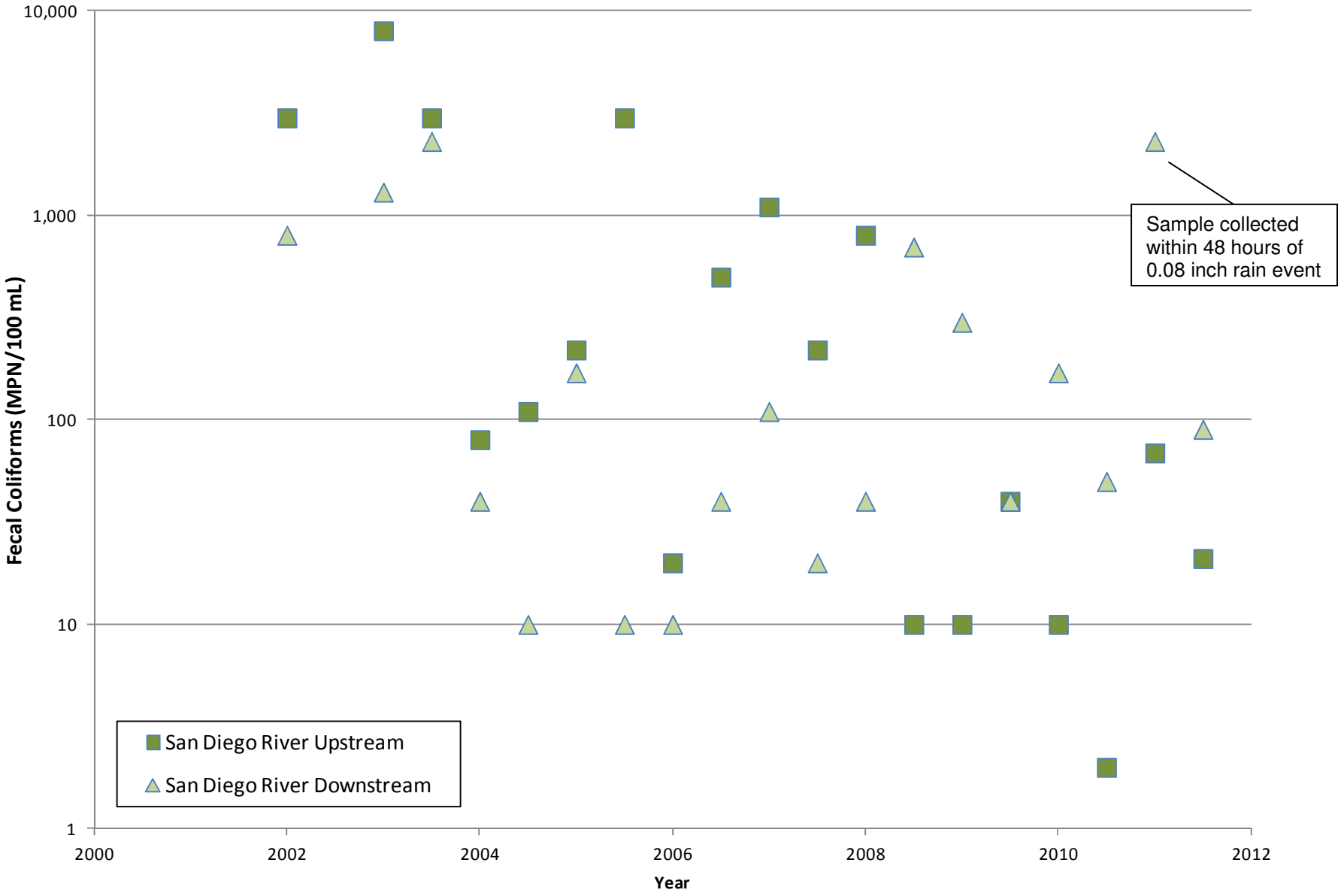
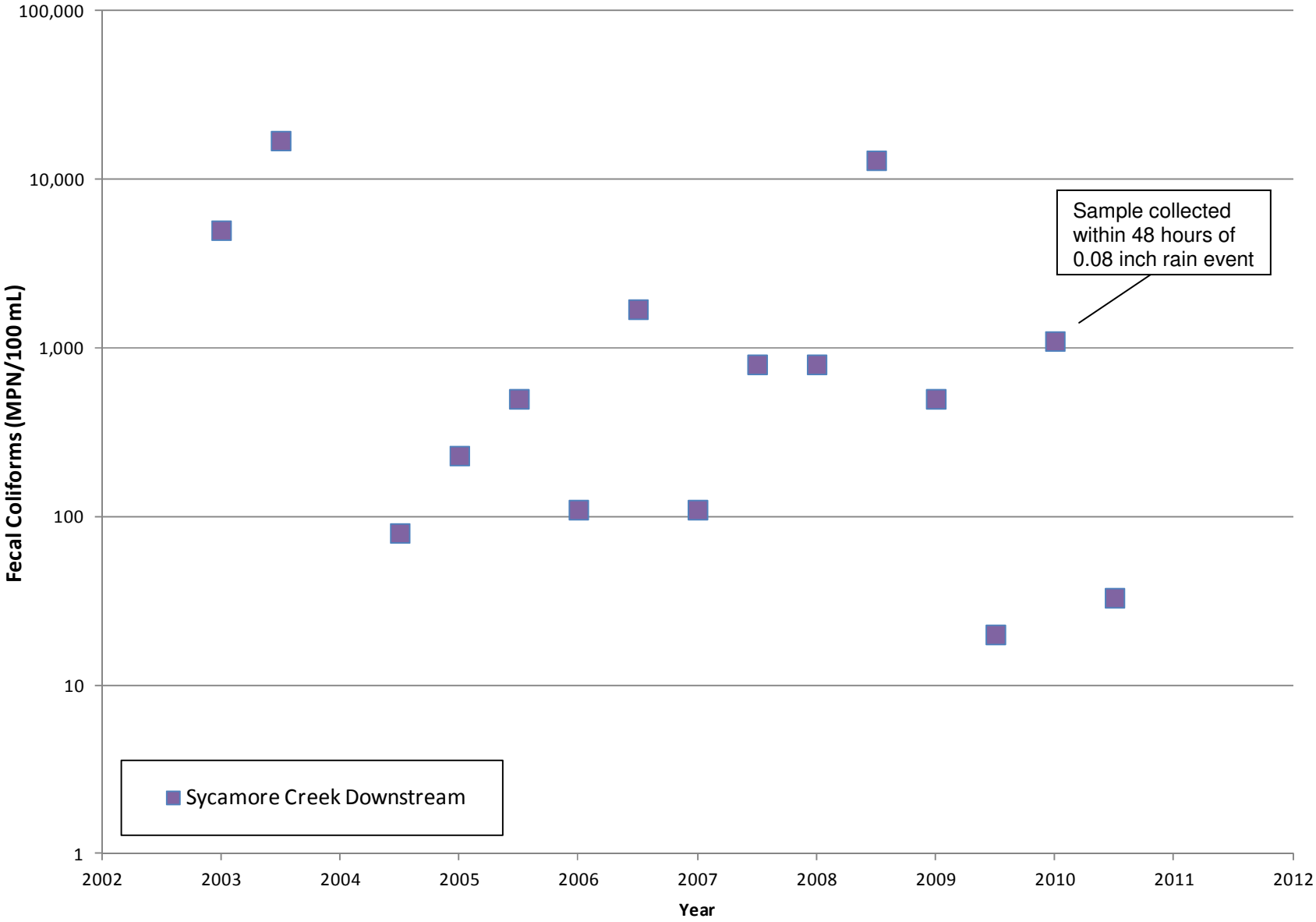


Figure 5-4
Additional Study Data: Fecal Coliform, Sycamore Creek



6 CONCLUSIONS

Based on the findings from, the study for 2011, the following conclusions can be made:

- The majority of constituents met San Diego Basin Plan WQOs.
- Concurrent with historical findings, no pH values exceeded WQOs at any of the water bodies assessed.
- Several bacteria results were above WQOs during Round One, which was likely a consequence of a preceding rain event (0.08 inch of rain). This rain event would not be considered to trigger wet weather conditions under the Bacteria TMDL. During Round Two, bacteria levels were substantially lower. Overall, bacteria results display a decreasing trend over the course of this program.
- Total dissolved solids and sulfate concentrations exceeded WQOs at the Forester Creek sites during Round 2. The TDS concentration at San Diego River Downstream was above the WQO during both rounds.
- Sycamore Creek was dry during both rounds of sampling.
- No significant difference was observed between selenium samples digested using a mixture of acids, or using nitric acid only.

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VassarStats: Website for Statistical Computation. http://faculty.vassar.edu/lowry/wilcoxon.html.

Appendix A

Historical Monitoring Data

Site	Date	Flow* (gpm)	Temp.	pH (°C)	Conductivity (mS/cm)	Turbidity (NTU)	Ammonia-N (mg/L)	Nitrate-N (mg/L)	Orthophosphate (mg/L mg/L PO4)	Orthophosphate-Phosphorus (mg/L PO4-P)	Surfactants- field test (mg/L MBAS)	Oil and Grease (mg/L)	Total Hardness (mg/L CaCO3)	Dissolved Cadmium (mg/L)	Dissolved Copper (mg/L)	Dissolved Lead (mg/L)	Dissolved Zinc (mg/L)	Diazinon (µg/L)	Chlorpyrifos (µg/L)	Total Coliform (MPN/100mL)	Fecal Coliform (MPN/100mL)	*Enterococcus* (MPN/100mL)	Surfactants - Lab test (mg/L MBAS)
2002																							
Forester Creek Downstream	9/3/2002	na	27.0	8.0	2.84	na	na	na	na	na	na	21.0	668	nd	nd	nd	nd	nd	nd	8,000	5,000	130	nd
Forester Creek Upstream	9/3/2002	233	32.0	8.5	2.67	na	na	na	na	na	na	14.0	587	nd	nd	nd	nd	nd	nd	22,000	11,000	170	nd
San Diego River Downstream	9/3/2002	144	25.0	8.0	2.79	na	na	na	na	na	na	22.0	709	nd	nd	nd	0.27	nd	nd	1,700	800	1,700	nd
San Diego River Upstream	9/3/2002	unmeasurable	25.5	7.6	2.11	na	na	na	na	na	na	4.00	557	nd	nd	nd	nd	nd	nd	5,000	3,000	80	nd
Sycamore Creek Downstream	9/4/2002	dry	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
2003 Round 1																							
Forester Creek Downstream	5/22/2003	unmeasurable	23	8.4	3.34	3.2	0.3	2	0.1	0.03	0.5	nd	585	nd	nd	nd	0.03	nd	nd	5,000	2,300	130	nd
Forester Creek Upstream	5/22/2003	548	21	8.3	3.60	0.92	0.2	4	0.1	0.03	0.25	nd	690	nd	nd	nd	0.021	nd	nd	17,000	8,000	130	nd
San Diego River Downstream	5/22/2003	3008	21	8	2.65	3.48	0.2	0.3	0.3	0.10	0.25	nd	549	nd	nd	nd	nd	nd	nd	2,200	1,300	210	nd
San Diego River Upstream	5/22/2003	unmeasurable	21	7.7	2.25	2.05	nd	0.2	0.2	0.07	0.25	nd	436	nd	nd	nd	nd	nd	nd	13,000	8,000	20	nd
Sycamore Creek Downstream	5/21/2003	100	25	8	1.77	0.11	0.1	0.2	0.2	0.07	0.25	15	299	nd	nd	nd	nd	nd	nd	8,000	5,000	70	nd
2003 Round 2																							
Forester Creek Downstream	9/17/2003	457	24	8.0	2.98	9.65	0.6	2.4	0.2	0.07	0.13	1	612	nd	nd	nd	nd	nd	nd	50,000	24,000	1,300	nd
Forester Creek Upstream	9/17/2003	254	21	7.8	2.96	3.98	0.3	8	0.1	0.03	0.25	nd	723	nd	nd	nd	nd	nd	nd	30,000	11,000	8,000	nd
San Diego River Downstream	9/17/2003	673	22.5	8.0	2.94	3.89	0.3	0.6	0.4	0.13	0.13	4	662	nd	nd	nd	nd	nd	nd	3,000	2,300	800	nd
San Diego River Upstream	9/17/2003	unmeasurable	23.5	7.2	2.24	16.66	0.3	0.2	2.0	0.65	0.13	2	609	0.006	nd	nd	nd	nd	nd	8,000	3,000	800	nd
Sycamore Creek Downstream	9/18/2003	187	20	8.7	2.21	4.82	0.3	0.2	0.1	0.03	0.25	2	430	nd	nd	nd	nd	nd	nd	30,000	17,000	1,700	nd
2004 Round 1																							
Forester Creek Downstream	7/15/2004	172	28	8.0	2.66	3.42	0.6	2.5	0.10	0.03	0.25	nd	709.0	nd	nd	nd	0.030	nd	nd	9000.0	80.0	40.0	nd
Forester Creek Upstream	7/15/2004	269	32	7.7	2.47	8.06	0.2	2.5	0.10	0.03	0.25	nd	660	nd	nd	nd	nd	nd	nd	8000	800	110	nd
San Diego River Downstream	7/15/2004	400	29	7.5	1.75	2.47	0.1	1.25	1.50	0.49	0.25	nd	596	nd	nd	nd	nd	nd	nd	2600	40	nd	nd
San Diego River Upstream	7/15/2004	unmeasurable	26	7.8	2.45	9.88	0.80	1.25	0.30	0.10	0.25	nd	694.00	nd	nd	nd	nd	nd	nd	1700.00	80.00	40.00	nd
Sycamore Creek Downstream	7/16/2004	Dry	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns	ns
2004 Round 2																							
Forester Creek Downstream	9/24/2004	203	21	7.9	2.87	17.79	0.3	2.5	0.2	0.07	0.25	nd	662	nd	nd	nd	0.026	nd	nd	11,000	120	300	nd
Forester Creek Upstream	9/24/2004	226	23	8.1	2.63	2.04	0.1	5	0.1	0.03	0.38	nd	645	nd	nd	nd	nd	nd	nd	14,000	1,300	270	nd
San Diego River Downstream	9/24/2004	269	20	7.3	2.00	6.3	0.1	nd	3	0.98	0.25	2	610	nd	nd	nd	0.031	nd	nd	700	nd	nd	nd
San Diego River Upstream	9/24/2004	unmeasurable	20	7.6	2.64	5.03	0.3	1.25	0.6	0.2	0.25	1	650	nd	nd	nd	nd	nd	nd	16,000	110	80	nd
Sycamore Creek Downstream	9/27/2004	20	20	7.1	2.09	4.46	0.3	nd	0.1	0.03	0.5	1	404	nd	nd	nd	nd	nd	nd	30,000	80	3,000	nd
2005 Round 1																							
Forester Creek Downstream	5/18/2005	na	21.3	8.0	2.56	7.85	0.2	7.50	0.10	0.03	0.25	nd	805	nd	nd	nd	nd	nd	nd	9,000	2,300	1,100	nd
Forester Creek Upstream	5/18/2005	na	20.6	8.2	2.86	1.48	0.2	6.25	0.10	0.03	0.25	nd	881	nd	nd	nd	nd	nd	nd	5,000	300	300	nd
San Diego River Downstream	5/18/2005	3861	24.0	7.7	1.44	5.70	0.1	1.25	0.10	0.03	0.25	nd	613	nd	nd	nd	nd	nd	nd	1,700	170	20	nd
San Diego River Upstream	5/18/2005	unmeasurable	21.7	7.6	2.22	4.59	0.10	2.50	0.60	0.20	0.25	nd	567	nd	nd	nd	nd	nd	nd	9,000	220	1,300	nd
Sycamore Creek Downstream	5/17/2005	na	22.9	7.5	1.61	8.76	0.2	1.25	0.1	0.03	0.25	nd	282	nd	nd	nd	nd	nd	nd	11,000	230	500	nd
2005 Round 2																							
Forester Creek Downstream	9/22/2005	468	23.4	8.2	2.66	6.68	0.3	5.00	0.10	0.03	0.38	nd	727	nd	nd	nd	nd	nd	nd	1,600,000	5,000	500	nd
Forester Creek Upstream	9/22/2005	316	24.2	8.4	2.65	5.24	0.3	7.5	nd	nd	0.5	nd	772	nd	nd	nd	nd	nd	nd	240,000	1,300	230	nd
San Diego River Downstream	9/22/2005	763	20.7	7.4	2.11	8.58	0.1	1.25	2.00	0.65	0.25	nd	653	0.005	nd	nd	nd	nd	nd	240,000	nd	500	nd
San Diego River Upstream	9/22/2005	unmeasurable	22.4	7.8	2.60	2.27	0.20	1.25	0.40	0.13	0.50	nd	733	nd	nd	nd	nd	nd	nd	80,000	3,000	40	nd
Sycamore Creek Downstream	9/26/2005	50	21.4	7.6	1.83	4.59	0.3	1.25	nd	nd	0.25	nd	373	nd	nd	nd	nd	nd	nd	130,000	500	500	nd
2006 Round 1																							
Forester Creek Downstream	5/18/2006	608	21.3	8.0	2.56	7.85	0.2	7.50	0.10	0.03	0.25	nd	740	nd	nd	nd	nd	nd	nd	80,000	500	170	nd
Forester Creek Upstream	5/18/2006	561	20.6	8.2	2.86	1.48	0.2	6.25	0.10	0.03	0.25	nd	692	nd	nd	nd	nd	nd	nd	6,000	170	20	nd
San Diego River Downstream	5/19/2006	2514	24.0	7.7	1.44	5.70	0.1	1.25	0.10	0.03	0.25	nd	448	nd	nd	nd	nd	nd	nd	13,000	nd	nd	nd
San Diego River Upstream	5/19/2006	unmeasurable	21.7	7.6	2.22	4.59	0.10	2.50	0.60	0.20	0.25	nd	608	nd	nd	nd	nd	nd	nd	50,000	20	40	nd
Sycamore Creek Downstream	5/19/2006	133	22.9	7.5	1.61	8.76	0.2	1.25	0.1	0.03	0.25	nd	370	nd	nd	nd	nd	nd	nd	170,000	110	700	nd
2006 Round 2																							
Forester Creek Downstream	9/25/2006	624	22.6	8.2	2.58	30.23	0.2	5.00	nd	nd	0.25	nd	683	nd	nd	nd	nd	nd	nd	80,000	2,200	1,700	nd
Forester Creek Upstream	9/25/2006	467	24.4	8.5	2.49	4.37	0.2	5	nd	nd	0.25	nd	641	nd	nd	nd	nd	nd	nd	30,000	8000	2300	nd
San Diego River Downstream	9/22/2006	1392	22.3	8.3	1.86	9.28	0.2	1.25	0.30	0.10	0.13	nd	528	nd	nd	nd	nd	nd	nd	800	40	20	nd
San Diego River Upstream	9/22/2006	unmeasurable	20.2	7.8	2.47	4.30	0.20	2.50	0.40	0.14	0.25	nd	614	nd	nd	nd	nd	nd	nd	13,000	500	230	nd
Sycamore Creek Downstream	9/22/2006	20	20.4	7.4	1.85	9.14	0.2	2.5	nd	nd	0.25	nd	345	nd	nd	nd	0.024	nd	nd	50,000	1,700	500	nd
2007 Round 1																							
Forester Creek Downstream	5/22/2007	655	18.1	8.2	2.45	25.94	0.5	4.57	0.30	0.10	0.25	nd	827	nd	nd	nd	nd	nd	nd	8,000	500	500	nd
Forester Creek Upstream	5/22/2007	585	19.3	8.7	2.49	2.55	0.1	4.93	nd	nd	0.25	nd	715	nd	nd	nd	nd	nd	nd	3,000	800	80	nd
San Diego River Downstream	5/22/2007	1392	20.8	8.0	1.69	3.94	nd	0.2	0.30	0.10	0.25	nd	601	nd	nd	nd	nd	nd	nd	1,700	110	nd	nd
San Diego River Upstream	5/22/2007	unmeasurable	18.2	7.8	2.31	8.29	0.20	1.88	0.30	0.10	0.25	nd	673	nd	nd	nd	nd	nd	nd	5,000	1,100	800	nd
Sycamore Creek Downstream	5/23/2007	156	19.7	7.6	1.48	9.57	0.1	0.16	0.2	0.07	0.25	nd	332	nd	nd	nd	nd	nd	nd	23,000	110	230	nd
2007 Round 2																							
Forester Creek Downstream	10/31/2007	234	17.7	7.7	2.66	10.21	0.3	2.31	0.50	0.16	0.38	nd	664	nd	nd	nd	nd	nd	nd	5,000	800	800	nd
Forester Creek Upstream	10/31/2007	148	16.5	8.1	2.65	1.58	0.1	4.72	0.10	0.03	0.5	nd	758	nd	nd	nd	nd	nd	nd	11,000	3,000	3,000	nd
San Diego River Downstream	10/30/2007	584	20.6	7.6	1.94	0.79	0.1	0.38	1.00	0.33	0.13	nd	567	nd	nd	nd	nd	nd	nd	1,300	20	40	nd
San Diego River Upstream	10/30/2007	unmeasurable	18.8	7.6	2.59	2.06	0.2	1.20	0.80	0.26	0.38	nd	626	nd	nd	nd	nd	nd	nd	1,300	220	700	nd
Sycamore Creek Downstream	10/31/2007	156	17.2	7.4	2.17	4.07	0.1	0.59	0.2	0.07	0.25	nd	448	nd	nd	nd	nd	nd	nd	5,000	800	300	nd

Site	Date	Flow* (gpm)	Temp.	pH (°C)	Conductivity (mS/cm)	Turbidity (NTU)	Dissolved Oxygen (mg/L)	Total Coliform (MPN/100mL)	Fecal Coliform (MPN/100mL)	*Enterococcus* (MPN/100mL)	Nitrate/ Nitrite as N	Total Kjeldahl Nitrogen (mg/L)	Total Nitrogen (mg/L)	Orthophosphate as P (mg/L)	Total Phosphorus (mg/L)	Total Dissolved Solids (mg/L)	Sulfate (mg/L)	Total Selenium (µg/L)	Total Selenium Modified (µg/L)
2008 Round 1																			
Forester Creek Downstream	5/28/2008	281	19.9	7.7	2.77	1.25	6.76	17,000	130	700	3.24	1.9	5.2	0.11	0.11	1760	na	na	na
Forester Creek Upstream	5/28/2008	213	23.0	8.2	2.53	16.20	9.30	30,000	2,300	500	5.16	2.7	7.8	0.05	0.06	1590	na	na	na
San Diego River Downstream	5/28/2008	1212	20.5	7.5	2.46	0.01	6.60	5,000	800	700	0.84	1.9	2.8	0.16	0.16	1510	na	na	na
San Diego River Upstream	5/28/2008	unmeasurable	18.2	7.3	1.84	2.40	7.44	500	40	nd	nd	1.5	1.5	0.18	0.19	1130	na	na	na
Sycamore Creek Downstream	5/29/2008	56	15.1	7.0	1.40	0.69	7.42	5,000	800	5,000	0.13	2.2	2.4	0.11	0.11	941	na	na	na
2008 Round 2																			
Forester Creek Downstream	9/9/2008	359	22.9	7.7	2.78	7.98	6.46	13,000	300	2,300	0.99	2.1	3.1	0.32	0.33	1690	na	na	na
Forester Creek Upstream	9/4/2008	397	31.5	8.5	2.73	4.71	7.00	17,000	3,000	70	3.72	2.2	5.9	0.32	0.36	1650	na	na	na
San Diego River Downstream	9/4/2008	449	25.9	7.6	2.79	2.03	5.94	13,000	700	500	0.42	2.5	3	0.25	0.3	1790	na	na	na
San Diego River Upstream	9/4/2008	unmeasurable	30.8	8.1	1.87	7.62	8.56	300	nd	20	nd	2.9	2.9	0.08	0.08	1180	na	na	na
Sycamore Creek Downstream	9/9/2008	Ponded	28.4	7.1	2.70	31.71	5.51	130,000	80	130,000	nd	7.6	7.6	0.36	0.42	1700	na	na	na
2009 Round 1																			
Forester Creek Downstream	5/19/2009	468	23.8	7.9	2.60	31.55	5.76	2,800	170	500	0.7	0.8	1.4	0.66	0.67	1560	na	na	na
Forester Creek Upstream	5/19/2009	355	27.9	8.1	2.84	6.14	8.86	3,500	1700	800	4.93	1.1	6	0.33	0.34	1830	na	na	na
San Diego River Downstream	5/19/2009	1,392*	22.0	7.6	2.60	5.89	6.28	30,000	300	130	1.93	0.8	2.7	0.09	0.1	1680	na	na	na
San Diego River Upstream	5/19/2009	Unmeasureable*	24.6	7.8	1.73	10.76	7.95	1,300	nd	20	nd	2.5	2.5	0.13	0.32	1230	na	na	na
Sycamore Creek Downstream	5/20/2009	Ponded	20.5	7.5	1.34	4.41	5.25	11,000	500	1,400	0.23	3.9	4.1	0.19	0.28	767	na	na	na
2009 Round 2																			
Forester Creek Downstream	9/2/2009	94	26.6	7.6	2.97	7.61	5.56	11,000	1300	500	1.32	nd	1.6	0.12	0.25	1900	na	na	na
Forester Creek Upstream	9/2/2009	107	31.5	7.9	2.81	3.9	8.73	2,300	300	40	3.36	0.6	4	0.05	0.28	1850	na	na	na
San Diego River Downstream	9/2/2009	135*	26.8	7.5	2.98	2.8	5.89	2,300	40	80	0.44	0.6	1	0.12	0.14	1920	na	na	na
San Diego River Upstream	9/2/2009	Unmeasurable*	27.5	7.8	1.88	10.3	7.91	600	40	20	0.43	0.8	1.2	nd	0.2	1240	na	na	na
Sycamore Creek Downstream	9/3/2009	78	27.7	8.2	1.99	5.83	5.21	8,000	20	220	nd	3.3	3.3	0.1	0.27	1230	na	na	na
2010 Round 1																			
Forester Creek Downstream	5/17/2010	654	20.5	7.8	2.76	na	7.89	17,000	300	40	4.3	1.2	5.5	0.09	0.21	1,710	446	2	2
Forester Creek Upstream	5/17/2010	586	20.2	8.3	2.73	na	9.68	3,000	2,300	500	7.36	0.8	8.2	0.34	0.35	1,660	383	2	2
San Diego River Downstream	5/17/2010	1212	19	7.8	2.05	na	6.95	5,000	170	20	1.12	0.5	1.6	0.11	0.27	1,280	248	0.7	0.5
San Diego River Upstream	5/17/2010	166	21	7.9	1.5	na	8.27	500	nd	20	0.16	0.7	0.9	0.17	0.61	891	188	2	1
Sycamore Creek Downstream	5/17/2010	260	20.7	7.8	1.09	na	6.1	3,000	1,100	170	0.18	1	1.2	0.08	0.2	645	157	0.1	0.1
2010 Round 2																			
Forester Creek Downstream	9/15/2010	69	20.8	7.6	2.75	na	5.66	2,200	230	800	2.7	1.7	4.4	0.36	0.37	1,740	170	1	2
Forester Creek Upstream	9/15/2010	49	28.9	8	2.71	na	7.72	5,000	1,100	500	6.28	1.8	8.1	0.1	0.12	1,720	165	2	2
San Diego River Downstream	9/15/2010	188.5	21.3	7.4	2.83	na	5.12	5,000	50	13	0.93	1.7	2.6	0.21	0.22	1,740	354	0.7	0.6
San Diego River Upstream	9/15/2010	25	23.8	7.2	1.89	na	7.68	170	2	2	0.1	1.1	1.2	0.1	0.2	1,150	265	2	3
Sycamore Creek Downstream	9/16/2010	58	20.1	7	1.93	na	5.21	23,000	33	130	0.08	0.8	0.9	0.06	0.11	1,140	349	0.2	0.3

Notes:

nd = not detected

ns = not sampled (dry site)

na = not analyzed

* The accuracy of manual flow estimation techniques decreases as flow volume increases. Because of high flow rates in the San Diego River, the United States Geological Service (USGS) flow gauge data has been used in this report. The USGS flow gauge is located in proximity to the San Diego River downstream sampling location; however no gauge exists near the San Diego River upstream sampling location. Thus the upstream flow has been reported as unmeasurable.

Appendix B

Photographs of Sampling Locations

Forester Creek Downstream	
Forester Creek Upstream	
San Diego River Downstream	

San Diego River Upstream	
Sycamore Creek Downstream	

Appendix C

Laboratory Analytical Reports

Round One

14 June 2011

D-Max Engineering
Attn: Arsalan Dadkhah
7220 Trade Street, Suite 119
San Diego, California 92121

EMA Log #: 11F0139

Project Name: Santee Receiving Waters Study
Project Desc./#: 201022W-4

Enclosed are the results of analyses for samples received by the laboratory on 06/06/11 12:54. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that this data is in compliance both technically and for completeness.

Dan Verdon
Laboratory Director

CA ELAP Certification #: 2564

Client Name: D-Max Engineering **EMA Log #: 11F0139**
Project Name: Santee Receiving Waters Study

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Sycamore Cr. Downstream	11F0139-01	Stormwater	06/06/11 09:30	06/06/11 12:54
Forester Cr. downstream	11F0139-02	Stormwater	06/06/11 10:40	06/06/11 12:54
Forester Cr. upstream	11F0139-03	Stormwater	06/06/11 11:25	06/06/11 12:54

NOTE: Per client request Selenium was prepared/digested/analyzed twice; once per EPA Method 200.8 (Batched in #1060804) and once per EPA Method 200.8 modified (seen as RE1, Batched in #1060825). Modified EPA 200.8 method deleted all use of HCl.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 11F0139**
Project Name: Santee Receiving Waters Study

Total Metals by EPA 200 Series Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sycamore Cr. Downstream (11F0139-01) Stormwater Sampled: 06/06/11 09:30 Received: 06/06/11 12:54										
Selenium	ND	0.0005	0.001	mg/l	1	1060804	06/07/11	06/13/11	EPA 200.8	
Sycamore Cr. Downstream (11F0139-01RE1) Stormwater Sampled: 06/06/11 09:30 Received: 06/06/11 12:54										
Selenium	ND	0.005	0.010	mg/l	1	1060825	06/08/11	06/09/11	EPA 200.8	
Forester Cr. downstream (11F0139-02) Stormwater Sampled: 06/06/11 10:40 Received: 06/06/11 12:54										
Selenium	**0.001**	0.0005	0.001	mg/l	1	1060804	06/07/11	06/13/11	EPA 200.8	
Forester Cr. downstream (11F0139-02RE1) Stormwater Sampled: 06/06/11 10:40 Received: 06/06/11 12:54										
Selenium	**0.002**	0.0005	0.001	mg/l	1	1060825	06/08/11	06/09/11	EPA 200.8	
Forester Cr. upstream (11F0139-03) Stormwater Sampled: 06/06/11 11:25 Received: 06/06/11 12:54										
Selenium	**0.002**	0.0005	0.001	mg/l	1	1060804	06/07/11	06/13/11	EPA 200.8	
Forester Cr. upstream (11F0139-03RE1) Stormwater Sampled: 06/06/11 11:25 Received: 06/06/11 12:54										
Selenium	**0.001**	0.0005	0.001	mg/l	1	1060825	06/08/11	06/09/11	EPA 200.8	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 11F0139**
Project Name: Santee Receiving Waters Study

Conventional Chemistry Parameters by Standard/EPA Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sycamore Cr. Downstream (11F0139-01) Stormwater Sampled: 06/06/11 09:30 Received: 06/06/11 12:54										
Nitrate/Nitrite as N	**0.18**	0.009	0.05	mg/l	1	1060802	06/08/11	06/08/11	SM4500 NO3 E	
Total Kjeldahl Nitrogen	**2.2**	0.3	0.5	"	"	1060905	06/10/11	06/10/11	SM4500 N C	
Total Nitrogen	**2.4**	0.5	0.5	"	"	1061025	06/10/11	06/10/11	Calculation	
Orthophosphate as P	**0.06**	0.007	0.05	"	"	1060708	06/07/11	06/07/11	SM4500 P E	
Phosphorus, Total	**0.06**	0.02	0.05	"	"	1060749	06/09/11	06/09/11	SM4500 P B, E	
Total Dissolved Solids	**673**	1.0	20.0	"	"	1060748	06/09/11	06/09/11	SM2540 C	
Sulfate as SO4	**154**	10.0	50.0	"	10	1061323	06/13/11	06/13/11	SM4500 SO4 E	
Forester Cr. downstream (11F0139-02) Stormwater Sampled: 06/06/11 10:40 Received: 06/06/11 12:54										
Nitrate/Nitrite as N	**3.37**	0.09	0.50	mg/l	10	1060802	06/08/11	06/08/11	SM4500 NO3 E	
Total Kjeldahl Nitrogen	**2.4**	0.3	0.5	"	1	1060905	06/10/11	06/10/11	SM4500 N C	
Total Nitrogen	**5.8**	0.5	0.5	"	"	1061025	06/10/11	06/10/11	Calculation	
Orthophosphate as P	**0.06**	0.007	0.05	"	"	1060708	06/07/11	06/07/11	SM4500 P E	
Phosphorus, Total	**0.16**	0.02	0.05	"	"	1060749	06/09/11	06/09/11	SM4500 P B, E	
Total Dissolved Solids	**1180**	1.0	20.0	"	"	1060748	06/09/11	06/09/11	SM2540 C	
Sulfate as SO4	**267**	25.0	125	"	25	1061323	06/13/11	06/13/11	SM4500 SO4 E	
Forester Cr. upstream (11F0139-03) Stormwater Sampled: 06/06/11 11:25 Received: 06/06/11 12:54										
Nitrate/Nitrite as N	**4.06**	0.09	0.50	mg/l	10	1060802	06/08/11	06/08/11	SM4500 NO3 E	
Total Kjeldahl Nitrogen	**1.8**	0.3	0.5	"	1	1060905	06/10/11	06/10/11	SM4500 N C	
Total Nitrogen	**5.9**	0.5	0.5	"	"	1061025	06/10/11	06/10/11	Calculation	
Orthophosphate as P	**0.04**	0.007	0.05	"	"	1060708	06/07/11	06/07/11	SM4500 P E	J
Phosphorus, Total	**0.05**	0.02	0.05	"	"	1060749	06/09/11	06/09/11	SM4500 P B, E	
Total Dissolved Solids	**1150**	1.0	20.0	"	"	1060748	06/09/11	06/09/11	SM2540 C	
Sulfate as SO4	**246**	10.0	50.0	"	10	1061323	06/13/11	06/13/11	SM4500 SO4 E	

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Client Name: D-Max Engineering **EMA Log #: 11F0139**
Project Name: Santee Receiving Waters Study

Microbiological Parameters by Standard Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Sycamore Cr. Downstream (11F0139-01) Stormwater Sampled: 06/06/11 09:30 Received: 06/06/11 12:54										
Enterococcus	**170**	2	2	MPN/100 ml	1	1060726	06/06/11	06/10/11	SM 9230 A, B	
Forester Cr. downstream (11F0139-02) Stormwater Sampled: 06/06/11 10:40 Received: 06/06/11 12:54										
Enterococcus	**9000**	20	20	MPN/100 ml	10	1060726	06/06/11	06/10/11	SM 9230 A, B	
Forester Cr. upstream (11F0139-03) Stormwater Sampled: 06/06/11 11:25 Received: 06/06/11 12:54										
Enterococcus	**220**	2	2	MPN/100 ml	1	1060726	06/06/11	06/10/11	SM 9230 A, B	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 11F0139**
Project Name: Santee Receiving Waters Study

Total Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1060804											
Blank (1060804-BLK1)					Prepared: 06/07/11 Analyzed: 06/09/11						
Selenium	ND	0.0005	0.001	mg/l							
LCS (1060804-BS1)					Prepared: 06/07/11 Analyzed: 06/09/11						
Selenium	0.104	0.0005	0.001	mg/l	0.100		104	75-125			
LCS Dup (1060804-BSD1)					Prepared: 06/07/11 Analyzed: 06/09/11						
Selenium	0.096	0.0005	0.001	mg/l	0.100		96	75-125	8	20	
Duplicate (1060804-DUP1)			**Source: 11E0757-01**		Prepared: 06/07/11 Analyzed: 06/09/11						
Selenium	ND	0.0005	0.001	mg/l		ND				20	
Matrix Spike (1060804-MS1)			**Source: 11E0757-01**		Prepared: 06/07/11 Analyzed: 06/09/11						
Selenium	0.106	0.0005	0.001	mg/l	0.100	ND	106	75-125			
Matrix Spike (1060804-MS2)			**Source: 11E0757-02**		Prepared: 06/07/11 Analyzed: 06/09/11						
Selenium	0.102	0.0005	0.001	mg/l	0.100	ND	102	75-125			
Matrix Spike Dup (1060804-MSD1)			**Source: 11E0757-01**		Prepared: 06/07/11 Analyzed: 06/09/11						
Selenium	0.099	0.0005	0.001	mg/l	0.100	ND	99	75-125	6	20	
Batch 1060825											
Blank (1060825-BLK1)					Prepared: 06/08/11 Analyzed: 06/09/11						
Selenium	ND	0.0005	0.001	mg/l							
LCS (1060825-BS1)					Prepared: 06/08/11 Analyzed: 06/09/11						
Selenium	0.086	0.0005	0.001	mg/l	0.100		86	75-125			

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Client Name: D-Max Engineering **EMA Log #: 11F0139**
Project Name: Santee Receiving Waters Study

Total Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1060825											
LCS Dup (1060825-BSD1)					Prepared: 06/08/11		Analyzed: 06/09/11				
Selenium	0.109	0.0005	0.001	mg/l	0.100		109	75-125	23	20	QL-02
Duplicate (1060825-DUP1)			**Source: 11F0139-01RE1**		Prepared: 06/08/11		Analyzed: 06/09/11				
Selenium	ND	0.005	0.010	mg/l		ND				20	
Matrix Spike (1060825-MS1)			**Source: 11F0139-01RE1**		Prepared: 06/08/11		Analyzed: 06/09/11				
Selenium	1.02	0.005	0.010	mg/l	1.00	ND	102	75-125			
Matrix Spike Dup (1060825-MSD1)			**Source: 11F0139-01RE1**		Prepared: 06/08/11		Analyzed: 06/09/11				
Selenium	0.979	0.005	0.010	mg/l	1.00	ND	98	75-125	5	20	

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Client Name: D-Max Engineering **EMA Log #: 11F0139**
Project Name: Santee Receiving Waters Study

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1060708											
Blank (1060708-BLK1)					Prepared & Analyzed: 06/07/11						
Orthophosphate as P	ND	0.007	0.05	mg/l							
LCS (1060708-BS1)					Prepared & Analyzed: 06/07/11						
Orthophosphate as P	0.50	0.007	0.05	mg/l	0.500		100	80-120			
LCS Dup (1060708-BSD1)					Prepared & Analyzed: 06/07/11						
Orthophosphate as P	0.50	0.007	0.05	mg/l	0.500		100	80-120	0.4	20	
Duplicate (1060708-DUP1)			**Source: 11F0147-01**		Prepared & Analyzed: 06/07/11						
Orthophosphate as P	0.39	0.007	0.05	mg/l		0.43			9	20	
Matrix Spike (1060708-MS1)			**Source: 11F0147-01**		Prepared & Analyzed: 06/07/11						
Orthophosphate as P	0.90	0.007	0.05	mg/l	0.500	0.43	95	80-120			
Matrix Spike Dup (1060708-MSD1)			**Source: 11F0147-01**		Prepared & Analyzed: 06/07/11						
Orthophosphate as P	0.84	0.007	0.05	mg/l	0.500	0.43	83	80-120	7	20	
Batch 1060748											
Blank (1060748-BLK1)					Prepared: 06/08/11 Analyzed: 06/09/11						
Total Dissolved Solids	ND	1.0	20.0	mg/l							
Duplicate (1060748-DUP1)			**Source: 11F0104-05**		Prepared: 06/08/11 Analyzed: 06/09/11						
Total Dissolved Solids	1040	1.0	20.0	mg/l		1030			0.8	20	
Duplicate (1060748-DUP2)			**Source: 11F0151-01**		Prepared & Analyzed: 06/09/11						
Total Dissolved Solids	999	1.0	20.0	mg/l		1050			5	20	

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Client Name: D-Max Engineering **EMA Log #: 11F0139**
Project Name: Santee Receiving Waters Study

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1060748											
Reference (1060748-SRM1)					Prepared: 06/08/11 Analyzed: 06/09/11						
Total Dissolved Solids	298	1.0	20.0	mg/l	340		88	75.6-124.4			
Batch 1060749											
Blank (1060749-BLK1)					Prepared & Analyzed: 06/09/11						
Phosphorus, Total	ND	0.02	0.05	mg/l							
LCS (1060749-BS1)					Prepared & Analyzed: 06/09/11						
Phosphorus, Total	0.44	0.02	0.05	mg/l	0.500		88	80-120			
LCS Dup (1060749-BSD1)					Prepared & Analyzed: 06/09/11						
Phosphorus, Total	0.47	0.02	0.05	mg/l	0.500		94	80-120	7	20	
Duplicate (1060749-DUP1)		**Source: 11F0166-03**			Prepared & Analyzed: 06/09/11						
Phosphorus, Total	1.60	0.02	0.05	mg/l		1.55			3	20	
Matrix Spike (1060749-MS1)		**Source: 11F0166-03**			Prepared & Analyzed: 06/09/11						
Phosphorus, Total	1.47	0.02	0.05	mg/l	0.500	1.55	NR	80-120			QM-05
Matrix Spike Dup (1060749-MSD1)		**Source: 11F0166-03**			Prepared & Analyzed: 06/09/11						
Phosphorus, Total	1.38	0.02	0.05	mg/l	0.500	1.55	NR	80-120	6	20	QM-05
Batch 1060802											
Blank (1060802-BLK1)					Prepared & Analyzed: 06/08/11						
Nitrate/Nitrite as N	ND	0.009	0.05	mg/l							

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Client Name: D-Max Engineering **EMA Log #: 11F0139**
Project Name: Santee Receiving Waters Study

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1060802											
LCS (1060802-BS1)					Prepared & Analyzed: 06/08/11						
Nitrate/Nitrite as N	0.47	0.009	0.05	mg/l	0.500		94	80-120			
LCS Dup (1060802-BSD1)					Prepared & Analyzed: 06/08/11						
Nitrate/Nitrite as N	0.49	0.009	0.05	mg/l	0.500		98	80-120	4	20	
Duplicate (1060802-DUP1)			**Source: 11F0151-01**		Prepared & Analyzed: 06/08/11						
Nitrate/Nitrite as N	1.18	0.04	0.25	mg/l		1.31			10	20	
Matrix Spike (1060802-MS1)			**Source: 11F0151-01**		Prepared & Analyzed: 06/08/11						
Nitrate/Nitrite as N	3.61	0.04	0.25	mg/l	2.50	1.31	92	80-120			
Matrix Spike Dup (1060802-MSD1)			**Source: 11F0151-01**		Prepared & Analyzed: 06/08/11						
Nitrate/Nitrite as N	3.69	0.04	0.25	mg/l	2.50	1.31	95	80-120	2	20	
Reference (1060802-SRM1)					Prepared & Analyzed: 06/08/11						
Nitrate/Nitrite as N	0.32	0.009	0.05	mg/l	0.338		94	0.05-109.9			
Batch 1060905											
Blank (1060905-BLK1)					Prepared & Analyzed: 06/10/11						
Total Kjeldahl Nitrogen	ND	0.3	0.5	mg/l							
LCS (1060905-BS1)					Prepared & Analyzed: 06/10/11						
Total Kjeldahl Nitrogen	4.7	0.3	0.5	mg/l	4.10		114	80-120			
LCS Dup (1060905-BSD1)					Prepared & Analyzed: 06/10/11						
Total Kjeldahl Nitrogen	4.8	0.3	0.5	mg/l	4.10		118	80-120	4	20	

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Client Name: D-Max Engineering **EMA Log #: 11F0139**
Project Name: Santee Receiving Waters Study

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1060905											
Duplicate (1060905-DUP1)			**Source: 11F0151-01**		Prepared & Analyzed: 06/10/11						
Total Kjeldahl Nitrogen	2.2	0.3	0.5	mg/l		1.8			17	20	
Matrix Spike (1060905-MS1)			**Source: 11F0151-01**		Prepared & Analyzed: 06/10/11						
Total Kjeldahl Nitrogen	5.4	0.3	0.5	mg/l	4.10	1.8	86	80-120			
Matrix Spike Dup (1060905-MSD1)			**Source: 11F0151-01**		Prepared & Analyzed: 06/10/11						
Total Kjeldahl Nitrogen	5.6	0.3	0.5	mg/l	4.10	1.8	91	80-120	4	20	
Batch 1061025											
Duplicate (1061025-DUP1)			**Source: 11F0151-01**		Prepared & Analyzed: 06/10/11						
Total Nitrogen	3.4	0.5	0.5	mg/l		3.1			9	20	
Batch 1061323											
Blank (1061323-BLK1)					Prepared & Analyzed: 06/13/11						
Sulfate as SO4	ND	1.0	5.0	mg/l							
LCS (1061323-BS1)					Prepared & Analyzed: 06/13/11						
Sulfate as SO4	10.7	1.0	5.0	mg/l	10.0		107	80-120			
LCS Dup (1061323-BSD1)					Prepared & Analyzed: 06/13/11						
Sulfate as SO4	10.2	1.0	5.0	mg/l	10.0		102	80-120	5	20	
Duplicate (1061323-DUP1)			**Source: 11F0062-01**		Prepared & Analyzed: 06/13/11						
Sulfate as SO4	242	10.0	50.0	mg/l		240			0.8	20	

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Client Name: D-Max Engineering **EMA Log #: 11F0139**
Project Name: Santee Receiving Waters Study

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1061323											
Matrix Spike (1061323-MS1)		**Source: 11F0062-01**			Prepared & Analyzed: 06/13/11						
Sulfate as SO4	339	10.0	50.0	mg/l	100	240	98	80-120			
Matrix Spike Dup (1061323-MSD1)		**Source: 11F0062-01**			Prepared & Analyzed: 06/13/11						
Sulfate as SO4	345	10.0	50.0	mg/l	100	240	104	80-120	2	20	

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Notes and Definitions

QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
QL-02	The RPD between the LCS and LCSD did not meet the acceptance criteria, however both have acceptable recoveries. Sample data not affected.
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
ND	Analyte NOT DETECTED at or above the reporting limit (or method detection limit when specified)
NR	Not Reported
dry	Sample results reported on a dry weight basis (if indicated in units column)
RPD	Relative Percent Difference
MDL	Method detection limit (indicated per client's request)

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CHAIN-OF-CUSTODY RECORD

EnviroMatrix EMA Analytical, Inc.
4340 Viewridge Ave., Ste. A - San Diego, CA 92123 - Phone (858) 560-7717 - Fax (858) 560-7763

EMA LOG #: 11F0139

Client: D - Max Engineering
Attn: Arsalan Dadkhah
Samplers(s): MD/KC
Address: 7220 Trade Street, Suite 119
San Diego, CA 92121
Phone: 858-586-6600 Fax: 858-586-6644
Email:
Billing Address: Same

Project ID: Santee Receiving Water
Project #: 20122W-4 PO #:

Requested Analysis

ID #	Client Sample ID	Sample Date	Sample Time	Sample Matrix	Container # / Type	Oil & Grease □ 413.1 □ 413.2 □ 1664	8015B (TPH) □ Gas □ Diesel □ Ext	624/8260 (VOC) Full BTXE MTBE Oxy Nap	625 / 8270 (SVOC) □ PAH only	608 / 8081 (Organochlorine Pesticides)	608 / 8082 (Polychlorinated Biphenyls)	8141 (Organophosphorus Pesticides)	TBT (Organotin Compounds)	□ pH □ EC □ TSS ☒ TDS	□ Nitrate □ Nitrite □ TKN □ NH3	CAC Title 22/CAM17 Metals □ TTLC □ STLC	TCLP (RCRA) □ Metals □ Organics	Cd Cr Cu Pb Ni Ag Zn □ Dissolved	Coliform. □ Total (MTF) □ Fecal (MTF)	Colilert, T+E.Coli □ P/A □ Enumeration	Enterococcus, ☒MTF □ Enterolert	Heterotrophic Plate Count (HPC)	□ BOD □ COD □ Cyanide	Total Nitrogen	Total Phosphorus	Total Selenium	Sulfate	ortho phosphate - P
1	Sycamore Cr. downstream	6/6/11	9:30	SW	4P									X							X			X	X	X	X	X
2	Forester Cr. downstream	6/6/11	10:40	SW	4P									X							X			X	X	X	X	X
3	Forester Cr. Upstream	6/6/11	11:25	"	"									X							X			X	X	X	X	X
4																												
5																												
6																												
7																												
8																												
9																												
10																												

Matrix Codes: A = Air, DW = Drinking Water, GW = Groundwater, SW = Storm Water
WW = Wastewater, S = Soil, SED = Sediment, SD = Solid, T = Tissue, O = Oil, L = Liquid

Shipped By: □ Courier □ UPS □ FedEx □ USPS □ Client Drop Off □ Other

[1]**Turn-Around-Time:** □ Same Day □ 24 hr □ 48 hr □ 3 day □ 4 day ☒ 5 day □ STD (7 day)

[1]**Reporting Requirements:** □ Fax □ PDF □ Excel □ Geotracker/EDF □ Hard Copy □ EDT

[1]**Sample Disposal:** □ By Laboratory □ [2]Return to Client: P/U or Delivery □ Archive

Sample Integrity

Correct Containers: Yes No N/A	Containers Properly Preseved: Yes No N/A
Custody Seals Intact: Yes No N/A	Temp @ Receipt: .....
COC/Labels Agree: Yes No N/A	Sampled By: Client EMA Autosampler

RELINQUISHED BY	DATE/TIME	RECEIVED BY
Signature: Manouchehr Dadkhah	6/6/11 12:40	Signature: Heidi Thompson
Print: Manouchehr Dadkhah		Print: Heidi Thompson
Company: D Max Eng.		Company: EMA
Signature: Heidi Thompson	6/6/11 12:54	Signature: Eric Hunt
Print: Heidi Thompson		Print: Eric Hunt
Company: EMA		Company: EMA
Signature		Signature
Print		Print
Company:		Company:

Project/Sample Comments: - Run Selenium Twice (once w/o HCL in digest, and once normally)
- Reduce the Bacteria RLs by a factor of 10 on the high and low ends by not doing the initial dilution

11 12.96

3.C

[1]Additional costs may apply, consult a project manager for details.

[2]EMA reserves the right to return any samples that do not match our waste profile.

NOTE: By relinquishing samples to EMA, Inc., client agrees to pay for the services requested on this COC form and any additional analyses performed on this project. Payment for services is due within 30 days from date of invoice. Samples will be disposed of 7 days after report has been finalized unless otherwise noted. All work is subject to EMA's terms and conditions.

15 June 2011

D-Max Engineering
Attn: Arsalan Dadkhah
7220 Trade Street, Suite 119
San Diego, California 92121

EMA Log #: 11F0170

Project Name: Santee Receiving Waters Study
Project Desc./#: 201122W-4

Enclosed are the results of analyses for samples received by the laboratory on 06/07/11 13:20. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that this data is in compliance both technically and for completeness.

Dan Verdon
Laboratory Director

CA ELAP Certification #: 2564

Client Name: D-Max Engineering **EMA Log #: 11F0170**
Project Name: Santee Receiving Waters Study

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
San Diego River Downstream	11F0170-01	Stormwater	06/07/11 10:45	06/07/11 13:20
San Diego River Upstream	11F0170-02	Stormwater	06/07/11 11:40	06/07/11 13:20

NOTE: Per client request Selenium was prepared/digested/analyzed twice; once per EPA Method 200.8 (Batched in #1060824) and once per EPA Method 200.8 modified (seen as RE1, Batched in #1060825). Modified EPA 200.8 method deleted all use of HCl.

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Client Name: D-Max Engineering **EMA Log #: 11F0170**
Project Name: Santee Receiving Waters Study

Total Metals by EPA 200 Series Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
San Diego River Downstream (11F0170-01) Stormwater Sampled: 06/07/11 10:45 Received: 06/07/11 13:20										
Selenium	**0.0006**	0.0005	0.001	mg/l	1	1060824	06/09/11	06/14/11	EPA 200.8	J
San Diego River Downstream (11F0170-01RE1) Stormwater Sampled: 06/07/11 10:45 Received: 06/07/11 13:20										
Selenium	ND	0.0005	0.001	mg/l	1	1060825	06/08/11	06/09/11	EPA 200.8	
San Diego River Upstream (11F0170-02) Stormwater Sampled: 06/07/11 11:40 Received: 06/07/11 13:20										
Selenium	**0.002**	0.0005	0.001	mg/l	1	1060824	06/09/11	06/14/11	EPA 200.8	
San Diego River Upstream (11F0170-02RE1) Stormwater Sampled: 06/07/11 11:40 Received: 06/07/11 13:20										
Selenium	**0.002**	0.0005	0.001	mg/l	1	1060825	06/08/11	06/09/11	EPA 200.8	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 11F0170**
Project Name: Santee Receiving Waters Study

Conventional Chemistry Parameters by Standard/EPA Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
San Diego River Downstream (11F0170-01) Stormwater Sampled: 06/07/11 10:45 Received: 06/07/11 13:20										
Nitrate/Nitrite as N	**0.79**	0.009	0.05	mg/l	1	1060802	06/08/11	06/08/11	SM4500 NO3 E	
Total Kjeldahl Nitrogen	**1.8**	0.3	0.5	"	"	1060905	06/10/11	06/10/11	SM4500 N C	
Total Nitrogen	**2.6**	0.5	0.5	"	"	1061025	06/10/11	06/10/11	Calculation	
Orthophosphate as P	**0.15**	0.007	0.05	"	"	1060708	06/07/11	06/07/11	SM4500 P E	
Phosphorus, Total	**0.19**	0.02	0.05	"	"	1060749	06/09/11	06/09/11	SM4500 P B, E	
Total Dissolved Solids	**1200**	1.0	20.0	"	"	1061102	06/11/11	06/13/11	SM2540 C	
Sulfate as SO4	**246**	10.0	50.0	"	10	1061323	06/13/11	06/13/11	SM4500 SO4 E	
San Diego River Upstream (11F0170-02) Stormwater Sampled: 06/07/11 11:40 Received: 06/07/11 13:20										
Nitrate/Nitrite as N	**0.03**	0.009	0.05	mg/l	1	1060802	06/08/11	06/08/11	SM4500 NO3 E	J
Total Kjeldahl Nitrogen	**1.4**	0.3	0.5	"	"	1060905	06/10/11	06/10/11	SM4500 N C	
Total Nitrogen	**1.4**	0.5	0.5	"	"	1061025	06/10/11	06/10/11	Calculation	
Orthophosphate as P	**0.06**	0.007	0.05	"	"	1060708	06/07/11	06/07/11	SM4500 P E	
Phosphorus, Total	**0.15**	0.02	0.05	"	"	1060749	06/09/11	06/09/11	SM4500 P B, E	
Total Dissolved Solids	**1100**	1.0	20.0	"	"	1061102	06/11/11	06/13/11	SM2540 C	
Sulfate as SO4	**239**	10.0	50.0	"	10	1061323	06/13/11	06/13/11	SM4500 SO4 E	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 11F0170**
Project Name: Santee Receiving Waters Study

Microbiological Parameters by Standard Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
San Diego River Downstream (11F0170-01) Stormwater Sampled: 06/07/11 10:45 Received: 06/07/11 13:20										
Enterococcus	**1300**	20	20	MPN/100 ml	10	1060810	06/07/11	06/11/11	SM 9230 A, B	
San Diego River Upstream (11F0170-02) Stormwater Sampled: 06/07/11 11:40 Received: 06/07/11 13:20										
Enterococcus	**50**	2	2	MPN/100 ml	1	1060810	06/07/11	06/11/11	SM 9230 A, B	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 11F0170**
Project Name: Santee Receiving Waters Study

Total Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1060824											
Blank (1060824-BLK1)					Prepared: 06/13/11		Analyzed: 06/14/11				
Selenium	ND	0.0005	0.001	mg/l							
LCS (1060824-BS1)					Prepared: 06/13/11		Analyzed: 06/14/11				
Selenium	0.104	0.0005	0.001	mg/l	0.100		104	75-125			
LCS Dup (1060824-BSD1)					Prepared: 06/13/11		Analyzed: 06/14/11				
Selenium	0.102	0.0005	0.001	mg/l	0.100		102	75-125	1	20	
Duplicate (1060824-DUP1)		**Source: 11F0294-01**			Prepared: 06/13/11		Analyzed: 06/14/11				
Selenium	ND	0.002	0.005	mg/l		ND				20	
Matrix Spike (1060824-MS1)		**Source: 11F0294-01**			Prepared: 06/13/11		Analyzed: 06/14/11				
Selenium	0.088	0.002	0.005	mg/l	0.100	ND	88	75-125			
Matrix Spike Dup (1060824-MSD1)		**Source: 11F0294-01**			Prepared: 06/13/11		Analyzed: 06/14/11				
Selenium	0.084	0.002	0.005	mg/l	0.100	ND	84	75-125	5	20	
Batch 1060825											
Blank (1060825-BLK1)					Prepared: 06/08/11		Analyzed: 06/09/11				
Selenium	ND	0.0005	0.001	mg/l							
LCS (1060825-BS1)					Prepared: 06/08/11		Analyzed: 06/09/11				
Selenium	0.086	0.0005	0.001	mg/l	0.100		86	75-125			
LCS Dup (1060825-BSD1)					Prepared: 06/08/11		Analyzed: 06/09/11				
Selenium	0.109	0.0005	0.001	mg/l	0.100		109	75-125	23	20	QL-02

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 11F0170**
Project Name: Santee Receiving Waters Study

Total Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1060825											
Duplicate (1060825-DUP1)			**Source: 11F0139-01RE1**		Prepared: 06/08/11		Analyzed: 06/09/11				
Selenium	ND	0.005	0.010	mg/l		ND				20	
Matrix Spike (1060825-MS1)			**Source: 11F0139-01RE1**		Prepared: 06/08/11		Analyzed: 06/09/11				
Selenium	1.02	0.005	0.010	mg/l	1.00	ND	102	75-125			
Matrix Spike Dup (1060825-MSD1)			**Source: 11F0139-01RE1**		Prepared: 06/08/11		Analyzed: 06/09/11				
Selenium	0.979	0.005	0.010	mg/l	1.00	ND	98	75-125	5	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 11F0170**
Project Name: Santee Receiving Waters Study

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1060708											
Blank (1060708-BLK1)					Prepared & Analyzed: 06/07/11						
Orthophosphate as P	ND	0.007	0.05	mg/l							
LCS (1060708-BS1)					Prepared & Analyzed: 06/07/11						
Orthophosphate as P	0.50	0.007	0.05	mg/l	0.500		100	80-120			
LCS Dup (1060708-BSD1)					Prepared & Analyzed: 06/07/11						
Orthophosphate as P	0.50	0.007	0.05	mg/l	0.500		100	80-120	0.4	20	
Duplicate (1060708-DUP1)			**Source: 11F0147-01**		Prepared & Analyzed: 06/07/11						
Orthophosphate as P	0.39	0.007	0.05	mg/l		0.43			9	20	
Matrix Spike (1060708-MS1)			**Source: 11F0147-01**		Prepared & Analyzed: 06/07/11						
Orthophosphate as P	0.90	0.007	0.05	mg/l	0.500	0.43	95	80-120			
Matrix Spike Dup (1060708-MSD1)			**Source: 11F0147-01**		Prepared & Analyzed: 06/07/11						
Orthophosphate as P	0.84	0.007	0.05	mg/l	0.500	0.43	83	80-120	7	20	
Batch 1060749											
Blank (1060749-BLK1)					Prepared & Analyzed: 06/09/11						
Phosphorus, Total	ND	0.02	0.05	mg/l							
LCS (1060749-BS1)					Prepared & Analyzed: 06/09/11						
Phosphorus, Total	0.44	0.02	0.05	mg/l	0.500		88	80-120			
LCS Dup (1060749-BSD1)					Prepared & Analyzed: 06/09/11						
Phosphorus, Total	0.47	0.02	0.05	mg/l	0.500		94	80-120	7	20	

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Client Name: D-Max Engineering **EMA Log #: 11F0170**
Project Name: Santee Receiving Waters Study

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1060749											
Duplicate (1060749-DUP1)			**Source: 11F0166-03**		Prepared & Analyzed: 06/09/11						
Phosphorus, Total	1.60	0.02	0.05	mg/l		1.55			3	20	
Matrix Spike (1060749-MS1)			**Source: 11F0166-03**		Prepared & Analyzed: 06/09/11						
Phosphorus, Total	1.47	0.02	0.05	mg/l	0.500	1.55	NR	80-120			QM-05
Matrix Spike Dup (1060749-MSD1)			**Source: 11F0166-03**		Prepared & Analyzed: 06/09/11						
Phosphorus, Total	1.38	0.02	0.05	mg/l	0.500	1.55	NR	80-120	6	20	QM-05
Batch 1060802											
Blank (1060802-BLK1)					Prepared & Analyzed: 06/08/11						
Nitrate/Nitrite as N	ND	0.009	0.05	mg/l							
LCS (1060802-BS1)					Prepared & Analyzed: 06/08/11						
Nitrate/Nitrite as N	0.47	0.009	0.05	mg/l	0.500		94	80-120			
LCS Dup (1060802-BSD1)					Prepared & Analyzed: 06/08/11						
Nitrate/Nitrite as N	0.49	0.009	0.05	mg/l	0.500		98	80-120	4	20	
Duplicate (1060802-DUP1)			**Source: 11F0151-01**		Prepared & Analyzed: 06/08/11						
Nitrate/Nitrite as N	1.18	0.04	0.25	mg/l		1.31			10	20	
Matrix Spike (1060802-MS1)			**Source: 11F0151-01**		Prepared & Analyzed: 06/08/11						
Nitrate/Nitrite as N	3.61	0.04	0.25	mg/l	2.50	1.31	92	80-120			
Matrix Spike Dup (1060802-MSD1)			**Source: 11F0151-01**		Prepared & Analyzed: 06/08/11						
Nitrate/Nitrite as N	3.69	0.04	0.25	mg/l	2.50	1.31	95	80-120	2	20	

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Client Name: D-Max Engineering **EMA Log #: 11F0170**
Project Name: Santee Receiving Waters Study

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1060802											
Reference (1060802-SRM1)					Prepared & Analyzed: 06/08/11						
Nitrate/Nitrite as N	0.32	0.009	0.05	mg/l	0.338		94	0.05-109.9			
Batch 1060905											
Blank (1060905-BLK1)					Prepared & Analyzed: 06/10/11						
Total Kjeldahl Nitrogen	ND	0.3	0.5	mg/l							
LCS (1060905-BS1)					Prepared & Analyzed: 06/10/11						
Total Kjeldahl Nitrogen	4.7	0.3	0.5	mg/l	4.10		114	80-120			
LCS Dup (1060905-BSD1)					Prepared & Analyzed: 06/10/11						
Total Kjeldahl Nitrogen	4.8	0.3	0.5	mg/l	4.10		118	80-120	4	20	
Duplicate (1060905-DUP1)			**Source: 11F0151-01**		Prepared & Analyzed: 06/10/11						
Total Kjeldahl Nitrogen	2.2	0.3	0.5	mg/l		1.8			17	20	
Matrix Spike (1060905-MS1)			**Source: 11F0151-01**		Prepared & Analyzed: 06/10/11						
Total Kjeldahl Nitrogen	5.4	0.3	0.5	mg/l	4.10	1.8	86	80-120			
Matrix Spike Dup (1060905-MSD1)			**Source: 11F0151-01**		Prepared & Analyzed: 06/10/11						
Total Kjeldahl Nitrogen	5.6	0.3	0.5	mg/l	4.10	1.8	91	80-120	4	20	
Batch 1061025											
Duplicate (1061025-DUP1)			**Source: 11F0151-01**		Prepared & Analyzed: 06/10/11						
Total Nitrogen	3.4	0.5	0.5	mg/l		3.1			9	20	

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Client Name: D-Max Engineering **EMA Log #: 11F0170**
Project Name: Santee Receiving Waters Study

Conventional Chemistry Parameters by Standard/EPA Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1061102											
Blank (1061102-BLK1)					Prepared: 06/11/11 Analyzed: 06/13/11						
Total Dissolved Solids	ND	1.0	20.0	mg/l							
Duplicate (1061102-DUP1)			**Source: 11F0187-01**		Prepared: 06/11/11 Analyzed: 06/13/11						
Total Dissolved Solids	1870	1.0	20.0	mg/l		1870			0.3	20	
Reference (1061102-SRM1)					Prepared: 06/11/11 Analyzed: 06/13/11						
Total Dissolved Solids	380	1.0	20.0	mg/l	340		112	75.6-124.4			
Batch 1061323											
Blank (1061323-BLK1)					Prepared & Analyzed: 06/13/11						
Sulfate as SO4	ND	1.0	5.0	mg/l							
LCS (1061323-BS1)					Prepared & Analyzed: 06/13/11						
Sulfate as SO4	10.7	1.0	5.0	mg/l	10.0		107	80-120			
LCS Dup (1061323-BSD1)					Prepared & Analyzed: 06/13/11						
Sulfate as SO4	10.2	1.0	5.0	mg/l	10.0		102	80-120	5	20	
Duplicate (1061323-DUP1)			**Source: 11F0062-01**		Prepared & Analyzed: 06/13/11						
Sulfate as SO4	242	10.0	50.0	mg/l		240			0.8	20	
Matrix Spike (1061323-MS1)			**Source: 11F0062-01**		Prepared & Analyzed: 06/13/11						
Sulfate as SO4	339	10.0	50.0	mg/l	100	240	98	80-120			
Matrix Spike Dup (1061323-MSD1)			**Source: 11F0062-01**		Prepared & Analyzed: 06/13/11						
Sulfate as SO4	345	10.0	50.0	mg/l	100	240	104	80-120	2	20	

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Notes and Definitions

QM-05	The spike recovery was outside acceptance limits for the MS and/or MSD due to matrix interference. The LCS and/or LCSD were within acceptance limits showing that the laboratory is in control and the data is acceptable.
QL-02	The RPD between the LCS and LCSD did not meet the acceptance criteria, however both have acceptable recoveries. Sample data not affected.
J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
ND	Analyte NOT DETECTED at or above the reporting limit (or method detection limit when specified)
NR	Not Reported
dry	Sample results reported on a dry weight basis (if indicated in units column)
RPD	Relative Percent Difference
MDL	Method detection limit (indicated per client's request)

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CHAIN-OF-CUSTODY RECORD

EnviroMatrix Analytical, Inc.
4340 Viewridge Ave., Ste. A - San Diego, CA 92123 - Phone (858) 560-7717 - Fax (858) 560-7763

EMA LOG #: 11F0170

Client: D-Max Engineering
Attn: Arsalan Dadkhah
Samplers(s): MD/KC
Address: 7220 Trade Street, Suite 119
San Diego, CA 92121
Phone: 858-586-6600 Fax: 858-586-6644
Email:
Billing Address: same

Project ID: Santee Receiving Waters
Project #: 20122W-4 PO #:

Requested Analysis

ID #	Client Sample ID	Sample Date	Sample Time	Sample Matrix	Container # / Type	Oil & Grease □ 413.1 □ 413.2 □ 1664	8015B (TPH) □ Gas □ Diesel □ Ext	624/8260 (VOC) Full BTXE MTBE Oxy Nap	625 / 8270 (SVOC) □ PAH only	608 / 8081 (Organochlorine Pesticides)	608 / 8082 (Polychlorinated Biphenyls)	8141 (Organophosphorus Pesticides)	TBT (Organotin Compounds)	□ pH □ EC □ TSS ☒ TDS	□ Nitrate □ Nitrite □ TKN □ NH3	CAC Title 22/CAM17 Metals □ TTLC □ STLC	TCLP (RCRA) □ Metals □ Organics	Cd Cr Cu Pb Ni Ag Zn □ Dissolved	Coliform. □ Total (MTF) □ Fecal (MTF)	Colilert, T+E.Coli □ P/A □ Enumeration	Enterococcus, ☒ MTF □ Enterolert	Heterotrophic Plate Count (HPC)	□ BOD □ COD □ Cyanide	Total Nitrogen	Total Phosphorus	Total Selenium	Sulfate	Orthophosphate-P
1	San Diego River downstream	6/7/11	10:45	SW	4P									X							X			X	X	X	X	X
2	San Diego River Upstream	"	11:40	"	4P									X							X			X	X	X	X	X
3	~~Pzof~~	~~"~~	~~12:10~~	"	~~2C/4P~~																							
4																												
5																												
6																												
7																												
8																												
9																												
10																												

7'11 13:35

Matrix Codes: A = Air, DW = Drinking Water, GW = Groundwater, SW = Storm Water
WW = Wastewater, S = Soil, SED = Sediment, SD = Solid, T = Tissue, O = Oil, L = Liquid
Shipped By: □ Courier □ UPS □ FedEx □ USPS □ Client Drop Off □ Other
[1]**Turn-Around-Time:** □ Same Day □ 24 hr □ 48 hr □ 3 day □ 4 day ☒ 5 day □ STD (7 day)
[1]**Reporting Requirements:** □ Fax □ PDF □ Excel □ Geotracker/EDF □ Hard Copy □ EDT
[1]**Sample Disposal:** □ By Laboratory □ [2]Return to Client: P/U or Delivery □ Archive

Sample Integrity

Correct Containers: Yes No N/A	Containers Properly Preseved: Yes No N/A
Custody Seals Intact: Yes No N/A	Temp @ Receipt:
COC/Labels Agree: Yes No N/A	Sampled By: Client EMA Autosampler

RELINQUISHED BY	DATE/TIME	RECEIVED BY
Signature: Manouchehr Dadkhah	6/7/11 1:00	Signature: Heidi Thompson
Print: Manoucher Dadkhah		Print: Heidi Thompson
Company: D-Max Engineering		Company: EMA
Signature: Heidi Thompson	6/7/11 1320	Signature: Eric Hunt
Print: Heidi Thompson		Print: Eric Hunt
Company: EMA		Company: EMA
Signature		Signature
Print		Print
Company:		Company:

Project/Sample Comments: - Run selenium twice (once w/o HCL in digest, and once normally)
- Reduce the bacteria RLs by a factor of 10 on the high and low ends by not doing the initial dilution

8.0

[1]Additional costs may apply, consult a project manager for details.
[2]EMA reserves the right to return any samples that do not match our waste profile.
NOTE: By relinquishing samples to EMA, Inc., client agrees to pay for the services requested on this COC form and any additional analyses performed on this project. Payment for services is due within 30 days from date of invoice. Samples will be disposed of 7 days after report has been finalized unless otherwise noted. All work is subject to EMA's terms and conditions.

Institute for Environmental Health
Environmental Engineering Laboratory, Inc.
3538 Hancock St. San Diego, CA 92110 | P: (619) 298-6131 | F: (619) 298-6141

TEST REPORT

Recipient: Sara Dadkhah
D-MAX ENGINEERING,
7220 Trade St. # 119
SAN DIEGO, CA 92121
Reference: 1145323
Lab ID: 1145323-001
Sample #: San Diego River Downstream
Project#:
Comment: Santee Reciving Waters Study

Report Date: 06/13/2011
Matrix: WATER
Sampled: 06/07/2011 10:45
Received: 06/07/2011 13:00
Collection Address:
Sample Location: San Diego River Sample
Description:
Date Started: 06/07/2011
Date Completed: 06/13/2011
PS Code:

Coliform, Total & Fecal (p)

Parameter	Result	Units	RL	MCL	Dilution Factor	Method	Analyzed	Analyst
Coliform, Fecal	2,300	MPN/100ml	2	0	1	SM9221E	06/07/2011 14:54	HD
Coliform, Total	160,000	MPN/100ml	2	0	1	SM9221B	06/07/2011 14:54	HD

Test Parameters

Parameter	Result	Units	RL	MCL	Dilution Factor	Method	Analyzed	Analyst
E. coli MTF	490	MPN/100ml	2	0	1	SM9221F	06/07/2011 14:54	HD

Recipient: Sara Dadkhah
D-MAX ENGINEERING,
7220 Trade St. # 119
SAN DIEGO, CA 92121
Reference: 1145323
Lab ID: 1145323-002
Sample #: San Diego River Upstream
Project#:
Comment: Santee Receiving Waters Study

Report Date: 06/13/2011
Matrix: WATER
Sampled: 06/07/2011 11:40
Received: 06/07/2011 13:00
Collection Address:
Sample Location: San Diego River Sample
Description:
Date Started: 06/07/2011
Date Completed: 06/13/2011
PS Code:

Coliform, Total & Fecal (p)

Parameter	Result	Units	RL	MCL	Dilution Factor	Method	Analyzed	Analyst
Coliform, Fecal	69	MPN/100ml	2	0	1	SM9221E	06/07/2011 14:54	XZ
Coliform, Total	13,000	MPN/100ml	2	0	1	SM9221B	06/07/2011 14:54	XZ

Test Parameters

Parameter	Result	Units	RL	MCL	Dilution Factor	Method	Analyzed	Analyst
E. coli MTF	69	MPN/100ml	2	0	1	SM9221F	06/07/2011 14:54	XZ

Approval:

QA/QC Officer **Director**

RL = Reporting Limit MCL = Maximum Contaminant Level N/A = Not Applicable ExL = External Laboratory

Unless otherwise noted, samples were received in acceptable condition. The results in this report relate only to the portion of the samples tested.
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5323

Institute for Environmental Health
Environmental Engineering Laboratory, Inc.
3538 Hancock St. San Diego, CA 92110

CHAIN OF CUSTODY

Page 1 of 1

T: (619) 298-6131
F: (619) 298-6141
Info@ieheel.com

IEH Analytical

CLIENT INFORMATION New [ ] Existing [X]	BILLING INFORMATION	Temperature: 7.9°C
Client: D-Max Engineering, Inc	Billing Address: (same)	Temperature requirement met? Yes [X] No [ ]
Contact: Sara Dadkhah		Holding Time met? Yes [X] No [ ]
Address: 7220 Trade St. #119		Continue with the Analysis: Yes [ ] No [ ] Initials:
San Diego CA 92121	P.O.#: 20112201-4	Send Result(s) by[b]:
	Comments: Santee Receiving Waters Study	E-Mail[c] ($1.00 fee) [X] Fax ($2.00 fee) [ ]
Phone: 858 586 6606	Request copy of QC with results	Send to CDPH ($2.00 fee) [ ] EDT ($5.00 fee) [ ]
Fax: 858 586 6644		Report to County ($2.00 fee) [ ]
E-Mail: admin@dmaxinc.com		

Do we have a persmission to Sub-Contract your sample to another laboratory? YES [X] NO [ ] Initials: SD

Turnaround Time: STANDARD [X] RUSH [ ] WEEKEND/HOLIDAY Fee [ ] Initials: SD

Discard Sample(s) after analysis is done: YES [ ] NO [X][a] Initials: SD

SAMPLE DESIGNATION(s)

ANALYSIS REQUESTED

CLIENT SAMPLE I.D.	DATE	TIME	SAMPLE DESCRIPTION(s)	Matrix	# of Containers	Total Coliform (MTF)	Fecal Coliform (MTF)	E Coli (MTF)						Preservative(s)
San Diego River Downstream	6/7/11	10:45	San Diego River Sample	Storm water	1	X	X	X						
San Diego River Upstream	6/7/11	11:40	San Diego River Sample	Storm water	1	X	X	X						

1- Sample(s) Collected By: Kimberly Corbilla (Sign and Print) KC	Date: 6/7/11	Time: ~~6/7/11~~ 10:45	2- Sample(s) Transported By: (Sign and Print) KT	Date: 6/7/11	Time: 13:00
3- Relinquished By: Kimberly Corbilla (Sign and Print) KC	Date: 6/7/11	Time: 1:00	4- Received By: (Sign and Print) KT	Date: 6/7/11	Time: 13:00

Extra charges may apply for rush analysis, special sample preparation, non-typical report format, or other non-typical customer request or needs. [a]Unclaimed samples will be discarded after 90 days without customer notification. [b]All the results will be mailed through USPS. [c]Emailed results will be in PDF format and do not have any signatures.

Institute for Environmental Health
Environmental Engineering Laboratory, Inc.
3538 Hancock St. San Diego, CA 92110 | P: (619) 298-6131 | F: (619) 298-6141

TEST REPORT

Recipient: Sara Dadkhah
D-MAX ENGINEERING,
7220 Trade St. Suite 119
SAN DIEGO, CA 92121
Reference: 1145302
Lab ID: 1145302-001
Sample #: Sycamore Cr. Downstream
Project#:
Comment: Santee Receiving Waters Study

Report Date: 06/10/2011
Matrix: WATER
Sampled: 06/06/2011 9:30
Received: 06/06/2011 13:05
Collection Address:
Sample Location: Creek Sample
Description:
Date Started: 06/06/2011
Date Completed: 06/10/2011
PS Code:

Coliform, Total & Fecal (p)

Parameter	Result	Units	RL	MCL	Dilution Factor	Method	Analyzed	Analyst
Coliform, Fecal	1,300	MPN/100ml	2	0	1	SM9221E	06/06/2011 16:15	BD
Coliform, Total	2,600	MPN/100ml	2	0	1	SM9221B	06/06/2011 16:15	BD

Test Parameters

Parameter	Result	Units	RL	MCL	Dilution Factor	Method	Analyzed	Analyst
E. coli MTF	490	MPN/100ml	2	0	1	SM9221F	06/06/2011 16:15	BD

Recipient: Sara Dadkhah
D-MAX ENGINEERING,
7220 Trade St. Suite 119
SAN DIEGO, CA 92121
Reference: 1145302
Lab ID: 1145302-002
Sample #: Forester Cr. Downstream
Project#:
Comment: Santee Receiving Wters Study

Report Date: 06/10/2011
Matrix: WATER
Sampled: 06/06/2011 10:40
Received: 06/06/2011 13:05
Collection Address:
Sample Location: Creek Sample
Description:
Date Started: 06/06/2011
Date Completed: 06/10/2011
PS Code:

Coliform, Total & Fecal (p)

Parameter	Result	Units	RL	MCL	Dilution Factor	Method	Analyzed	Analyst
Coliform, Fecal	54,000	MPN/100ml	2	0	1	SM9221E	06/06/2011 16:15	BD
Coliform, Total	160,000	MPN/100ml	2	0	1	SM9221B	06/06/2011 16:15	BD

Test Parameters

Parameter	Result	Units	RL	MCL	Dilution Factor	Method	Analyzed	Analyst
E. coli MTF	54,000	MPN/100ml	2	0	1	SM9221F	06/06/2011 16:15	BD

RL = Reporting Limit MCL = Maximum Contaminant Level N/A = Not Applicable ExL = External Laboratory

Unless otherwise noted, samples were received in acceptable condition. The results in this report relate only to the portion of the samples tested.
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Environmental Engineering Laboratory, Inc.
3538 Hancock St. San Diego, CA 92110 | P: (619) 298-6131 | F: (619) 298-6141

TEST REPORT

Recipient: Sara Dadkhah
D-MAX ENGINEERING,
7220 Trade St. Suite 119
SAN DIEGO, CA 92121
Reference: 1145302
Lab ID: 1145302-003
Sample #: Forester Cr. Upstream
Project#:
Comment: Santee Receiving Waters Study

Report Date: 06/10/2011
Matrix: WATER
Sampled: 06/06/2011 11:25
Received: 06/06/2011 13:05
Collection Address:
Sample Location: Creek Sample
Description:
Date Started: 06/06/2011
Date Completed: 06/10/2011
PS Code:

Coliform, Total & Fecal (p)

Parameter	Result	Units	RL	MCL	Dilution Factor	Method	Analyzed	Analyst
Coliform, Fecal	780	MPN/100ml	2	0	1	SM9221E	06/06/2011 16:15	BD
Coliform, Total	54,000	MPN/100ml	2	0	1	SM9221B	06/06/2011 16:15	BD

Test Parameters

Parameter	Result	Units	RL	MCL	Dilution Factor	Method	Analyzed	Analyst
E. coli MTF	490	MPN/100ml	2	0	1	SM9221F	06/06/2011 16:15	BD

Approval:

QA/QC Officer **Director**

RL = Reporting Limit MCL = Maximum Contaminant Level N/A = Not Applicable ExL = External Laboratory

Unless otherwise noted, samples were received in acceptable condition. The results in this report relate only to the portion of the samples tested.
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5392

Institute for Environmental Health
Environmental Engineering Laboratory, Inc.
3538 Hancock St. San Diego, CA 92110
T: (619) 298-6131
F: (619) 298-6141
Info@ieheel.com

CHAIN OF CUSTODY

Page 1 of 1

IEH Analytical

CLIENT INFORMATION New [X] Existing [ ]	BILLING INFORMATION	Temperature:
Client: D-Max Engineering, Inc.	Billing Address: (same)	Temperature requirement met? Yes [ ] No [ ]
Contact: Sara Dadkhah		Holding Time met? Yes [ ] No [ ]
Address: 7220 Trade St. Suite 119		Continue with the Analysis: Yes [ ] No [ ] Initials:
San Diego, CA 92121	P.O.#: 20112210-4	Send Result(s) by[b]:
	Comments: Santee Receiving Waters Study	E-Mail[c] ($1.00 fee) [X] Fax ($2.00 fee) [ ]
Phone: 858 586 6600	Please email COC with results.	Send to CDPH ($2.00 fee) [ ] EDT ($5.00 fee) [ ]
Fax: 858 586 6644		Report to County ($2.00 fee) [ ]
E-Mail: admin@dmaxinc.com		ANALYSIS REQUESTED

Do we have a persmission to Sub-Contract your sample to another laboratory? YES [X] NO [ ] Initials: SD

Turnaround Time: STANDARD [X] RUSH [ ] WEEKEND/HOLIDAY Fee [ ] Initials: SD

Discard Sample(s) after analysis is done: YES [ ] NO [X][a] Initials: SD

SAMPLE DESIGNATION(s)

CLIENT SAMPLE I.D.	DATE	TIME	SAMPLE DESCRIPTION(s)	Matrix	# of Containers	Total Coliform (MTF)	Fecal Coliform (MTF)	E. Coli (MTF)						Preservative(s)
Sycamore Cr. Downstream	6/6/11	9:30	Creek Sample	storm water	1	X	X	X						
Forester Cr. downstream	6/6/11	10:40	Creek Sample	"	1	X	X	X						
Forester Cr upstream	6/6/11	11:25	Creek Sample	"	1	X	X	X						

1- Sample(s) Collected By: Manouchehr Dadkhah	Date: 6/6/11	Time: 9:30	2- Sample(s) Transported By:	Date: 6/6/11	Time: 13:06
(Sign and Print) Manouchehr Dadkhah			(Sign and Print)		
3- Relinquished By: Manouchehr Dadkhah	Date: 6/6/11	Time: 13:05	4- Received By:	Date: 6/6/11	Time: 13:05
(Sign and Print) Manouchehr Dadkhah			(Sign and Print)		

Extra charges may apply for rush analysis, special sample preparation, non-typical report format, or other non-typical customer request or needs. [a]Unclaimed samples will be discarded after 90 days without customer notification. [b]All the results will be mailed through USPS. [c]Emailed results will be in PDF format and do not have any signatures.

Round Two

23 November 2011

Arsalan Dadkhah
D-Max Engineering Inc.
7220 Trade Street Suite 119
San Diego, CA 92121

RE:201122W-4
Work Order No.: 1108546

Attached are the results of the analyses for samples received by the laboratory on 08/30/11 13:00.

The samples were received by Sierra Analytical Labs, Inc. with a chain of custody record attached or completed at the submittal of the samples.

The analyses were performed according to the prescribed method as outlined by EPA, Standard Methods, and A.S.T.M.

The remaining portions of the samples will be disposed of within 30 days from the date of this report.
If you require any additional retaining time, please advise us.

Sincerely,

Richard K. Forsyth

Laboratory Director

Sierra Analytical Labs, Inc. is certified by the California Department of Health Services (DOHS), Environmental Laboratory Accredidation Program (ELAP) No. 2320.

SIERRA ANALYTICAL

D-Max Engineering Inc.	Project: 201122W-4	
7220 Trade Street Suite 119	Project Number: Santee Recieving Waters	**Reported:**
San Diego CA, 92121	Project Manager: Arsalan Dadkhah	11/23/11 12:08

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
San Diego R. Downstream	1108546-01	Liquid	08/30/11 10:00	08/30/11 13:00
San Diego R. Upstream	1108546-02	Liquid	08/30/11 11:10	08/30/11 13:00
San Diego R. Upstream	1108546-03	Liquid	08/30/11 11:20	08/30/11 13:00

CASE NARRATIVE

SAMPLE RECEIPT: Samples were received intact, at 4°C, and accompanied by chain of custody documentation.
PRESERVATION: Samples requiring preservation were verified prior to sample preparation and analysis.
HOLDING TIMES: All holding times were met, unless otherwises noted in the report with data qualifiers.
QA/QC CRITERIA: All quality objective criteria were met, except as noted in the report with data qualifiers.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

26052 MERIT CIRCLE SUITE 105, LAGUNA HILLS, CALIFORNIA 92653
TELEPHONE: (949) 348-9389 FAX: (949) 348-9115
E-MAIL: SIERRALABS @ SIERRALABS.NET

D-Max Engineering Inc.	Project: 201122W-4	
7220 Trade Street Suite 119	Project Number: Santee Recieving Waters	**Reported:**
San Diego CA, 92121	Project Manager: Arsalan Dadkhah	11/23/11 12:08

Microbiological Parameters by APHA Standard Methods
Sierra Analytical Labs, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
San Diego R. Downstream (1108546-01) Liquid	**Sampled: 08/30/11 10:00**	**Received: 08/30/11 13:00**								
E. Coli	**70**	2.0	2.0	MPN/100 mL	1	B1I1619	08/30/11	08/30/11 15:05	SM 9221E/F	
Enterococcus	**80**	2.0	2.0	"	"	"	"	"	SM 9230B	
Fecal Coliforms	**90**	2.0	2.0	"	"	"	"	"	SM 9221E	
Total Coliforms	**8000**	2.0	2.0	"	"	"	"	"	SM 9221B	
San Diego R. Upstream (1108546-02) Liquid	**Sampled: 08/30/11 11:10**	**Received: 08/30/11 13:00**								
E. Coli	**14**	2.0	2.0	MPN/100 mL	1	B1I1619	08/30/11	08/30/11 15:05	SM 9221E/F	
Enterococcus	**40**	2.0	2.0	"	"	"	"	"	SM 9230B	
Fecal Coliforms	**21**	2.0	2.0	"	"	"	"	"	SM 9221E	
Total Coliforms	**3300**	2.0	2.0	"	"	"	"	"	SM 9221B	
San Diego R. Upstream (1108546-03) Liquid	**Sampled: 08/30/11 11:20**	**Received: 08/30/11 13:00**								
E. Coli	**24**	2.0	2.0	MPN/100 mL	1	B1I1619	08/30/11	08/30/11 15:05	SM 9221E/F	
Enterococcus	**70**	2.0	2.0	"	"	"	"	"	SM 9230B	
Fecal Coliforms	**40**	2.0	2.0	"	"	"	"	"	SM 9221E	
Total Coliforms	**3000**	2.0	2.0	"	"	"	"	"	SM 9221B	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

26052 MERIT CIRCLE SUITE 105, LAGUNA HILLS, CALIFORNIA 92653
TELEPHONE: (949) 348-9389 FAX: (949) 348-9115
E-MAIL: SIERRALABS @ SIERRALABS.NET

D-Max Engineering Inc.	Project: 201122W-4	
7220 Trade Street Suite 119	Project Number: Santee Recieving Waters	**Reported:**
San Diego CA, 92121	Project Manager: Arsalan Dadkhah	11/23/11 12:08

Conventional Chemistry Parameters by APHA/EPA Methods
Sierra Analytical Labs, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
San Diego R. Downstream (1108546-01) Liquid	**Sampled: 08/30/11 10:00**	**Received: 08/30/11 13:00**								
Nitrite as N	ND	0.0200	0.0200	mg/L	1	B1I1620	08/30/11	08/30/11 15:05	SM4500-NO2 B	
Nitrate as N	**1.30**	0.0200	0.0200	"	"	"	"	"	EPA 353.3	
Orthophosphate as P	**0.320**	0.0500	0.0500	"	"	"	"	"	EPA 365.2	
Phosphorus	**0.340**	0.0500	0.0500	"	"	"	"	"	"	
Sulfate as SO4	**400**	0.500	0.500	"	"	"	"	"	EPA 375.4	
Total Dissolved Solids	**1930**	1.00	1.00	"	"	"	"	"	EPA 160.1	
Total Kjeldahl Nitrogen	**1.45**	0.10	0.10	"	"	"	"	"	EPA 351.3	
Total Nitrogen	**2.75**	0.10	0.10	"	"	"	"	"	SM 4500-N	
San Diego R. Upstream (1108546-02) Liquid	**Sampled: 08/30/11 11:10**	**Received: 08/30/11 13:00**								
Nitrite as N	ND	0.0200	0.0200	mg/L	1	B1I1620	08/30/11	08/30/11 15:05	SM4500-NO2 B	
Nitrate as N	**1.40**	0.0200	0.0200	"	"	"	"	"	EPA 353.3	
Orthophosphate as P	**0.330**	0.0500	0.0500	"	"	"	"	"	EPA 365.2	
Phosphorus	**0.350**	0.0500	0.0500	"	"	"	"	"	"	
Sulfate as SO4	**275**	0.500	0.500	"	"	"	"	"	EPA 375.4	
Total Dissolved Solids	**1280**	1.00	1.00	"	"	"	"	"	EPA 160.1	
Total Kjeldahl Nitrogen	**1.28**	0.10	0.10	"	"	"	"	"	EPA 351.3	
Total Nitrogen	**2.68**	0.10	0.10	"	"	"	"	"	SM 4500-N	
San Diego R. Upstream (1108546-03) Liquid	**Sampled: 08/30/11 11:20**	**Received: 08/30/11 13:00**								
Nitrite as N	ND	0.0200	0.0200	mg/L	1	B1I1620	08/30/11	08/30/11 15:05	SM4500-NO2 B	
Nitrate as N	**1.50**	0.0200	0.0200	"	"	"	"	"	EPA 353.3	
Orthophosphate as P	**0.340**	0.0500	0.0500	"	"	"	"	"	EPA 365.2	
Phosphorus	**0.370**	0.0500	0.0500	"	"	"	"	"	"	
Sulfate as SO4	**285**	0.500	0.500	"	"	"	"	"	EPA 375.4	
Total Dissolved Solids	**1270**	1.00	1.00	"	"	"	"	"	EPA 160.1	
Total Kjeldahl Nitrogen	**1.24**	0.10	0.10	"	"	"	"	"	EPA 351.3	
Total Nitrogen	**2.74**	0.10	0.10	"	"	"	"	"	SM 4500-N	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

26052 MERIT CIRCLE SUITE 105, LAGUNA HILLS, CALIFORNIA 92653
TELEPHONE: (949) 348-9389 FAX: (949) 348-9115
E-MAIL: SIERRALABS @ SIERRALABS.NET

D-Max Engineering Inc.	Project: 201122W-4	
7220 Trade Street Suite 119	Project Number: Santee Recieving Waters	**Reported:**
San Diego CA, 92121	Project Manager: Arsalan Dadkhah	11/23/11 12:08

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

26052 MERIT CIRCLE SUITE 105, LAGUNA HILLS, CALIFORNIA 92653
TELEPHONE: (949) 348-9389 FAX: (949) 348-9115
E-MAIL: SIERRALABS @ SIERRALABS.NET

SIERRA ANALYTICAL LABS, INC.
WET CHEM QA/QC
WORKSHEET

Project No.: 1108563 and 1108546
Client: D-Max Engineering

Date Received: 8/30 and 08/31/11
Date Analyzed: 8/31/2011

TEST PARAMETER	RESULT	DUPLICATE RESULT	%DEVIATION (0 - 15)	BLANK	SPIKE CONC.	EXP. RESULTS	RESULTS	%RECOVERY (85 - 115)	CK STD.	STD. RESULTS	INITIALS
Sulfate	550	525	4.8	0.50	50	600	618	103	10	9.3	RF
TDS	1970	1988	1	1.0	100	2070	2012	97.1	100	105	RF
Ammonia-N	1.3	1.36	4.5	0.10	0.5	1.8	1.71	95	1	0.94	RF
PO4-P, TOTAL	0.69	0.72	4.3	0.05	0.50	1.19	1.27	107	1.0	0.97	RF
Nitrate-N	2	1.85	7.5	0.05	0.50	2.5	2.7	108	1.0	1.03	RF

Notes:

Project No.:
Client:

Date Received:
Date Analyzed:

TEST PARAMETER	RESULT	DUPLICATE RESULT	%DEVIATION (0 - 15)	BLANK	SPIKE CONC.	EXP. RESULTS	RESULTS	%RECOVERY (85 - 115)	CK STD.	STD. RESULTS	INITIALS
NO2-N											
TSS											
Nitrate-N											
Ammonia-N											
PO4-P, TOTAL											
PO4-P, TOTAL											
T.S.S./TDS											

Notes:

CHAIN OF CUSTODY RECORD

SIERRA ANALYTICAL
TEL: 949•348•9389
FAX: 949•348•9115
26052 Merit Circle• Suite 105•Laguna Hills, CA•92653

Date: 8/30/11 Page 1 of 1

Lab Project No.: 1108546

Client: D-Max Engineering Inc.
Client Address: 7220 Trade street, suite 119
San Diego, CA 92121

Client Tel. No.: 858-586-6600
Client Fax. No.: 858-586-6644
Client Proj. Mgr.: Arsalan Dadkhah

Client Project ID: Santee Receiving Waters 201122W-4

Turn Around Time Requested: ☐ Immediate ☐ 24 Hour ☐ 48 Hour ☐ 72 Hour ☐ 4 Day ☒ 5 Day ☐ Normal ☐ Mobile

Analysis Requested

Client Sample ID.	Sierra No.	Date	Time	Matrix	Preservative	Container Type	No. of Containers	Enterococcus bacteria	Total + Fecal Coliform	E. Coli	Total Nitrogen	Total Phosphorus	Orthophosphate-Phosphorus	TDS	Sulfate					Field Point Names/ Comments
San Diego R. downstream	01	8/30/11	10:00	SW	yes	P	5	X	X	X	X	X	X	X	X					
San Diego R. upstream	02	8/30/11	11:10	SW	yes	P	5	X	X	X	X	X	X	X	X					
~~Duplicate~~ San Diego R. upstream	03	8/30/11	11:20	SW	"	"	5	X	X	X	X	X	X	X	X					

Geotracker EDD Info:

Client LOGCODE

Site Global ID

1 Sampler Signature: Manouchehr Dadkhah
Printed Name: Manouchehr Dadkhah
Shipped Via:
(Carrier/Waybill No.)

2 Relinquished By: Manouchehr Dadkhah — Date: 8/30/11 — Received By: [signature] — Date: 8.30.11
Company: D-Max Eng — Time: 13:00 — Company: SA — Time: 13:00

3 Relinquished By: [signature] — Date: 8/30/11 — Received By: [signature] — Date: 8/30/11
Company: SA — Time: 14:50 — Company: Sierra — Time: 1450

4 Relinquished By: — Date — Received By: — Date:
Company: — Time: — Company: — Time:

Special Instructions:
Bacteria RL of 2 MPN/100mL needed QAPP

15 Total Number of Containers Submitted to Laboratory

The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analysis specified above under SIERRA's Terms and Conditions, unless otherwise agreed upon in writing between SIERRA and CLIENT.
* - Samples determined to be hazardous by SIERRA will be returned to CLIENT.

15 Total Number of Containers Received by Laboratory

Sample Disposal:
☐ Return to Client
☐ Lab Disposal*
☐ Archive _____ mos.
☐ Other _____

FOR LABORATORY USE ONLY - Sample Receipt Conditions:
☒ Intact ☒ Chilled - Temp. (°C) 4.0
☐ Sample Seals ☐ Preservatives - Verified By
☒ Properly Labelled ☐ Other
☒ Appropriate Sample Container ☒ Storage Location micro-weather

Rev: 102005

DISTRIBUTION: White - To Accompany Samples, Yellow - Laboratory Copy, Pink - Field Personnel Copy

08 September 2011

D-Max Engineering
Attn: Arsalan Dadkhah
7220 Trade Street, Suite 119
San Diego, California 92121

EMA Log #: 11H0838

Project Name: Santee Receiving Waters Study
Project Desc./#: 201122W-4

Enclosed are the results of analyses for samples received by the laboratory on 08/31/11 15:44. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that this data is in compliance both technically and for completeness.

Dan Verdon
Laboratory Director

CA ELAP Certification #: 2564

Client Name: D-Max Engineering **EMA Log #: 11H0838**
Project Name: Santee Receiving Waters Study

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
San Diego River Downstream	11H0838-01	Stormwater	08/30/11 10:00	08/31/11 15:44
San Diego River Upstream	11H0838-02	Stormwater	08/30/11 11:10	08/31/11 15:44
San Diego River Upstream	11H0838-03	Stormwater	08/30/11 11:20	08/31/11 15:44

NOTE: Per client request Selenium was prepared/digested/analyzed twice; once per EPA Method 200.8 (Batched in #1090723) and once per EPA Method 200.8 modified (seen as RE1, Batched in #1090725). Modified EPA 200.8 method deleted all use of HCl.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 11H0838**
Project Name: Santee Receiving Waters Study

Total Metals by EPA 200 Series Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
San Diego River Downstream (11H0838-01) Stormwater Sampled: 08/30/11 10:00 Received: 08/31/11 15:44										
Selenium	**0.0008**	0.0005	0.001	mg/l	1	1090723	09/06/11	09/07/11	EPA 200.8	J
San Diego River Downstream (11H0838-01RE1) Stormwater Sampled: 08/30/11 10:00 Received: 08/31/11 15:44										
Selenium	**0.0008**	0.0005	0.001	mg/l	1	1090725	09/06/11	09/07/11	EPA 200.8	J
San Diego River Upstream (11H0838-02) Stormwater Sampled: 08/30/11 11:10 Received: 08/31/11 15:44										
Selenium	**0.002**	0.0005	0.001	mg/l	1	1090723	09/06/11	09/07/11	EPA 200.8	
San Diego River Upstream (11H0838-02RE1) Stormwater Sampled: 08/30/11 11:10 Received: 08/31/11 15:44										
Selenium	**0.002**	0.0005	0.001	mg/l	1	1090725	09/06/11	09/07/11	EPA 200.8	
San Diego River Upstream (11H0838-03) Stormwater Sampled: 08/30/11 11:20 Received: 08/31/11 15:44										
Selenium	**0.002**	0.0005	0.001	mg/l	1	1090723	09/06/11	09/07/11	EPA 200.8	
San Diego River Upstream (11H0838-03RE1) Stormwater Sampled: 08/30/11 11:20 Received: 08/31/11 15:44										
Selenium	**0.002**	0.0005	0.001	mg/l	1	1090725	09/06/11	09/07/11	EPA 200.8	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 11H0838**
Project Name: Santee Receiving Waters Study

Total Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1090723											
Blank (1090723-BLK1)					Prepared: 09/06/11		Analyzed: 09/07/11				
Selenium	ND	0.0005	0.001	mg/l							
LCS (1090723-BS1)					Prepared: 09/06/11		Analyzed: 09/07/11				
Selenium	0.098	0.0005	0.001	mg/l	0.100		98	75-125			
LCS Dup (1090723-BSD1)					Prepared: 09/06/11		Analyzed: 09/07/11				
Selenium	0.110	0.0005	0.001	mg/l	0.100		110	75-125	12	20	
Duplicate (1090723-DUP1)			**Source: 11H0838-01**		Prepared: 09/06/11		Analyzed: 09/07/11				
Selenium	0.0007	0.0005	0.001	mg/l		0.0008			13	20	J
Matrix Spike (1090723-MS1)			**Source: 11H0838-01**		Prepared: 09/06/11		Analyzed: 09/07/11				
Selenium	0.095	0.0005	0.001	mg/l	0.100	0.0008	94	75-125			
Matrix Spike (1090723-MS2)			**Source: 11H0838-02**		Prepared: 09/06/11		Analyzed: 09/07/11				
Selenium	0.099	0.0005	0.001	mg/l	0.100	0.002	97	75-125			
Matrix Spike Dup (1090723-MSD1)			**Source: 11H0838-01**		Prepared: 09/06/11		Analyzed: 09/07/11				
Selenium	0.094	0.0005	0.001	mg/l	0.100	0.0008	93	75-125	0.9	20	
Batch 1090725											
Blank (1090725-BLK1)					Prepared: 09/06/11		Analyzed: 09/07/11				
Selenium	ND	0.0005	0.001	mg/l							
LCS (1090725-BS1)					Prepared: 09/06/11		Analyzed: 09/07/11				
Selenium	0.107	0.0005	0.001	mg/l	0.100		107	75-125			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 11H0838**
Project Name: Santee Receiving Waters Study

Total Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1090725											
LCS Dup (1090725-BSD1)					Prepared: 09/06/11		Analyzed: 09/07/11				
Selenium	0.104	0.0005	0.001	mg/l	0.100		104	75-125	3	20	
Duplicate (1090725-DUP1)			**Source: 11I0036-01RE1**		Prepared: 09/06/11		Analyzed: 09/07/11				
Selenium	0.001	0.0005	0.001	mg/l		0.001			4	20	
Matrix Spike (1090725-MS1)			**Source: 11I0036-01RE1**		Prepared: 09/06/11		Analyzed: 09/07/11				
Selenium	0.092	0.0005	0.001	mg/l	0.100	0.001	91	75-125			
Matrix Spike Dup (1090725-MSD1)			**Source: 11I0036-01RE1**		Prepared: 09/06/11		Analyzed: 09/07/11				
Selenium	0.089	0.0005	0.001	mg/l	0.100	0.001	88	75-125	3	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 11H0838**
Project Name: Santee Receiving Waters Study

Notes and Definitions

J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
ND	Analyte NOT DETECTED at or above the reporting limit (or method detection limit when specified)
NR	Not Reported
dry	Sample results reported on a dry weight basis (if indicated in units column)
RPD	Relative Percent Difference
MDL	Method detection limit (indicated per client's request)

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

CHAIN-OF-CUSTODY RECORD

– EnviroMatrix EMA Analytical, Inc. ——

4340 Viewridge Ave., Ste. A - San Diego, CA 92123 - Phone (858) 560-7717 - Fax (858) 560-7763

EMA LOG #: 11H0735

Client: D-Max Engineering, Inc.

Attn: Arsalan Dadkhah

Samplers(s): MD/BN

Address: 7220 Trade St. #119
San Diego, CA 92121

Phone: 858 586 6000 Fax: 858 586 6044

Email: admin@dmaxinc.com

Billing Address:

Project ID: Santee Receiving Waters

Project #: 20122W-4 PO #:

Requested Analysis

ID #	Client Sample ID	Sample Date	Sample Time	Sample Matrix	Container # / Type
1	San Diego River Downstream	8/30/11	10:00	SW	2P
2	San Diego River Upstream	↓	11:10	↓	↓
3	San Diego River Upstream	↓	11:20	↓	↓
4					
5					
6					
7					
8					
9					
10					

Requested analyses: Oil & Grease □ 413.1 □ 413.2 □ 1664; 8015B (TPH) □ Gas □ Diesel □ Ext; 624/8260 (VOC) Full BTXE MTBE Oxy Nap; 625 / 8270 (SVOC) □ PAH only; 608 / 8081 (Organochlorine Pesticides); 608 / 8082 (Polychlorinated Biphenyls); 8141 (Organophosphorus Pesticides); TBT (Organotin Compounds); □ pH □ EC □ TSS □TDS; □ Nitrate □ Nitrite □ TKN □NH3; CAC Title 22/CAM17 Metals □ TTLC □ STLC; TCLP (RCRA) □ Metals □ Organics; Cd Cr Cu Pb Ni Ag Zn □ Dissolved; Coliform, □ Total (MTF) □ Fecal (MTF); Colilert, T+E.Coli □ P/A □ Enumeration; Enterococcus, □ MTF □ Enterolert; Heterotrophic Plate Count (HPC); □ BOD □ COD □ Cyanide; Total Selenium (2 tests); AUG 31 PM 15:73

Matrix Codes: A = Air, DW = Drinking Water, GW = Groundwater, SW = Storm Water
WW = Wastewater, S = Soil, SED = Sediment, SD = Solid, T = Tissue, O = Oil, L = Liquid

Shipped By: X Courier □ UPS □ FedEx □ USPS □ Client Drop Off □ Other

[1]**Turn-Around-Time:** □ Same Day □ 24 hr □ 48 hr □ 3 day □ 4 day X 5 day □ STD (7 day) D-Max STD

[1]**Reporting Requirements:** □ Fax X PDF X Excel □ Geotracker/EDF □ Hard Copy □ EDT

[1]**Sample Disposal:** X By Laboratory □ [2]Return to Client: P/U or Delivery □ Archive

Sample Integrity

Correct Containers: Yes No N/A | Containers Properly Preseved: Yes No N/A

Custody Seals Intact: Yes No N/A | Temp @ Receipt:_____

COC/Labels Agree: Yes No N/A | Sampled By: Client EMA Autosampler

	RELINQUISHED BY	DATE/TIME	RECEIVED BY
Signature		8/30/11 4:45pm	
Print	Brian Newman		Sara Dadkhah
Company:	D-Max		D-Max
Signature		8/31/11 15:04	
Print	Sara Dadkhah		Mark Gomez
Company:	D-Max		EMA
Signature		8/31/11 1549	
Print	Mark Gomez		Eric Hunt
Company:	EMA		EMA

Project/Sample Comments:
Please run selenium twice- once without HCl in the digest and once normally

10°C

[1]Additional costs may apply, consult a project manager for details.

[2]EMA reserves the right to return any samples that do not match our waste profile.

NOTE: By relinquishing samples to EMA, Inc., client agrees to pay for the services requested on this COC form and any additional analyses performed on this project. Payment for services is due within 30 days from date of invoice. Samples will be disposed of 7 days after report has been finalized unless otherwise noted. All work is subject to EMA's terms and conditions.

SIERRA ANALYTICAL

23 November 2011

Manouchehr Dadkhah
D-Max Engineering Inc.
7220 Trade Street Suite 119
San Diego, CA 92121

RE:201122W-4
Work Order No.: 1108563

Attached are the results of the analyses for samples received by the laboratory on 08/31/11 13:00.

The samples were received by Sierra Analytical Labs, Inc. with a chain of custody record attached or completed at the submittal of the samples.

The analyses were performed according to the prescribed method as outlined by EPA, Standard Methods, and A.S.T.M.

The remaining portions of the samples will be disposed of within 30 days from the date of this report.
If you require any additional retaining time, please advise us.

Sincerely,

Richard K. Forsyth

Richard K. Forsyth

Laboratory Director

Sierra Analytical Labs, Inc. is certified by the California Department of Health Services (DOHS), Environmental Laboratory Accredidation Program (ELAP) No. 2320.

D-Max Engineering Inc.	Project: 201122W-4	
7220 Trade Street Suite 119	Project Number: Santee Recieving Waters	**Reported:**
San Diego CA, 92121	Project Manager: Manouchehr Dadkhah	11/23/11 12:09

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Forester Cr. Downstream	1108563-01	Liquid	08/31/11 10:00	08/31/11 13:00
Forester Cr. Upstream	1108563-02	Liquid	08/31/11 11:15	08/31/11 13:00

CASE NARRATIVE

SAMPLE RECEIPT: Samples were received intact, at 4°C, and accompanied by chain of custody documentation.
PRESERVATION: Samples requiring preservation were verified prior to sample preparation and analysis.
HOLDING TIMES: All holding times were met, unless otherwises noted in the report with data qualifiers.
QA/QC CRITERIA: All quality objective criteria were met, except as noted in the report with data qualifiers.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

26052 MERIT CIRCLE SUITE 105, LAGUNA HILLS, CALIFORNIA 92653
TELEPHONE: (949) 348-9389 FAX: (949) 348-9115
E-MAIL: SIERRALABS @ SIERRALABS.NET

D-Max Engineering Inc.	Project: 201122W-4	
7220 Trade Street Suite 119	Project Number: Santee Recieving Waters	**Reported:**
San Diego CA, 92121	Project Manager: Manouchehr Dadkhah	11/23/11 12:09

Microbiological Parameters by APHA Standard Methods
Sierra Analytical Labs, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Forester Cr. Downstream (1108563-01) Liquid Sampled: 08/31/11 10:00 Received: 08/31/11 13:00										
E. Coli	**300**	2.0	2.0	MPN/100 mL	1	B1I1612	08/31/11	08/31/11 16:45	SM 9221E/F	
Enterococcus	**300**	2.0	2.0	"	"	"	"	"	SM 9230B	
Fecal Coliforms	**300**	2.0	2.0	"	"	"	"	"	SM 9221E	
Total Coliforms	**900**	2.0	2.0	"	"	"	"	"	SM 9221B	
Forester Cr. Upstream (1108563-02) Liquid Sampled: 08/31/11 11:15 Received: 08/31/11 13:00										
E. Coli	**350**	2.0	2.0	MPN/100 mL	1	B1I1612	08/31/11	08/31/11 16:45	SM 9221E/F	
Enterococcus	**600**	2.0	2.0	"	"	"	"	"	SM 9230B	
Fecal Coliforms	**700**	2.0	2.0	"	"	"	"	"	SM 9221E	
Total Coliforms	**1500**	2.0	2.0	"	"	"	"	"	SM 9221B	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

26052 MERIT CIRCLE SUITE 105, LAGUNA HILLS, CALIFORNIA 92653
TELEPHONE: (949) 348-9389 FAX: (949) 348-9115
E-MAIL: SIERRALABS @ SIERRALABS.NET

D-Max Engineering Inc.	Project: 201122W-4	
7220 Trade Street Suite 119	Project Number: Santee Recieving Waters	**Reported:**
San Diego CA, 92121	Project Manager: Manouchehr Dadkhah	11/23/11 12:09

Conventional Chemistry Parameters by APHA/EPA Methods
Sierra Analytical Labs, Inc.

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Forester Cr. Downstream (1108563-01) Liquid Sampled: 08/31/11 10:00 Received: 08/31/11 13:00										
Nitrite as N	ND	0.0200	0.0200	mg/L	1	B1I1614	08/31/11	08/31/11 17:28	SM4500-NO2 B	
Nitrate as N	**2.00**	0.0200	0.0200	"	"	"	"	"	EPA 353.3	
Orthophosphate as P	**0.660**	0.0500	0.0500	"	"	"	"	"	EPA 365.2	
Phosphorus	**0.690**	0.0500	0.0500	"	"	"	"	"	"	
Sulfate as SO4	**550**	0.500	0.500	"	"	"	"	"	EPA 375.4	
Total Dissolved Solids	**1970**	1.00	1.00	"	"	"	"	"	EPA 160.1	
Total Kjeldahl Nitrogen	**1.30**	0.10	0.10	"	"	"	"	"	EPA 351.3	
Total Nitrogen	**3.30**	0.10	0.10	"	"	"	"	"	SM 4500-N	
Forester Cr. Upstream (1108563-02) Liquid Sampled: 08/31/11 11:15 Received: 08/31/11 13:00										
Nitrite as N	ND	0.0200	0.0200	mg/L	1	B1I1614	08/31/11	08/31/11 17:28	SM4500-NO2 B	
Nitrate as N	**4.40**	0.0200	0.0200	"	"	"	"	"	EPA 353.3	
Orthophosphate as P	**0.690**	0.0500	0.0500	"	"	"	"	"	EPA 365.2	
Phosphorus	**0.730**	0.0500	0.0500	"	"	"	"	"	"	
Sulfate as SO4	**600**	0.500	0.500	"	"	"	"	"	EPA 375.4	
Total Dissolved Solids	**1690**	1.00	1.00	"	"	"	"	"	EPA 160.1	
Total Kjeldahl Nitrogen	**1.25**	0.10	0.10	"	"	"	"	"	EPA 351.3	
Total Nitrogen	**5.65**	0.10	0.10	"	"	"	"	"	SM 4500-N	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

26052 MERIT CIRCLE SUITE 105, LAGUNA HILLS, CALIFORNIA 92653
TELEPHONE: (949) 348-9389 FAX: (949) 348-9115
E-MAIL: SIERRALABS @ SIERRALABS.NET

D-Max Engineering Inc.	Project: 201122W-4	
7220 Trade Street Suite 119	Project Number: Santee Recieving Waters	**Reported:**
San Diego CA, 92121	Project Manager: Manouchehr Dadkhah	11/23/11 12:09

Notes and Definitions

DET	Analyte DETECTED
ND	Analyte NOT DETECTED at or above the reporting limit
NR	Not Reported
dry	Sample results reported on a dry weight basis
RPD	Relative Percent Difference

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

SIERRA ANALYTICAL LABS, INC.
WET CHEM QA/QC
WORKSHEET

Project No.: 1108563 and 1108546
Client: D-Max Engineering

Date Received: 8/30 and 08/31/11
Date Analyzed: 8/31/2011

TEST PARAMETER	RESULT	DUPLICATE RESULT	%DEVIATION (0 - 15)	BLANK	SPIKE CONC.	EXP. RESULTS	RESULTS	%RECOVERY (85 - 115)	CK STD.	STD. RESULTS	INITIALS
Sulfate	550	525	4.8	0.50	50	600	618	103	10	9.3	RF
TDS	1970	1988	1	1.0	100	2070	2012	97.1	100	105	RF
Ammonia-N	1.3	1.36	4.5	0.10	0.5	1.8	1.71	95	1	0.94	RF
PO4-P, TOTAL	0.69	0.72	4.3	0.05	0.50	1.19	1.27	107	1.0	0.97	RF
Nitrate-N	2	1.85	7.5	0.05	0.50	2.5	2.7	108	1.0	1.03	RF

Notes:

Project No.:
Client:

Date Received:
Date Analyzed:

TEST PARAMETER	RESULT	DUPLICATE RESULT	%DEVIATION (0 - 15)	BLANK	SPIKE CONC.	EXP. RESULTS	RESULTS	%RECOVERY (85 - 115)	CK STD.	STD. RESULTS	INITIALS
NO2-N											
TSS											
Nitrate-N											
Ammonia-N											
PO4-P, TOTAL											
PO4-P, TOTAL											
T.S.S./TDS											

Notes:

CHAIN OF CUSTODY RECORD

SIERRA ANALYTICAL
TEL: 949•348•9389
FAX: 949•348•9115
26052 Merit Circle• Suite 105•Laguna Hills, CA•92653

Date: 8/31/11 Page 1 of 1

Lab Project No.: 1108563

Client: D-Max Engineering, Inc.
Client Address: 7220 Trade street, Suite 119
San Diego, CA 92121
Client Tel. No.: 858-586-6600
Client Fax. No.: 858-586-6644
Client Proj. Mgr.: Arsalan Dadkhah

Client Project ID: 20112 W-4
Santee Receiving water

Turn Around Time Requested: ☐ Immediate ☐ 24 Hour ☐ 48 Hour ☐ 72 Hour ☐ 4 Day ☒ 5 Day ☐ Normal ☐ Mobile

Analysis Requested

Client Sample ID.	Sierra No.	Date	Time	Matrix	Preservative	Container Type	No. of Containers	Enterococcus bacteria	Total + Fecal Coliform	E-Coli	Total Nitrogen	Total Phosphorus	Orthophosphate Phosphr	TDS	Sulfate					Field Point Names/ Comments
Forester Cr. downstrea	01	8/31/11	10:00	SW	Yes	P	5	X	X	X	X	X	X	X	X					
Forester Cr. upstrea	02	8/31/11	11:15	"	"	"	5	X	X	X	X	X	X	X	X					

Geotracker EDD Info:
Client LOGCODE
Site Global ID

1 Sampled By/Signature: Manouchehr Dadkhah
Printed Name: Manouchehr Dadkhah
Shipped Via:
(Carrier/Waybill No.)

2 Relinquished By: Manouchehr Dadkhah Date: 8/31/11 Time: 1pm Company: D-Max Eng.
Received By: SA Date: 8-31-11 Time: 1pm Company:

3 Relinquished By: Date: 8-31-11 Time: 4:37pm Company: SA
Received By: Date: 8-31-11 Time: 1657 Company: Sierra

4 Relinquished By: Date: Time: Company:
Received By: Date: Time: Company:

Special Instructions:
Bacteria RL of 2 MPN/100mL needed QAPP

Total Number of Containers Submitted to Laboratory:

The delivery of samples and the signature on this chain of custody form constitutes authorization to perform the analysis specified above under SIERRA's Terms and Conditions, unless otherwise agreed upon in writing between SIERRA and CLIENT.
* - Samples determined to be hazardous by SIERRA will be returned to CLIENT.

Total Number of Containers Received by Laboratory:

Sample Disposal:
☐ Return to Client
☐ Lab Disposal*
☐ Archive _____ mos.
☐ Other _____

FOR LABORATORY USE ONLY - Sample Receipt Conditions:
☑ Intact ☑ Chilled - Temp. (°C) 1.0
☐ Sample Seals ☐ Preservatives - Verified By
☑ Properly Labelled ☐ Other
☑ Appropriate Sample Container ☑ Storage Location Micro-Room 23

DISTRIBUTION: White - To Accompany Samples, Yellow - Laboratory Copy, Pink - Field Personnel Copy

08 September 2011

D-Max Engineering
Attn: Arsalan Dadkhah
7220 Trade Street, Suite 119
San Diego, California 92121

EMA Log #: 11I0036

Project Name: Santee Receiving Waters Study
Project Desc./#: 201122W-4

Enclosed are the results of analyses for samples received by the laboratory on 09/01/11 16:00. Samples were analyzed pursuant to client request utilizing EPA or other ELAP approved methodologies. I certify that this data is in compliance both technically and for completeness.

Dan Verdon
Laboratory Director

CA ELAP Certification #: 2564

Client Name: D-Max Engineering **EMA Log #: 11I0036**
Project Name: Santee Receiving Waters Study

ANALYTICAL REPORT FOR SAMPLES

Sample ID	Laboratory ID	Matrix	Date Sampled	Date Received
Forester Cr. downstream	11I0036-01	Stormwater	08/31/11 10:00	09/01/11 16:00
Forester Cr. Upstream	11I0036-02	Stormwater	08/31/11 10:00	09/01/11 16:00

NOTE: Per client request Selenium was prepared/digested/analyzed twice; once per EPA Method 200.8 (Batched in #1090723) and once per EPA Method 200.8 modified (seen as RE1, Batched in #1090725). Modified EPA 200.8 method deleted all use of HCl.

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 11I0036**
Project Name: Santee Receiving Waters Study

Total Metals by EPA 200 Series Methods

Analyte	Result	MDL	Reporting Limit	Units	Dilution	Batch	Prepared	Analyzed	Method	Notes
Forester Cr. downstream (11I0036-01) Stormwater Sampled: 08/31/11 10:00 Received: 09/01/11 16:00										
Selenium	**0.001**	0.0005	0.001	mg/l	1	1090723	09/06/11	09/07/11	EPA 200.8	
Forester Cr. downstream (11I0036-01RE1) Stormwater Sampled: 08/31/11 10:00 Received: 09/01/11 16:00										
Selenium	**0.001**	0.0005	0.001	mg/l	1	1090725	09/06/11	09/07/11	EPA 200.8	
Forester Cr. Upstream (11I0036-02) Stormwater Sampled: 08/31/11 10:00 Received: 09/01/11 16:00										
Selenium	**0.002**	0.0005	0.001	mg/l	1	1090723	09/06/11	09/07/11	EPA 200.8	
Forester Cr. Upstream (11I0036-02RE1) Stormwater Sampled: 08/31/11 10:00 Received: 09/01/11 16:00										
Selenium	**0.002**	0.0005	0.001	mg/l	1	1090725	09/06/11	09/07/11	EPA 200.8	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 11I0036**
Project Name: Santee Receiving Waters Study

Total Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1090723											
Blank (1090723-BLK1)					Prepared: 09/06/11 Analyzed: 09/07/11						
Selenium	ND	0.0005	0.001	mg/l							
LCS (1090723-BS1)					Prepared: 09/06/11 Analyzed: 09/07/11						
Selenium	0.098	0.0005	0.001	mg/l	0.100		98	75-125			
LCS Dup (1090723-BSD1)					Prepared: 09/06/11 Analyzed: 09/07/11						
Selenium	0.110	0.0005	0.001	mg/l	0.100		110	75-125	12	20	
Duplicate (1090723-DUP1)			**Source: 11H0838-01**		Prepared: 09/06/11 Analyzed: 09/07/11						
Selenium	0.0007	0.0005	0.001	mg/l		0.0008			13	20	J
Matrix Spike (1090723-MS1)			**Source: 11H0838-01**		Prepared: 09/06/11 Analyzed: 09/07/11						
Selenium	0.095	0.0005	0.001	mg/l	0.100	0.0008	94	75-125			
Matrix Spike (1090723-MS2)			**Source: 11H0838-02**		Prepared: 09/06/11 Analyzed: 09/07/11						
Selenium	0.099	0.0005	0.001	mg/l	0.100	0.002	97	75-125			
Matrix Spike Dup (1090723-MSD1)			**Source: 11H0838-01**		Prepared: 09/06/11 Analyzed: 09/07/11						
Selenium	0.094	0.0005	0.001	mg/l	0.100	0.0008	93	75-125	0.9	20	
Batch 1090725											
Blank (1090725-BLK1)					Prepared: 09/06/11 Analyzed: 09/07/11						
Selenium	ND	0.0005	0.001	mg/l							
LCS (1090725-BS1)					Prepared: 09/06/11 Analyzed: 09/07/11						
Selenium	0.107	0.0005	0.001	mg/l	0.100		107	75-125			

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Client Name: D-Max Engineering **EMA Log #: 11I0036**
Project Name: Santee Receiving Waters Study

Total Metals by EPA 200 Series Methods - Quality Control

Analyte	Result	MDL	Reporting Limit	Units	Spike Level	Source Result	%REC	%REC Limits	RPD	RPD Limit	Notes
Batch 1090725											
LCS Dup (1090725-BSD1)					Prepared: 09/06/11		Analyzed: 09/07/11				
Selenium	0.104	0.0005	0.001	mg/l	0.100		104	75-125	3	20	
Duplicate (1090725-DUP1)			**Source: 11I0036-01RE1**		Prepared: 09/06/11		Analyzed: 09/07/11				
Selenium	0.001	0.0005	0.001	mg/l		0.001			4	20	
Matrix Spike (1090725-MS1)			**Source: 11I0036-01RE1**		Prepared: 09/06/11		Analyzed: 09/07/11				
Selenium	0.092	0.0005	0.001	mg/l	0.100	0.001	91	75-125			
Matrix Spike Dup (1090725-MSD1)			**Source: 11I0036-01RE1**		Prepared: 09/06/11		Analyzed: 09/07/11				
Selenium	0.089	0.0005	0.001	mg/l	0.100	0.001	88	75-125	3	20	

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

Notes and Definitions

J	Detected but below the Reporting Limit; therefore, result is an estimated concentration (CLP J-Flag).
ND	Analyte NOT DETECTED at or above the reporting limit (or method detection limit when specified)
NR	Not Reported
dry	Sample results reported on a dry weight basis (if indicated in units column)
RPD	Relative Percent Difference
MDL	Method detection limit (indicated per client's request)

The results in this report apply to the samples analyzed in accordance with the chain of custody document. This analytical report must be reproduced in its entirety.

SEP 1 '11 16:00

CHAIN-OF-CUSTODY RECORD

EMA LOG #: ~~11I00JT~~ MP 11I0036

Client: D-Max Engineering, Inc.
Attn: Arsalan Dadkhah
Samplers(s): MD/BN
Address: 7220 Trade street, Suite 119
San Diego, CA 92121
Phone: 858-586-6600 Fax: 858-586-6644
Email:
Billing Address: Same

Project ID: Santee Receiving water
Project #: 201122W-4 PO #:

– EnviroMatrix Analytical, Inc. –
4340 Viewridge Ave., Ste. A - San Diego, CA 92123 - Phone (858) 560-7717 - Fax (858) 560-7763

Requested Analysis

ID #	Client Sample ID	Sample Date	Sample Time	Sample Matrix	Container # / Type	Oil & Grease □ 413.1 □ 413.2 □ 1664	8015B (TPH) □ Gas □ Diesel □ Ext	624/8260 (VOC) Full BTXE MTBE Oxy Nap	625 / 8270 (SVOC) □ PAH only	608 / 8081 (Organochlorine Pesticides)	608 / 8082 (Polychlorinated Biphenyls)	8141 (Organophosphorus Pesticides)	TBT (Organotin Compounds)	□ pH □ EC □ TSS □ TDS	□ Nitrate □ Nitrite □ TKN □ NH3	CAC Title 22/CAM17 Metals □ TTLC □ STLC	TCLP (RCRA) □ Metals □ Organics	Cd Cr Cu Pb Ni Ag Zn □ Dissolved	Coliform, □ Total (MTF) □ Fecal (MTF)	Colilert, T+E.Coli □ P/A □ Enumeration	Enterococcus, □ MTF □ Enterolert	Heterotrophic Plate Count (HPC)	□ BOD □ COD □ Cyanide	Total selenium (Two Tests)				
1	Forester Cr. downstream	8/31/11	10:00	SW	2 P																			X				
2	Forester Cr. Upstream	8/31/11	11:15	"	3 P																			X				
3																												
4																												
5																												
6																												
7																												
8																												
9																												
10																												

Matrix Codes: A = Air, DW = Drinking Water, GW = Groundwater, SW = Storm Water
WW = Wastewater, S = Soil, SED = Sediment, SD = Solid, T = Tissue, O = Oil, L = Liquid

Shipped By: X Courier □ UPS □ FedEx □ USPS □ Client Drop Off □ Other

[1]**Turn-Around-Time:** □ Same Day □ 24 hr □ 48 hr □ 3 day □ 4 day X 5 day □ STD (7 day)

[1]**Reporting Requirements:** □ Fax X PDF X Excel □ Geotracker/EDF □ Hard Copy □ EDT

[1]**Sample Disposal:** X By Laboratory □ [2]Return to Client: P/U or Delivery □ Archive

Sample Integrity

Correct Containers: Yes No N/A	Containers Properly Preseved: Yes No N/A
Custody Seals Intact: Yes No N/A	Temp @ Receipt:
COC/Labels Agree: Yes No N/A	Sampled By: Client EMA Autosampler

RELINQUISHED BY	DATE/TIME	RECEIVED BY
Signature: Manouchehr Dadkhah	8/31/2011 17:05	Signature: [signature]
Print: Manouchehr Dadkhah		Print: Sara Dadkhah
Company: D-Max Eng		Company: D-Max
Signature: [signature]	9/1/2011 15:10	Signature: [signature]
Print: Sara Dadkhah		Print: MARK FRELLES
Company: D-MAX		Company: EMA
Signature: [signature]	9-1-11 1600	Signature: Eric Hunt
Print: MARK FRELLES		Print: Eric Hunt
Company: EMA		Company: EMA

Project/Sample Comments:

Please Run selenium Twice (once w/o HCL in The digest, and once normally) 6°C

[1]Additional costs may apply, consult a project manager for details.

[2]EMA reserves the right to return any samples that do not match our waste profile.

NOTE: By relinquishing samples to EMA, Inc., client agrees to pay for the services requested on this COC form and any additional analyses performed on this project. Payment for services is due within 30 days from date of invoice. Samples will be disposed of 7 days after report has been finalized unless otherwise noted. All work is subject to EMA's terms and conditions.

Appendix D

Field Data Sheets

Round One

☐ Dry Weather
☐ MS4 Outfall Monitoring
☒ Additional Study

City of Santee
Dry Weather Monitoring Field Datasheet

☒ **Routine Investigation** ☐ **Confirmation for** _____ ☐ **IC/ID Follow-Up for** _____

Site ID	Forester Creek Downstream			**Latitude**	32.83953	**Watershed**	**Hydrologic Unit**	907
Location	Approximately 200 feet north of the Mission Gorge Road and Fanita Drive intersection, east of Fanita Creek			**Longitude**	-117.00241		**Hydrologic Area**	907.1
				TB Page	1231 B6		**Hydrologic Subarea** (Optional)	907.12
Date	6/6/11	**Time**	10:40	**Observer**	MD/KC		**Discharge Area** (Optional)	

Land Use (Primary) Open

Land Use (Secondary) Commercial

Conveyance Natural Creek

ATMOSPHERIC CONDITIONS

Weather ☐ Sunny ☒ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☐ > 72 hours ☒ < 72 hours

Rainfall ☐ None ☒ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other	☐ ns (dry)	☐ na
Color	☐ None	☒ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other	☐ ns (dry)	☐ na
Clarity	☒ Clear	☐ Slightly Cloudy		☐ Opaque		☐ Other	☐ ns (dry)	☐ na
Floatables	☒ None	☐ Trash	☐ Bubbles	☐ Foam	☐ Sheen ☐ Fecal Matter	☐ Other	☐ ns (dry)	☐ na
Deposits	☐ None	☒ Sediment	☐ Gravel	☒ Fine Particulates	☐ Stains ☐ Oily Deposits	☐ Other		☐ na
Vegetation	☐ None	☐ Limited	☒ Normal	☐ Excessive		☐ Other		☐ na
Biology	☐ None	☒ Insects	☐ Algae	☐ Fish	☐ Snails ☐ Mussels/ Barnacles	☒ Other ducks		☐ na

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☒ No ☐ *Yes:* ☐ *Irrigation Runoff* ☐ *Other:* _____

Photo # 168-169

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	19.7	NH_3-N (mg/L)	NA	NO_3 (mg/L)	NA	Ortho-PO_4 (mg/L)	NA
pH (pH units)	7.12	TURB (NTU)	NA	NO_3-N (mg/L)	NA	Ortho-PO_4 -P (mg/L)	NA
COND (mS/cm)	1.91	MBAS (mg/L)	NA	DO (ppm)	5.91		

Analytical Lab Samples Collected? ☒ **Yes** ☐ **No**

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: Flow could not be determined due to federal difficulties.

2c

Program:
☐ Dry Weather
☐ MS4 Outfall Monitoring
☒ Additional Study

City of Santee
Dry Weather Monitoring Field Datasheet

DW Station Class:
☐ Field-only Site
☒ Lab Site
☐ Alternate ☐ ICID

Visit Type: ☐ Routine ☐ Confirmation for _____ ☐ IC/ID Follow-Up for _____ ☒ Duplicate ☐ Blank

Site ID	Forester Creek Downstream		**Latitude**	32.83953	**Watershed**	**Hydrologic Unit**	907
Location	Approximately 200 ft north of the Mission Gorge and Fanita Drive intersection, east of Fanita Creek		**Longitude**	-117.00241		**Hydrologic Area**	907.1
			TB Page	1231 - B10		**Hydrologic Subarea** (Optional)	907.12
Date	10/10/11	**Time** 10:50	**Observer**	MD/KC		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only): ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☒ Open

Land Use (Secondary) (Optional, greater than 10%): ☐ Residential ☒ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only): ☐ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☒ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☐ Sunny ☒ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☐ > 72 hours ☒ < 72 hours

Rainfall ☐ None ☒ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other	☐ ns (dry)	☐ na
Color	☐ None	☒ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other	☐ ns (dry)	☐ na
Clarity	☒ Clear	☐ Slightly Cloudy		☐ Opaque		☐ Other	☐ ns (dry)	☐ na
Floatables	☒ None	☐ Trash	☐ Bubbles	☐ Foam	☐ Sheen ☐ Fecal Matter	☐ Other	☐ ns (dry)	☐ na
Deposits	☐ None	☒ Sediment	☐ Gravel	☐ Fine Particulates	☐ Stains ☐ Oily Deposits	☐ Other		☐ na
Vegetation	☐ None	☐ Limited	☒ Normal	☐ Excessive		☐ Other		☐ na
Biology	☐ None	☒ Insects	☐ Algae	☐ Fish	☐ Snails ☐ Mussels/ Barnacles	☒ Other ducks		☐ na

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☒ No ☐ *Yes:* ☐ *Irrigation Runoff* ☐ *Other:* _____

Photo # 1608-1609

Field Screening Samples Collected? ☒ Yes ☐ No **Analytical Lab Samples Collected?** ☐ Yes ☒ No

Water Temp (°C)	19.5	NH_3-N (mg/L)	NA	NO_3 (mg/L)	NA	Ortho-PO_4 (mg/L)	NA
pH (pH units)	7.7	TURB (NTU)	NA	NO_3-N (mg/L)	NA	Ortho-PO_4 -P (mg/L)	NA
COND (mS/cm)	1.92	MBAS (mg/L)	NA	DO (ppm)	5.83		

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	NA	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: Flow could not be determined due to technical difficulties.

Program:
☐ Dry Weather
☐ MS4 Outfall Monitoring
☒ Additional Study

City of Santee
Dry Weather Monitoring Field Datasheet

DW Station Class:
☐ Field-only Site
☐ Lab Site
☐ Alternate Site

Visit Type: ☒ Routine ☐ Confirmation for _____ ☐ IC/ID Follow-Up for _____ ☐ Duplicate ☐ Blank

Site ID	Forester Creek Downstream		**Latitude**	32.83953	**Watershed**	**Hydrologic Unit**	907
Location	Approximately 200 ft north of the Mission Gorge Rd and Fanita Dr intersection, east of Fanita Creek		**Longitude**	-117.00241		**Hydrologic Area**	907.1
			TB Page	1231-B6		**Hydrologic Subarea** (Optional)	907.12
Date	6/16/11	**Time** 13:10	**Observer**	CK, KS		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only): ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☒ Open

Land Use (Secondary) (Optional, greater than 10%): ☐ Residential ☒ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only): ☐ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☒ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☐ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other	☐ ns (dry)	☒ na
Color	☐ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other	☐ ns (dry)	☒ na
Clarity	☐ Clear	☐ Slightly Cloudy		☐ Opaque		☐ Other	☐ ns (dry)	☒ na
Floatables	☒ None	☐ Trash	☐ Bubbles	☐ Foam	☐ Sheen ☐ Fecal Matter	☐ Other	☐ ns (dry)	☐ na
Deposits	☐ None	☒ Sediment	☐ Gravel	☐ Fine Particulates	☐ Stains ☐ Oily Deposits	☐ Other		☐ na
Vegetation	☐ None	☐ Limited	☒ Normal	☐ Excessive		☐ Other		☐ na
Biology	☐ None	☒ Insects	☒ Algae	☒ Fish	☐ Snails ☐ Mussels/ Barnacles	☒ Other turtle		☐ na

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☒ No ☐ *Yes:* ☐ *Irrigation Runoff* ☐ *Other:* _____

Photo # _____

Field Screening Samples Collected? ☐ Yes ☒ No **Analytical Lab Samples Collected?** ☐ Yes ☒ No

Water Temp (°C)	na	NH_3-N (mg/L)	na	NO_3 (mg/L)	na	Ortho-PO_4 (mg/L)	na
pH (pH units)	na	TURB (NTU)	na	NO_3-N (mg/L)	na	Ortho-PO_4-P (mg/L)	na
COND (mS/cm)	na	MBAS (mg/L)	na				

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	603	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

City of Santee
Supplemental Flow Measurement Worksheet

If the stream width is greater than 10 ft use this supplemental flow measurement worksheet.

GENERAL SITE DESCRIPTION

Site ID	Forester Creek Downstream	**Date**	6/16/11	**(Include the latitude and longitude of flow**	**Latitude**	32.83968
Observer(s)	CK, KS	**Time**	13:10	**measurement location if different than site.)**	**Longitude**	-117.00273

FLOW MEASUREMENT WORKSHEET

Measurements	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
Width (inch)															
Width (ft)	0.5	0.5	0.5	0.5	0.5	0.5	~~0.5~~	~~0.5~~							
Depth (inch)	1.5	3.5	6	6.5	9.5	3									
Depth (ft)															
Velocity (ft/sec)	0.992	0.9	1.1	1.3	1.1	0.7									
Leaf float correction factor (A)															
Flow (cfs)	0.062	0.131	0.275	0.352	0.435	0.087									

Measurements	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**
Width (inch)															
Width (ft)															
Depth (inch)															
Depth (ft)															
Velocity (ft/sec)															
Leaf float correction factor (A)															
Flow (cfs)															

Calculations	**Sum of all sections**
Flow (cfs)	1.34
Flow (gpm)	602.89

Q=Total Flow (cfs), **W**=Width (ft), **D**=Depth (ft), **V**=Velocity (ft/sec)
$\mathbf{Q} = [(W_1 * D_1 * V_1) + (W_2 * D_2 * V_2) + \ldots\ldots (W_n * D_n * V_n)]$
1 cfs (ft x ft x ft/sec) = 448.83 gpm

A = correction factor (0.8 for rough bottom and 0.9 for smooth bottom)
Note "**A**" is only used where surface velocity is estimated (e.g., leaf float).
Calculated flow should be reported to one or two significant figures.

COMMENTS: _____

Revised 6/9/2011

☐ Dry Weather
☐ MS4 Outfall Monitoring
☒ Additional Study

City of Santee
Dry Weather Monitoring Field Datasheet

☒ **Routine Investigation** ☐ **Confirmation for** _____ ☐ **IC/ID Follow-Up for** _____

Site ID	Forester Creek Upstream			**Latitude**	32.83093	**Watershed**	**Hydrologic Unit**	907
Location	Beneath the Prospect Avenue bridge, west of Cuyamaca Street			**Longitude**	-116.98543		**Hydrologic Area**	907.1
				TB Page	1231 C7		**Hydrologic Subarea** (Optional)	907.13
Date	6/10/11	**Time**	11:25	**Observer**	MD/KC		**Discharge Area** (Optional)	

Land Use (Primary) Industrial

Land Use (Secondary) Commercial

Conveyance Concrete Channel

ATMOSPHERIC CONDITIONS

Weather ☐ Sunny ☒ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☐ > 72 hours ☒ < 72 hours

Rainfall ☐ None ☒ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor ☒ None ☐ Musty ☐ Rotten Eggs ☐ Chemical ☐ Sewage ☐ Other ☐ ns (dry) ☐ na

Color ☐ None ☒ Yellow ☐ Brown ☐ White ☐ Gray ☐ Other ☐ ns (dry) ☐ na

Clarity ☒ Clear ☐ Slightly Cloudy ☐ Opaque ☐ Other ☐ ns (dry) ☐ na

Floatables ☒ None ☐ Trash ☐ Bubbles ☐ Foam ☐ Sheen ☐ Fecal Matter ☐ Other ☐ ns (dry) ☐ na

Deposits ☐ None ☒ Sediment ☒ Gravel ☒ Fine Particulates ☐ Stains ☐ Oily Deposits ☐ Other ☐ na

Vegetation ☒ None ☐ Limited ☐ Normal ☐ Excessive ☐ Other ☐ na

Biology ☐ None ☐ Insects ☒ Algae ☐ Fish ☐ Snails ☐ Mussels/ Barnacles ☐ Other ☐ na

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☒ No ☐ *Yes:* ☐ *Irrigation Runoff* ☐ *Other:* _____

Photo # 170-171

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	27.3	NH_3-N (mg/L)	NA	NO_3 (mg/L)	NA	Ortho-PO_4 (mg/L)	NA
pH (pH units)	8.5	TURB (NTU)	NA	NO_3-N (mg/L)	NA	Ortho-PO_4 -P (mg/L)	NA
COND (mS/cm)	1.85	MBAS (mg/L)	NA	DO	8.79		

Analytical Lab Samples Collected? ☒ **Yes** ☐ **No**

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: Flow could not be determined due to technical difficulties.

Program:
☐ Dry Weather
☐ MS4 Outfall Monitoring
☒ Additional Study

City of Santee
Dry Weather Monitoring Field Datasheet

DW Station Class:
☐ Field-only Site
☐ Lab Site
☐ Alternate Site

Visit Type: ☒ Routine ☐ Confirmation for _____ ☐ IC/ID Follow-Up for _____ ☐ Duplicate ☐ Blank

Site ID	Forestem Creek Upstream	**Latitude**	32.83093	**Watershed**	**Hydrologic Unit**	907
Location	Beneath the Prospect Avenue Bridge, west of Cuyamaca	**Longitude**	-116.98543		**Hydrologic Area**	907.1
		TB Page	1231 C7		**Hydrologic Subarea** (Optional)	907.13
Date	6/16/11 **Time** ~~6:20~~ 10:20	**Observer**	CK/KS		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☐ Commercial ☒ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☒ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☐ Outlet ☒ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other	☐ ns (dry)	☒ na
Color	☐ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other	☐ ns (dry)	☒ na
Clarity	☐ Clear	☐ Slightly Cloudy		☐ Opaque		☐ Other	☐ ns (dry)	☒ na
Floatables	☐ None	☐ Trash	☒ Bubbles	☐ Foam	☐ Sheen ☐ Fecal Matter	☐ Other	☐ ns (dry)	☐ na
Deposits	☒ None	☐ Sediment	☐ Gravel	☐ Fine Particulates	☐ Stains ☐ Oily Deposits	☐ Other		☐ na
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other		☐ na
Biology	☐ None	☐ Insects	☒ Algae	☐ Fish	☐ Snails ☐ Mussels/ Barnacles	☒ Other birds		☐ na

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☒ No ☐ *Yes:* ☐ *Irrigation Runoff* ☐ *Other:* _____

Photo # _____

Field Screening Samples Collected? ☐ Yes ☒ No **Analytical Lab Samples Collected?** ☐ Yes ☒ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3 (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		NO_3-N (mg/L)		Ortho-PO_4-P (mg/L)	
COND (mS/cm)		MBAS (mg/L)					

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	525.04	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

City of Santee
Supplemental Flow Measurement Worksheet

If the stream width is greater than 10 ft use this supplemental flow measurement worksheet.

GENERAL SITE DESCRIPTION

Site ID	Forester Creek Upstream	**Date**	6/16/11	**(Include the latitude and longitude of flow**	**Latitude**	32.83115
Observer(s)	CK/KS	**Time**	6:20	**measurement location if different than site.)**	**Longitude**	116.98562

FLOW MEASUREMENT WORKSHEET

Measurements	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Width (inch)															
Width (ft)	0.5	0.5	0.5												
Depth (inch)	3	3.25	3.5												
Depth (ft)															
Velocity (ft/sec)	2.6	2.9	3.1												
Leaf float correction factor (A)															
Flow (cfs)															

Measurements	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
Width (inch)															
Width (ft)															
Depth (inch)															
Depth (ft)															
Velocity (ft/sec)															
Leaf float correction factor (A)															
Flow (cfs)															

Calculations	Sum of all sections
Flow (cfs)	1.17
Flow (gpm)	525.04

Q=Total Flow (cfs), **W**=Width (ft), **D**=Depth (ft), **V**=Velocity (ft/sec)
Q = [(W_1 * D_1 * V_1) + (W_2 *D_2* V_2) + ... (W_n*D_n*V_n)]
1 cfs (ft x ft x ft/sec) = 448.83 gpm

A = correction factor (0.8 for rough bottom and 0.9 for smooth bottom)
Note "**A**" is only used where surface velocity is estimated (e.g., leaf float).
Calculated flow should be reported to one or two significant figures.

COMMENTS: The flow appeared to slightly increase during the time of site visit.

Revised 6/9/2011

☐ Dry Weather
☐ MS4 Outfall Monitoring
☒ Additional Study

City of Santee
Dry Weather Monitoring Field Datasheet

☒ **Routine Investigation** ☐ **Confirmation for** _____ ☐ **IC/ID Follow-Up for** _____

Site ID	San Diego River Downstream			**Latitude**	32.83936	**Watershed**	**Hydrologic Unit**	907
Location	Beneath the West Hills Parkway Bridge			**Longitude**	-117.02450		**Hydrologic Area**	907.1
				TB Page	1230 H6		**Hydrologic Subarea** (Optional)	907.12
Date	6/7/11	**Time**	1140 10:45	**Observer**	MD/KC	**Discharge Area** (Optional)		

Land Use (Primary) Open

Land Use (Secondary) Residential

Conveyance Natural Creek

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☐ > 72 hours ☒ < 72 hours

Rainfall ☐ None ☒ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other	☐ ns (dry)	☐ na
Color	☐ None	☒ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other	☐ ns (dry)	☐ na
Clarity	☒ Clear	☐ Slightly Cloudy		☐ Opaque		☐ Other	☐ ns (dry)	☐ na
Floatables	☒ None	☐ Trash	☐ Bubbles	☐ Foam	☐ Sheen ☐ Fecal Matter	☐ Other	☐ ns (dry)	☐ na
Deposits	☐ None	☒ Sediment	☒ Gravel	☒ Fine Particulates	☐ Stains ☐ Oily Deposits	☐ Other		☐ na
Vegetation	☐ None	☐ Limited	☒ Normal	☐ Excessive		☐ Other		☐ na
Biology	☐ None	☒ Insects	☒ Algae	☒ Fish	☐ Snails ☐ Mussels/ Barnacles	☐ Other		☐ na

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☒ No ☐ *Yes:* ☐ *Irrigation Runoff* ☐ *Other:* _____

Photo # 178-179

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	19.8	NH_3-N (mg/L)	NA	NO_3 (mg/L)	NA	Ortho-PO_4 (mg/L)	NA
pH (pH units)	7.4	TURB (NTU)	NA	NO_3-N (mg/L)	NA	Ortho-PO_4 -P (mg/L)	NA
COND (mS/cm)	1.89	MBAS (mg/L)	NA	DO (ppm)	5.54		

Analytical Lab Samples Collected? ☒ **Yes** ☐ **No**

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	3141.6	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: Flow taken from USGS website (www.usgs.gov)

☐ Dry Weather
☐ MS4 Outfall Monitoring
☒ Additional Study

City of Santee
Dry Weather Monitoring Field Datasheet

☒ **Routine Investigation** ☐ **Confirmation for** _____ ☐ **IC/ID Follow-Up for** _____

Site ID	San Diego River Upstream			**Latitude**	32.85282	**Watershed**	**Hydrologic Unit**	907
Location	Approximately 200 feet downstream of the rock dam at the east end of the RCP service road			**Longitude**	-116.95281		**Hydrologic Area**	907.1
				TB Page	1231 G4		**Hydrologic Subarea** (Optional)	907.12
Date	6/7/11	**Time**	11:40	**Observer**	MD/KC		**Discharge Area** (Optional)	

Land Use (Primary) Open

Land Use (Secondary) Industrial

Conveyance Natural Creek

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☐ > 72 hours ☒ < 72 hours

Rainfall ☐ None ☒ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor ☒ None ☐ Musty ☐ Rotten Eggs ☐ Chemical ☐ Sewage ☐ Other ☐ ns (dry) ☐ na

Color ☐ None ☒ Yellow ☐ Brown ☐ White ☐ Gray ☐ Other ☐ ns (dry) ☐ na

Clarity ☒ Clear ☐ Slightly Cloudy ☐ Opaque ☐ Other ☐ ns (dry) ☐ na

Floatables ☒ None ☐ Trash ☐ Bubbles ☐ Foam ☐ Sheen ☐ Fecal Matter ☐ Other ☐ ns (dry) ☐ na

Deposits ☐ None ☒ Sediment ☒ Gravel ☒ Fine Particulates ☐ Stains ☐ Oily Deposits ☐ Other ☐ na

Vegetation ☐ None ☐ Limited ☒ Normal ☐ Excessive ☐ Other ☐ na

Biology ☐ None ☒ Insects ☐ Algae ☒ Fish ☐ Snails ☐ Mussels/ Barnacles ☐ Other ☐ na

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☒ No ☐ *Yes:* ☐ *Irrigation Runoff* ☐ *Other:* _____

Photo # 180-187

Field Screening Samples Collected? ☐ Yes ☐ No

Water Temp (°C)	25.0	NH_3-N (mg/L)	NA	NO_3 (mg/L)	NA	Ortho-PO_4 (mg/L)	NA
pH (pH units)	7.9	TURB (NTU)	NA	NO_3-N (mg/L)	NA	Ortho-PO_4-P (mg/L)	NA
COND (mS/cm)	1.79	MBAS (mg/L)	NA	DO (ppm)	7.32		

Analytical Lab Samples Collected? ☒ **Yes** ☐ **No**

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: Flow could not be determined due to technical difficulties.

Program:
☐ Dry Weather
☐ MS4 Outfall Monitoring
☒ Additional Study

City of Santee
Dry Weather Monitoring Field Datasheet

DW Station Class:
☐ Field-only Site
☐ Lab Site
☐ Alternate Site

Visit Type: ☐ Routine ☒ Confirmation for _____ ☐ IC/ID Follow-Up for _____ ☐ Duplicate ☐ Blank

Site ID	San Diego River Upstream		**Latitude**	32.85282	**Watershed**	**Hydrologic Unit**	907
Location	Approximately 200 feet downstream of the rock dam at the east end of the RCP service road.		**Longitude**	-116.95281		**Hydrologic Area**	907.1
			TB Page	1231 G4		**Hydrologic Subarea** (Optional)	907.12
Date	6/16/11	**Time** 17:40	**Observer**	CK, KS		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only): ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☒ Open

Land Use (Secondary) (Optional, greater than 10%): ☐ Residential ☐ Commercial ☒ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only): ☐ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☒ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog
Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.
Last Rain ☒ ≥ 72 hours ☐ < 72 hours
Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☐ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other	☐ ns (dry)	☒ na
Color	☐ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other	☐ ns (dry)	☒ na
Clarity	☐ Clear	☐ Slightly Cloudy		☐ Opaque		☐ Other	☐ ns (dry)	☒ na
Floatables	☐ None	☒ Trash	☐ Bubbles	☐ Foam	☐ Sheen ☐ Fecal Matter	☐ Other	☐ ns (dry)	☐ na
Deposits	☐ None	☒ Sediment	☐ Gravel	☒ Fine Particulates	☐ Stains ☐ Oily Deposits	☐ Other		☐ na
Vegetation	☐ None	☐ Limited	☒ Normal	☐ Excessive		☐ Other		☐ na
Biology	☐ None	☒ Insects	☒ Algae	☐ Fish	☐ Snails ☐ Mussels/ Barnacles	☐ Other		☐ na

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☒ No ☐ *Yes:* ☐ *Irrigation Runoff* ☐ *Other:* _____

Photo # _____

Field Screening Samples Collected? ☐ Yes ☒ No **Analytical Lab Samples Collected?** ☐ Yes ☒ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3 (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		NO_3-N (mg/L)		Ortho-PO_4-P (mg/L)	
COND (mS/cm)		MBAS (mg/L)					

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	527 ~~526.91~~	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

City of Santee
Supplemental Flow Measurement Worksheet

If the stream width is greater than 10 ft use this supplemental flow measurement worksheet.

GENERAL SITE DESCRIPTION

Site ID	San Diego River Upstream	**Date**	6/16/11	**(Include the latitude and longitude of flow**	**Latitude**	32.85666
Observer(s)	CK, KS	**Time**	17:40	**measurement location if different than site.)**	**Longitude**	116.94755

FLOW MEASUREMENT WORKSHEET

Measurements	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8** ck	**9**	**10**	**11**	**12**	**13**	**14**	**15**
Width (inch)	~~4~~	~~4.5~~	~~4.5~~	~~4.5~~	~~3.75~~	~~4.75~~	~~3.25~~	~~2.75~~							
Width (ft)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5							
Depth (inch)	4	4.5	4.5	4.5	3.75	4.75	3.25	2.75							
Depth (ft)															
Velocity (ft/sec)	0.9	1.0	1.0	1.0	0.7	0.7	0.9	0.8							
Leaf float correction factor (A)															
Flow (cfs)	0.15	0.187	0.187	0.187	0.109	0.138	0.121	0.091							

Measurements	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**
Width (inch)															
Width (ft)															
Depth (inch)															
Depth (ft)															
Velocity (ft/sec)															
Leaf float correction factor (A)															
Flow (cfs)															

Calculations	**Sum of all sections**
Flow (cfs)	1.17
Flow (gpm)	~~526.91~~ 527 ck

Q=Total Flow (cfs), **W**=Width (ft), **D**=Depth (ft), **V**=Velocity (ft/sec)
Q = [(W_1 * D_1 * V_1) + (W_2 *D_2* V_2) + ... (W_n*D_n*V_n)]
1 cfs (ft x ft x ft/sec) = 448.83 gpm

A = correction factor (0.8 for rough bottom and 0.9 for smooth bottom)
Note "**A**" is only used where surface velocity is estimated (e.g., leaf float).
Calculated flow should be reported to one or two significant figures.

COMMENTS: _____

Revised 6/9/2011

LC

☐ Dry Weather
☐ MS4 Outfall Monitoring
☒ Additional Study

City of Santee
Dry Weather Monitoring Field Datasheet

☑ **Routine Investigation** ☐ **Confirmation for** _____ ☐ **IC/ID Follow-Up for** _____

Site ID	Sycamore Creek Downstream		**Latitude**	32.84441	**Watershed**	**Hydrologic Unit**	907
Location	Beneath the Carlton Oaks Drive bridge, west of the Santee Recreation Lakes		**Longitude**	-117.00652		**Hydrologic Area**	907.1
			TB Page	1231 A6		**Hydrologic Subarea** (Optional)	907.12
Date	6/6/11	**Time** 9:30	**Observer**	MD/KC		**Discharge Area** (Optional)	

Land Use (Primary) Open
Land Use (Secondary) Residential
Conveyance Natural Creek

ATMOSPHERIC CONDITIONS

Weather ☐ Sunny ☑ Partly Cloudy ☐ Overcast ☐ Fog
Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** ____ ft.
Last Rain ☐ > 72 hours ☒ < 72 hours
Rainfall ☐ None ☑ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☑ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other	☐ ns (dry)	☐ na
Color	☐ None	☑ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other	☐ ns (dry)	☐ na
Clarity	☒ Clear	☐ Slightly Cloudy		☐ Opaque		☐ Other	☐ ns (dry)	☐ na
Floatables	☒ None	☐ Trash	☐ Bubbles	☐ Foam	☐ Sheen ☐ Fecal Matter	☐ Other	☐ ns (dry)	☐ na
Deposits	☐ None	☒ Sediment	☒ Gravel	☐ Fine Particulates	☐ Stains ☐ Oily Deposits	☐ Other		☐ na
Vegetation	☐ None	☐ Limited	☒ Normal	☐ Excessive		☐ Other		☐ na
Biology	☐ None	☒ Insects	☐ Algae	☐ Fish	☐ Snails ☐ Mussels/ Barnacles	☐ Other		☐ na

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☒ Yes ☐ No ☐ N/A

Evidence of Overland Flow? ☑ No ☐ *Yes:* ☐ *Irrigation Runoff* ☐ *Other:* _____

Photo # 166-167

Field Screening Samples Collected? ☑ Yes ☐ No

Water Temp (°C)	19.2	NH_3-N (mg/L)	NA	NO_3 (mg/L)	NA	Ortho-PO_4 (mg/L)	NA
pH (pH units)	7.50	TURB (NTU)	NA	NO_3-N (mg/L)	NA	Ortho-PO_4 -P (mg/L)	NA
COND (mS/cm)	1.15	MBAS (mg/L)	NA	DO (ppm)	6.49		

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: Flow could not be determined due to technical difficulties.

LC

Program:
☐ Dry Weather
☐ MS4 Outfall Monitoring
☒ Additional Study

City of Santee
Dry Weather Monitoring Field Datasheet

DW Station Class:
☐ Field-only Site
☐ Lab Site
☐ Alternate Site

Visit Type: ☒ Routine ☐ Confirmation for _____ ☐ IC/ID Follow-Up for _____ ☐ Duplicate ☐ Blank

Site ID	Sycamore Creek Downstream		**Latitude**	32.84441	**Watershed**	**Hydrologic Unit**	907
Location	Beneath the Carlton Oaks Drive bridge, west of the Santee Recreation Lakes		**Longitude**	-117.00652		**Hydrologic Area**	907.1
			TB Page	1231-H6		**Hydrologic Subarea** (Optional)	907.12
Date	6/16/11	**Time** 10:45	**Observer**	CK, KS		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☒ Open

Land Use (Secondary) (Optional, greater than 10%) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☒ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☐ Sunny ☒ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☐ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other	☐ ns (dry)	☒ na
Color	☐ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other	☐ ns (dry)	☒ na
Clarity	☐ Clear	☐ Slightly Cloudy		☐ Opaque		☐ Other	☐ ns (dry)	☒ na
Floatables	☐ None	☒ Trash	☐ Bubbles	☐ Foam	☐ Sheen ☐ Fecal Matter	☐ Other	☐ ns (dry)	☐ na
Deposits	☐ None	☒ Sediment	☒ Gravel	☒ Fine Particulates	☐ Stains ☐ Oily Deposits	☐ Other		☐ na
Vegetation	☐ None	☐ Limited	☒ Normal	☐ Excessive		☐ Other		☐ na
Biology	☐ None	☒ Insects	☒ Algae	☐ Fish	☐ Snails ☐ Mussels/ Barnacles	☐ Other		☐ na

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☒ No ☐ *Yes:* ☐ *Irrigation Runoff* ☐ *Other:* _____

Photo # _____

Field Screening Samples Collected? ☐ Yes ☒ No **Analytical Lab Samples Collected?** ☐ Yes ☒ No

Water Temp (°C)	na	NH_3-N (mg/L)	na	NO_3 (mg/L)	na	Ortho-PO_4 (mg/L)	na
pH (pH units)	na	TURB (NTU)	na	NO_3-N (mg/L)	na	Ortho-PO_4 -P (mg/L)	na
COND (mS/cm)	na	MBAS (mg/L)	na				

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	115 CK	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: Stream was braided so flow measurements taken in two places.

City of Santee

Supplemental Flow Measurement Worksheet

If the stream width is greater than 10 ft use this supplemental flow measurement worksheet.

GENERAL SITE DESCRIPTION

Site ID	Sycamore Creek Downstream	**Date**	6/16/11	**(Include the latitude and longitude of flow**	**Latitude**	32.84420
Observer(s)	CK, KS	**Time**	10:45	**measurement location if different than site.)**	**Longitude**	-117.00645

FLOW MEASUREMENT WORKSHEET

Measurements	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
Width (inch)															
Width (ft)	0.5	0.5	0.5	0.5	0.5	0.5	0.5	0.5	~~0~~						
Depth (inch)	2	2.5	.5	.25	1	3.5	3	2.5							
Depth (ft)	.166	0.208	0.041	0.020	0.083	0.291	0.25	0.208							
Velocity (ft/sec)	0.561	0.469	2/10	0	2/5	.235	.575	.391							
Leaf float correction factor (A)			.8		.8			~~.8~~							
Flow (cfs)	0.046	0.048	0.003	0	0.013	0.034	0.071	0.040							

Measurements	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**
Width (inch)															
Width (ft)															
Depth (inch)															
Depth (ft)															
Velocity (ft/sec)															
Leaf float correction factor (A)															
Flow (cfs)															

Calculations	**Sum of all sections**
Flow (cfs)	0.255
Flow (gpm)	114.7

Q=Total Flow (cfs), **W**=Width (ft), **D**=Depth (ft), **V**=Velocity (ft/sec)
Q = [(W_1 * D_1 * V_1) + (W_2 *D_2* V_2) + ... (W_n*D_n*V_n)]
1 cfs (ft x ft x ft/sec) = 448.83 gpm

A = correction factor (0.8 for rough bottom and 0.9 for smooth bottom)
Note "**A**" is only used where surface velocity is estimated (e.g., leaf float).
Calculated flow should be reported to one or two significant figures.

COMMENTS: _____

Revised 6/9/2011

LC

Addtl Study

City of Santee
Dry Weather Monitoring Field Datasheet

Recieving Waters

☒ **Routine Investigation** ☐ **Confirmation for** _____ ☐ **IC/ID Follow-Up for** _____

Site ID	Sycamore Creek Downstream		**Latitude**	32.84441	**Watershed**	**Hydrologic Unit**	907
Location	Beneath the Carlton Oaks Drive bridge, west of the Santee Recreation Lakes		**Longitude**	-117.00652		**Hydrologic Area**	907.1
			TB Page	1231 A6		**Hydrologic Subarea** (Optional)	907.12
Date	7/19/11	**Time** 8:15	**Observer**	MD		**Discharge Area** (Optional)	

Land Use (Primary) Open

Land Use (Secondary) Residential

Conveyance Natural Creek

ATMOSPHERIC CONDITIONS

Weather ☑ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☑ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☑ > 72 hours ☐ < 72 hours

Rainfall ☑ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☐ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other	☒ ns (dry)	☐ na
Color	☐ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other	☒ ns (dry)	☐ na
Clarity	☐ Clear	☐ Slightly Cloudy		☐ Opaque		☐ Other	☒ ns (dry)	☐ na
Floatables	☐ None	☐ Trash	☐ Bubbles	☐ Foam	☐ Sheen ☐ Fecal Matter	☐ Other	☒ ns (dry)	☐ na
Deposits	☐ None	☒ Sediment	☒ Gravel	☒ Fine Particulates	☐ Stains ☐ Oily Deposits	☐ Other		☐ na
Vegetation	☐ None	☐ Limited	☒ Normal	☐ Excessive		☐ Other		☐ na
Biology	☐ None	☒ Insects	☐ Algae	☐ Fish	☐ Snails ☐ Mussels/ Barnacles	☐ Other		☐ na

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☒ No ☐ N/A

Evidence of Overland Flow? ☒ No ☐ *Yes:* ☐ *Irrigation Runoff* ☐ *Other:* _____

Photo # 147 – 154

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)	NS	NH_3-N (mg/L)	NS	NO_3 (mg/L)	NS	Ortho-PO_4 (mg/L)	NS
pH (pH units)	NS	TURB (NTU)	NS	NO_3-N (mg/L)	NS	Ortho-PO_4-P (mg/L)	NS
COND (mS/cm)	NS	MBAS (mg/L)	NS				

Analytical Lab Samples Collected? ☐ **Yes** ☒ **No**

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	Dry	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

Round Two

2R

☐ Dry Weather
☐ MS4 Outfall Monitoring
☒ Additional Study

City of Santee
Dry Weather Monitoring Field Datasheet 2

☒ **Routine Investigation** ☐ **Confirmation for** _____ ☐ **IC/ID Follow-Up for** _____

Site ID	Forester Creek Downstream		**Latitude**	32.83953	**Watershed**	**Hydrologic Unit**	907
Location	Approximately 200 feet north of the Mission Gorge Road and Fanita Drive intersection, east of Fanita Creek		**Longitude**	-117.00241		**Hydrologic Area**	907.1
			TB Page	1231 B6		**Hydrologic Subarea** (Optional)	907.12
Date	8/31/11	**Time** 10:00	**Observer**	MD/BN		**Discharge Area** (Optional)	

Land Use (Primary) Open

Land Use (Secondary) Commercial

Conveyance Natural Creek

ATMOSPHERIC CONDITIONS

Weather	☒ Sunny	☐ Partly Cloudy	☐ Overcast	☐ Fog		
Tide	☒ N/A	☐ Low	☐ Incoming	☐ High	☐ Outgoing	**Tide Height:** ____ ft.
Last Rain	☒ > 72 hours	☐ < 72 hours				
Rainfall	☒ None	☐ < 0.1"	☐ > 0.1"			

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other	☐ ns (dry)	☐ na
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other	☐ ns (dry)	☐ na
Clarity	☒ Clear	☐ Slightly Cloudy		☐ Opaque		☐ Other	☐ ns (dry)	☐ na
Floatables	☒ None	☐ Trash	☐ Bubbles	☐ Foam	☐ Sheen ☐ Fecal Matter	☐ Other	☐ ns (dry)	☐ na
Deposits	☐ None	☐ Sediment	☐ Gravel	☒ Fine Particulates	☐ Stains ☐ Oily Deposits	☐ Other		☐ na
Vegetation	☐ None	☐ Limited	☒ Normal	☐ Excessive		☐ Other		☐ na
Biology	☐ None	☒ Insects	☐ Algae	☐ Fish	☐ Snails ☐ Mussels/ Barnacles	☐ Other		☐ na

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☒ No ☐ *Yes:* ☐ *Irrigation Runoff* ☐ *Other:* _____

Photo # 29-30

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	21.8	NH_3-N (mg/L)	NA	NO_3 (mg/L)	NA	Ortho-PO_4 (mg/L)	NA
pH (pH units)	7.66	TURB (NTU)	12.76	NO_3-N (mg/L)	NA	Ortho-PO_4-P (mg/L)	NA
COND (mS/cm)	2.91	MBAS (mg/L)	NA	DO (mg/L)	5.56		

Analytical Lab Samples Collected? ☒ **Yes** ☐ **No**

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	317	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

City of Santee
Supplemental Flow Measurement Worksheet

If the stream width is greater than 10 ft use this supplemental flow measurement worksheet.

GENERAL SITE DESCRIPTION

Site ID	Forester Creek, downstream	**Date**	9/1/11	**(Include the latitude and longitude of flow**	**Latitude**	32.83847
Observer(s)	MD/BM	**Time**	15:50	**measurement location if different than site.)**	**Longitude**	-116.99701

FLOW MEASUREMENT WORKSHEET

Measurements	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
Width (inch)	12	12	12	12	12										
Width (ft)	1	1	1	1	1										
Depth (inch)	1.5	1.5	1.5	1.5	1.5										
Depth (ft)	0.125	0.125	0.125	0.125	0.125										
Velocity (ft/sec)	0.88	0.97	0.94	1.67	1.83										
Leaf float correction factor (A)	0.9	0.9	0.9	0.9	0.9										
Flow (cfs)	0.099	0.109	0.105	0.188	0.205										

Measurements	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**
Width (inch)															
Width (ft)															
Depth (inch)															
Depth (ft)															
Velocity (ft/sec)															
Leaf float correction factor (A)															
Flow (cfs)															

Calculations	**Sum of all sections**
Flow (cfs)	0.708
Flow (gpm)	317.99 BM

Q=Total Flow (cfs), **W**=Width (ft), **D**=Depth (ft), **V**=Velocity (ft/sec)
$\mathbf{Q} = [(W_1 * D_1 * V_1) + (W_2 * D_2 * V_2) + \ldots\ldots (W_n * D_n * V_n)]$
1 cfs (ft x ft x ft/sec) = 448.83 gpm

A = correction factor (0.8 for rough bottom and 0.9 for smooth bottom)
Note "**A**" is only used where surface velocity is estimated (e.g., leaf float).
Calculated flow should be reported to one or two significant figures.

COMMENTS: _____

☐ Dry Weather
☐ MS4 Outfall Monitoring
☒ Additional Study

City of Santee
Dry Weather Monitoring Field Datasheet 2

2e

☒ **Routine Investigation** ☐ **Confirmation for** _____ ☐ **IC/ID Follow-Up for** _____

Site ID	Forester Creek Upstream		**Latitude**	32.83093	**Watershed**	**Hydrologic Unit**	907
Location	Beneath the Prospect Avenue bridge, west of Cuyamaca Street		**Longitude**	-116.98543		**Hydrologic Area**	907.1
			TB Page	1231 C7		**Hydrologic Subarea** (Optional)	907.13
Date	8/31/11	**Time** 11:15	**Observer**	MD/BN		**Discharge Area** (Optional)	

Land Use (Primary) Industrial

Land Use (Secondary) Commercial

Conveyance Concrete Channel

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other	☐ ns (dry)	☐ na
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other	☐ ns (dry)	☐ na
Clarity	☒ Clear	☐ Slightly Cloudy		☐ Opaque		☐ Other	☐ ns (dry)	☐ na
Floatables	☒ None	☐ Trash	☐ Bubbles	☐ Foam	☐ Sheen ☐ Fecal Matter	☐ Other	☐ ns (dry)	☐ na
Deposits	☐ None	☐ Sediment	☐ Gravel	☒ Fine Particulates	☐ Stains ☐ Oily Deposits	☐ Other		☐ na
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other		☐ na
Biology	☐ None	☒ Insects	☒ Algae	☐ Fish	☐ Snails ☐ Mussels/ Barnacles	☐ Other		☐ na

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☒ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☒ No ☐ *Yes:* ☐ *Irrigation Runoff* ☐ *Other:* _____

Photo # 31-32

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	31.2	NH_3-N (mg/L)	NA	NO_3 (mg/L)	NA	Ortho-PO_4 (mg/L)	NA
pH (pH units)	8.31	TURB (NTU)	10.38	NO_3-N (mg/L)	NA	Ortho-PO_4 -P (mg/L)	NA
COND (mS/cm)	2.60	MBAS (mg/L)	NA	DO (mg/L)	7.84		

Analytical Lab Samples Collected? ☒ **Yes** ☐ **No**

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	~~330~~ 334	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

City of Santee
Supplemental Flow Measurement Worksheet

If the stream width is greater than 10 ft use this supplemental flow measurement worksheet.

GENERAL SITE DESCRIPTION

Site ID	Forester Creek Upstream	**Date**	9/1/11	**(Include the latitude and longitude of flow**	**Latitude**	
Observer(s)	MD/BN	**Time**	15:00	**measurement location if different than site.)**	**Longitude**	

FLOW MEASUREMENT WORKSHEET

Measurements	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
Width (inch)	9.5	9.5													
Width (ft)	0.79	0.79													
Depth (inch)	3	3													
Depth (ft)	0.25	0.25													
Velocity (ft/sec)	2.1	2.1													
Leaf float correction factor (A)	0.9	0.9													
Flow (cfs)	0.374	0.374													

Measurements	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**
Width (inch)															
Width (ft)															
Depth (inch)															
Depth (ft)															
Velocity (ft/sec)															
Leaf float correction factor (A)															
Flow (cfs)															

Calculations	**Sum of all sections**
Flow (cfs)	0.748
Flow (gpm)	336

Q=Total Flow (cfs), **W**=Width (ft), **D**=Depth (ft), **V**=Velocity (ft/sec)
$\mathbf{Q} = [(\mathbf{W}_1 * \mathbf{D}_1 * \mathbf{V}_1) + (\mathbf{W}_2 * \mathbf{D}_2 * \mathbf{V}_2) + \ldots\ldots (\mathbf{W}_n * \mathbf{D}_n * \mathbf{V}_n)]$
1 cfs (ft x ft x ft/sec) = 448.83 gpm

A = correction factor (0.8 for rough bottom and 0.9 for smooth bottom)
Note "**A**" is only used where surface velocity is estimated (e.g., leaf float).
Calculated flow should be reported to one or two significant figures.

COMMENTS: _____

Revised 6/9/2011

☐ Dry Weather
☐ MS4 Outfall Monitoring
☒ Additional Study

City of Santee
Dry Weather Monitoring Field Datasheet

2R

2

☒ **Routine Investigation** ☐ **Confirmation for** _____ ☐ **IC/ID Follow-Up for** _____

Site ID	San Diego River Downstream		**Latitude**	32.83936	**Watershed**	**Hydrologic Unit**	907
Location	Beneath the West Hills Parkway Bridge		**Longitude**	-117.02450		**Hydrologic Area**	907.1
			TB Page	1230 H6		**Hydrologic Subarea** (Optional)	907.12
Date	8/30/11	**Time** 10:00	**Observer**	MD/BN		**Discharge Area** (Optional)	

Land Use (Primary) Open

Land Use (Secondary) Residential

Conveyance Natural Creek

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other	☐ ns (dry)	☐ na
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other	☐ ns (dry)	☐ na
Clarity	☒ Clear	☐ Slightly Cloudy		☐ Opaque		☐ Other	☐ ns (dry)	☐ na
Floatables	☒ None	☐ Trash	☐ Bubbles	☐ Foam	☐ Sheen ☐ Fecal Matter	☐ Other	☐ ns (dry)	☐ na
Deposits	☐ None	☒ Sediment	☒ Gravel	☒ Fine Particulates	☐ Stains ☐ Oily Deposits	☐ Other		☐ na
Vegetation	☐ None	☐ Limited	☒ Normal	☐ Excessive		☐ Other		☐ na
Biology	☐ None	☒ Insects	☒ Algae	☐ Fish	☐ Snails ☐ Mussels/ Barnacles	☐ Other		☐ na

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☒ No ☐ *Yes:* ☐ *Irrigation Runoff* ☐ *Other:* _____

Photo # 20-21

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	22.4	NH_3-N (mg/L)	NA	NO_3 (mg/L)	NA	Ortho-PO_4 (mg/L)	NA
pH (pH units)	7.49	TURB (NTU)	14.08	NO_3-N (mg/L)	NA	Ortho-PO_4 -P (mg/L)	NA
COND (mS/cm)	2.79	MBAS (mg/L)	NA	DO (mg/L)	5.27		

Analytical Lab Samples Collected? ☒ **Yes** ☐ **No**

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	907.9	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: Flow measurement was obtained from waterdata.usgs.gov

☐ Dry Weather
☐ MS4 Outfall Monitoring
☒ Additional Study

City of Santee
Dry Weather Monitoring Field Datasheet 2

☒ **Routine Investigation** ☐ **Confirmation for** _____ ☐ **IC/ID Follow-Up for** _____

Site ID	San Diego River Upstream		**Latitude**	32.85282	**Watershed**	**Hydrologic Unit**	907
Location	Approximately 200 feet downstream of the rock dam at the east end of the RCP service road		**Longitude**	-116.95281		**Hydrologic Area**	907.1
			TB Page	1231 G4		**Hydrologic Subarea** (Optional)	907.12
Date	8/30/11	**Time** 11:10	**Observer**	MD/BN		**Discharge Area** (Optional)	

Land Use (Primary) Open

Land Use (Secondary) Industrial

Conveyance Natural Creek

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** ____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other	☐ ns (dry)	☐ na
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other	☐ ns (dry)	☐ na
Clarity	☒ Clear	☐ Slightly Cloudy		☐ Opaque		☐ Other	☐ ns (dry)	☐ na
Floatables	☒ None	☐ Trash	☐ Bubbles	☐ Foam	☐ Sheen ☐ Fecal Matter	☐ Other	☐ ns (dry)	☐ na
Deposits	☐ None	☒ Sediment	☐ Gravel	☒ Fine Particulates	☐ Stains ☐ Oily Deposits	☐ Other		☐ na
Vegetation	☐ None	☐ Limited	☒ Normal	☐ Excessive		☐ Other		☐ na
Biology	☐ None	☒ Insects	☐ Algae	☒ Fish	☐ Snails ☐ Mussels/ Barnacles	☐ Other		☐ na

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☒ No ☐ *Yes:* ☐ *Irrigation Runoff* ☐ *Other:* _____

Photo # 22-23

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	30.2	NH_3-N (mg/L)	NA	NO_3 (mg/L)	NA	Ortho-PO_4 (mg/L)	NA
pH (pH units)	8.01	TURB (NTU)	23.45	NO_3-N (mg/L)	NA	Ortho-PO_4-P (mg/L)	NA
COND (mS/cm)	1.90	MBAS (mg/L)	NA	DO (mg/L)	0.73		

Analytical Lab Samples Collected? ☒ **Yes** ☐ **No**

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	154.7	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

Program:
☐ Dry Weather
☐ MS4 Outfall Monitoring
☒ Additional Study

City of Santee
Dry Weather Monitoring Field Datasheet 2

DW Station Class:
☐ Field-only Site
☐ Lab Site
☐ Alternate ☐ ICID

Visit Type: ☐ Routine ☐ Confirmation for _____ ☐ IC/ID Follow-Up for _____ ☒ Duplicate ☐ Blank

Site ID	San Diego River Upstream		**Latitude**	32.85282	**Watershed**	**Hydrologic Unit**	907
Location	Approximately 200 feet downstream of the rock dam at the east end of the RCP service road		**Longitude**	-116.95281		**Hydrologic Area**	907.1
			TB Page	1231, G4		**Hydrologic Subarea** (Optional)	907.12
Date	8/30/11	**Time** 11:20	**Observer**	MD/BN		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☒ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☒ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☒ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other	☐ ns (dry)	☐ na
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other	☐ ns (dry)	☐ na
Clarity	☒ Clear	☐ Slightly Cloudy		☐ Opaque		☐ Other	☐ ns (dry)	☐ na
Floatables	☒ None	☐ Trash	☐ Bubbles	☐ Foam	☐ Sheen ☐ Fecal Matter	☐ Other	☐ ns (dry)	☐ na
Deposits	☐ None	☒ Sediment	☐ Gravel	☒ Fine Particulates	☐ Stains ☐ Oily Deposits	☐ Other		☐ na
Vegetation	☐ None	☐ Limited	☒ Normal	☐ Excessive		☐ Other		☐ na
Biology	☐ None	☒ Insects	☐ Algae	☒ Fish	☐ Snails ☐ Mussels/ Barnacles	☐ Other		☐ na

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☒ No ☐ *Yes:* ☐ *Irrigation Runoff* ☐ *Other:* _____

Photo # _____

Field Screening Samples Collected? ☒ Yes ☐ No **Analytical Lab Samples Collected?** ☒ Yes ☐ No

Water Temp (°C)	30.5	NH_3-N (mg/L)	NA	NO_3 (mg/L)	NA	Ortho-PO_4 (mg/L)	NA
pH (pH units)	8.04	TURB (NTU)	23.45	NO_3-N (mg/L)	NA	Ortho-PO_4-P (mg/L)	NA
COND (mS/cm)	1.90	MBAS (mg/L)	NA	DO (mg/L)	6.73		

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	154.7	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

City of Santee
Supplemental Flow Measurement Worksheet

If the stream width is greater than 10 ft use this supplemental flow measurement worksheet.

GENERAL SITE DESCRIPTION

Site ID	San Diego River Upstream	**Date**	8/30/11	**(Include the latitude and longitude of flow**	**Latitude**	
Observer(s)	MD/BN	**Time**	15:00	**measurement location if different than site.)**	**Longitude**	

FLOW MEASUREMENT WORKSHEET

Measurements	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**11**	**12**	**13**	**14**	**15**
Width (inch)	13	13													
Width (ft)	1.08	1.08													
Depth (inch)	2.0	2.0													
Depth (ft)	0.17	0.17													
Velocity (ft/sec)	1.2	0.92													
Leaf float correction factor (A)	0.9	0.9													
Flow (cfs)	0.195	0.150													

Measurements	**16**	**17**	**18**	**19**	**20**	**21**	**22**	**23**	**24**	**25**	**26**	**27**	**28**	**29**	**30**
Width (inch)															
Width (ft)															
Depth (inch)															
Depth (ft)															
Velocity (ft/sec)															
Leaf float correction factor (A)															
Flow (cfs)															

Calculations	**Sum of all sections**
Flow (cfs)	0.344
Flow (gpm)	154.7

Q=Total Flow (cfs), **W**=Width (ft), **D**=Depth (ft), **V**=Velocity (ft/sec)
Q = $[(W_1 * D_1 * V_1) + (W_2 * D_2 * V_2) + \ldots\ldots (W_n * D_n * V_n)]$
1 cfs (ft x ft x ft/sec) = 448.83 gpm

A = correction factor (0.8 for rough bottom and 0.9 for smooth bottom)
Note "**A**" is only used where surface velocity is estimated (e.g., leaf float).
Calculated flow should be reported to one or two significant figures.

COMMENTS: _____

Revised 6/9/2011

1C

☐ Dry Weather
☐ MS4 Outfall Monitoring
☒ Additional Study

City of Santee
Dry Weather Monitoring Field Datasheet

☒ **Routine Investigation** ☐ **Confirmation for** _____ ☐ **IC/ID Follow-Up for** _____

Site ID	Sycamore Creek Downstream		**Latitude**	32.84441	**Watershed**	**Hydrologic Unit**	907
Location	Beneath the Carlton Oaks Drive bridge, west of the Santee Recreation Lakes		**Longitude**	-117.00652		**Hydrologic Area**	907.1
			TB Page	1231 A6		**Hydrologic Subarea** (Optional)	907.12
Date	8/29/11	**Time** 11:00	**Observer**	MD/BN		**Discharge Area** (Optional)	

Land Use (Primary) Open

Land Use (Secondary) Residential

Conveyance Natural Creek

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☐ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other	☒ ns (dry)	☐ na
Color	☐ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other	☒ ns (dry)	☐ na
Clarity	☐ Clear	☐ Slightly Cloudy		☐ Opaque		☐ Other	☒ ns (dry)	☐ na
Floatables	☐ None	☐ Trash	☐ Bubbles	☐ Foam	☐ Sheen ☐ Fecal Matter	☐ Other	☒ ns (dry)	☐ na
Deposits	☐ None	☒ Sediment	☒ Gravel	☒ Fine Particulates	☐ Stains ☐ Oily Deposits	☐ Other		☐ na
Vegetation	☐ None	☐ Limited	☒ Normal	☐ Excessive SAP 8/29/11		☐ Other		☐ na
Biology	☐ None	☒ Insects	☐ Algae	☐ Fish	☐ Snails ☐ Mussels/ Barnacles	☐ Other		☐ na

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☒ No ☐ *Yes:* ☐ *Irrigation Runoff* ☐ *Other:* _____

Photo # 3-5

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)	NS	NH_3-N (mg/L)	NS	NO_3 (mg/L)	NS	Ortho-PO_4 (mg/L)	NS
pH (pH units)	NS	TURB (NTU)	NS	NO_3-N (mg/L)	NS	Ortho-PO_4-P (mg/L)	NS
COND (mS/cm)	NS	MBAS (mg/L)	NS	DO (mg/L)	NS		

Analytical Lab Samples Collected? ☐ **Yes** ☒ **No**

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		in
Depth		in
Velocity		ft/sec
Flow	Dry	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: _____

CITY OF SOLANA BEACH

JURISDICTIONAL URBAN RUNOFF MANAGEMENT PROGRAM (JURMP) ANNUAL REPORT

JANUARY 2008

Reporting Period:
July 1, 2006 to June 30, 2007

Respectfully Submitted to:
San Diego Regional Water Quality Control Board
In compliance with:
Order No. 2001-01, NPDES Permit No. CAS0108758

CITY OF SOLANA BEACH
ANNUAL REPORT
STORM WATER PROGRAM
JANUARY 2008

Copermittee:	City of Solana Beach
Contact Person:	Dan Goldberg, P.E. Interim City Engineer (858) 720-2470
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Reporting Period:	July 1, 2006 to June 30, 2007
Report Prepared by:	Danny King Environmental Programs Manager

ACKNOWLEDGEMENTS

The City of Solana Beach wishes to expressly thank each Copermittee Storm Water Program Manager/Coordinator and their staff for their efforts during the Regional Stormwater Management Committee meetings and the workgroups and their development of model program components, the sharing of ideas and willingness to cultivate program consistency throughout San Diego County as an effective means of improving water quality in the Region. The level of collaboration among agencies and across jurisdictional boundaries is unique and a credit to the professionalism and efforts of the San Diego County Copermittees.

The activities described in this report are not merely *written words on a page*, but are the result of *tremendous efforts* of City staff to integrate many new activities into their daily routines and tasks. The City's FY 06/07 Storm Water Program Coordinator wishes to thank the Storm Water Team for their assistance, dedication and collaboration to make the City's FY 06/07 storm water program successful *and meaningful.*

Storm Water Team:

- Code Enforcement Officer, Tom Warden
- City Manager/Fire Chief/Director of Public Safety, David Ott
- Operations Manager, Steve Kerr
- City Inspector, Hector Ezquerro
- Interim City Engineer, Dan Goldberg
- Community Services Director, Steve Apple
- Associate Engineer, Jim Greenstein
- Assistant Planner, Kathy Johnson
- Assistant Planner, Corey Johnson
- Engineering Technician, Robert Martinez

A big thank-you also to the Public Works Crew for all their hard work!

- Maintenance Worker, Bill Stedman
- Maintenance Worker, Dave Thomas
- Maintenance Worker, Bruce Gentry
- Lead Maintenance Worker, Danny Hernandez

CITY OF SOLANA BEACH
ANNUAL REPORT/ STORM WATER PROGRAM
JANUARY 2008

TABLE OF CONTENTS

ACKNOWLEDGEMENTS ii
LIST OF TABLES viii
Acronyms ix
Executive Summary 2
Certification Statement 5
Chapter 1: Introduction 7
1.1 Report Organization 7
1.2 Common Activities 8
1.3 Report Content 9
1.4 Program Goals 9
Chapter 2: Municipal Component (Existing Development) 12
2.1 Inventory of Municipal Facilities 12
2.2 Pollutant Source Identification 15
2.3 Threat to Water Quality Prioritization 16
2.4 Pollution Prevention Methods 17
2.4.1 Proactive Approach to Pollution Prevention 19
2.4.2 New Municipal Pollution Prevention Methods 24
2.5 Pollution Prevention Strategy Effectiveness 26
2.6 New Activities and Improvements for FY 07/08 29
2.7 Summary 29
Chapter 3: Industrial Component (Existing Development) 33
3.1 Inventory of Industrial Facilities 33
3.2 Pollutant Source Identification 34
3.3 Threat to Water Quality Prioritization 35
3.4 Pollution Prevention Methods 36
3.5 New Activities and Improvements for FY 06708 36
3.6 Summary 37
Chapter 4: Commercial Component (Existing Development) 39
4.1 Inventory of Commercial Facilities 39
4.2 Pollutant Source Identification 42
4.2.1 2006-Dry Weather Monitoring Results 43
4.3 Threat to Water Quality Prioritization 44
4.3.1 Business Community Education Campaign 45
4.4 Pollution Prevention Methods 46
4.4.1 Proactive Approach to Pollution Prevention / Commercial Property 46
4.4.2 New Pollution Prevention Methods 47
A) Common Commercial Property BMPs 47
B) Other Pollution Prevention Methods Affecting Commercial Properties 48

4.4.3 Ensuring Implementation through Commercial Property Inspections 48
4.5 Enforcement 52
4.5.1 Citations 53
4.5.2 Multifaceted Approach 54
4.6 New Activities and Improvements for FY 07/08 61
4.7 Summary 61
Chapter 5: Residential Component (Existing Development) 64
5.1 Pollution Prevention Methods 64
5.1.1 Hazardous Waste Collection and Recycling 64
5.1.2 Annual Clean-up Day 67
5.1.3 24-hour Hotline 67
5.1.4 Community Workshops 67
5.1.5 Pet Waste Bag Dispensers 68
5.1.7 Education and Outreach 68
5.2 Threat to Water Quality Prioritization 72
5.3 Implementation of BMPs 73
Chapter 6: Land-Use Planning Component (New Dvlpmt) 77
6.1 Assessment and Modification of General Plan 77
6.2 Project Approval and Environmental Review Process Modifications 77
6.2.1 Project Requirements 80
6.2.2 SUSMP 81
6.3 Education 82
6.4 New Activities and Improvement for FY 06/07 83
6.5 Summary 84
Chapter 7: Construction Component 86
7.2 Modification of Construction and Grading Approval Process 87
7.3 Construction Site Inventory 87
7.3.1 Capital Improvement Projects Inventory 99
7.4 Threat to Water Quality Prioritization 99
7.5 BMPs and Pollution Prevention Methods 102
7.6 Enforcement and Inspections 103
7.7 New Activities and Improvements in FY 07/08 110
7.8 Summary 112
Chapter 8: Illicit Discharges Detection and Elimination Component 115
8.1 IC/ID Program History and Current Prohibitions 115
8.2 Dry Weather Monitoring Program (DWMP) 118
8.2.1 Historical Results 119
8.2.2 Results from the 2003 DWMP 122
8.2.3 Results from the 2004 DWMP 122
8.2.4 Results from the 2005 DWMP 122
8.3 Interim Action Levels to Trigger Follow-up Investigations 124
8.4 Complaints, Reports, and Investigations of IC/IDs 125
8.4.1 Complaint-Tracking Modification 125
8.5 Coastal Monitoring Program 125
8.6 Wet Weather Monitoring 127

8.7 Public Education....128
8.8 New Activities and Improvements in FY 07/08....129
8.9 Summary....129
Chapter 9: Education Component....132
9.1 Pollution Prevention through Education – Jurisdictional Activities....133
9.1.1 Staff Training....133
9.1.2 Annual Beach Cleanup Days....134
9.1.3 Storm Drain Tile Marker Installation....134
9.1.4 Local Community Events....135
9.1.5 School Programs....135
School / Adult Community Education....136
9.1.6 Workshops....136
9.1.7 Educational Brochures....137
9.1.8 City Newsletter (Shorelines)....138
9.1.9 Web Site....138
9.1.10 Business Community....138
9.1.11 Additional Signage at Seascape Sur Outfall....139
9.1.12 Special Events Permit....139
9.2 Pollution Prevention through Education – Regional Activities 140
9.2.1 Regional Monitoring....140
9.2.2 Model Programs....140
9.2.3 Linking to Regional Resources....140
9.3 Pollution Prevention through Education – Watershed Activities....141
9.4 New Activities and Improvements for FY 07/08....143
9.5 Summary....145
Chapter 10: Public Participation Component....147
Chapter Content....148
10.1 Community Events....148
10.1.1 Fiesta Del Sol....148
10.1.2 Beach Clean Up Opportunities....148
10.2 Community Workshops....149
10.3 City Council Meetings and Workshops....149
10.4 Copermittee Meetings....150
10.5 Collaborative Community Partnerships....150
School / Adult Community Education....151
Community Workshops....152
10.6 Other Opportunities....153
10.6.1 City Storm water Hotline....153
10.6.2 Web Site....154
10.6.3 Local Media....154
10.7 New Activities and Improvements for FY 07/08....154
10.8 Summary....155
Chapter 11: Assessment of JURMP Effectiveness....157
11.1 “A Framework for Assessing the Effectiveness..”....157
11.2 Level 1: “Compliance with Activity Based…”....158
11.3 Levels 2&3: Changes in Knowledge/Awareness and Behavioral Changes....158

Chapter 12: Fiscal Analysis 180
12.1 Revenue Sources 180
12.2 FY 2006/2007 Expenditures 181
12.3 FY 2006/2007 Budget 182
Chapter 13: Special Investigations 185
"The Mystery of the Bacteria at …" 185
13.1 Introduction 185
13.3 The 2002 Investigation 187
13.3.1 More Testing 188
13.3.2 Traveling Further Upstream 188
13.3.3 Just When We Thought the Problem was Solved… 190
13.3.4 Brainstorming 191
13.3.5 Not again! 191
13.3.6 "Action Taken By Property Owners…" 192
13.4 Timeline of Significant Actions 195
13.5 Future Activities 198
13.6 Summary 199
Chapter 14: Conclusion and Recommendations 201
14.1 Conclusion 201
14.2 Recommendations 203
References 205

LIST OF APPENDICES

Appendix A: Street Sweeping Materials 207
Appendix B: Smoking Ban Ordinance 208
Appendix C: Storm Water Facility Inspection Form 212
Appendix D: Civil Penalties Matrix 214
Appendix E: Shorelines Newsletter Winter 2007 220
Appendix F: Shorelines Newsletter Summer 2007 and Fall 2006 223
Appendix G: Shorelines Newsletter Spring 2007 230
Appendix H: Shorelines Newsletter Summer 2007 231
Appendix I: SUSMP Counter Handout ..... Error! Bookmark not defined.
Appendix J: Storm Water Plan Check Comment Form 236
Appendix K: Building Plan Check Comment Form 237
Appendix L: Construction BMP Guide 238
Appendix M: Construction BMP Brochure 242
Appendix N: Public Project Pre-Con Meeting Agenda 245
Appendix O: Private Project Pre-Construction Inspection Form 246
Appendix P: Construction Inspection Checklist 248
Appendix Q: Wet Weather Triggered Action Plan-Construction 251
Appendix R: Sample Contact/Complaint Database 253
Appendix S: Beach Blanket Movie Night Flyer 256
Appendix T: Summer Camp Programs/Classes 257
Appendix U: Special Events Permit 260
Appendix V: 2006 Dry Weather Monitoring Program Results 263
Appendix W: Underground Utitily Construction BMPs 289
Appendix Y: Assessment Table 290

LIST OF TABLES

LIST OF TABLES

Table 2-1	Existing Municipal Facilities, By Priority Level	13
Table 2-2	2005/2006 MS4 Maintenance Activities	27
Table 2-3	2006/2007 MS4 Maintenance Activities	28
Table 3-1	Existing Industrial Facilities	34
Table 4-1	Changes to High Priority Commercial Facilities	39
Table 4-2	303(d) Water Bodies and COCs	42
Table 4-3	High Priority Commercial Facilities by Type of Business	45
Table 4-4	Administrative Fine Assessments	52
Table 5-2	Household BMPs	73
Table 7-1	Construction Site Inventory- Large Grading Projects	89
Table 7-2	Construction Site Inventory- Small Private Projects	85
Table 7-3	Construction Site Inventory- Small Grading Projects	96
Table 7-4	Public Projects Pre-Construction Meetings	97
Table 7-5	Construction Follow Up Activities	98
Table 11-1	2006/2007 Municipal Inspections	159
Table 12-1	FY 06/07 Storm Water Expenditures Budget	181
Table 12-2	FY 07/08 Storm Water Management Budget	182
Table 13-1	DWMP Initial Results (Sampled August 6-7,2002)	187
Table 13-2	Upstream Testing Results	190

ACRONYMS

Acronym	Description
BMP	Best Management Practices: minimum standards that everyone and every business must adopt to reduce or eliminate urban runoff. BMPs are part of all storm water programs.
DWMP	Dry weather monitoring program: the procedures, requirements and program to collect samples during the dry season each year. Samples are typically collected over a one-two day period and then sent to the lab for analysis.
HHW	Household Hazardous Waste
IC/ID	Illegal Connection and Illicit Discharge: the term used to discuss connections to the MS4 that are not approved (illegal) or non-storm water (illicit) discharges.
JURMP	Jurisdictional Urban Runoff Management Program: Program has 11 components and requires new procedures for ensuring storm water compliance within its jurisdictional boundaries.
MEP	Maximum Extent Practical: A term used by the RWQCB, and Copermittees to refer to the "best efforts," or "as much as possible."
MS4	Municipal Separate Storm Sewer System: references the City's storm water drainage system and the City's wastewater conveyance system.
NPDES	National Pollution Discharge Elimination System: the Federal program created by the 1972 Clean Water Act that governs State water quality / storm water programs.
Permit	Order 2001-01 issued by the RWQCB, which requires cities to adopt and implement the JURMP, WURMP, and SUSMP.
PPM	Pollution Prevention Measure: a method, procedure, and/or process to control, reduce, prevent, or eliminate pollution.
RWQCB	Regional Water Quality Control Board. The Board is a California board, but for the *purposes of this report,* RWQCB represents the local water quality board (San Diego Regional Water Quality Control Board).
SUSMP	Standard Urban Storm water Mitigation Plan: a plan as to how the City will alter its review of construction plan (public and private) and estimate the extent of pollutant contributions from the site; the plan must specify BMPs that the City will require.
WURMP	Watershed Urban Runoff Management Program: programs that focus on urban water runoff from a larger point-of-view, which is the entire watershed (a watershed is aka a hydrological unit). Programs must specify how cities will work together on planning urban projects and solving water quality problems.
WWMP	Wet weather monitoring program: the procedures, requirements and program to collect samples during the wet season each year. Samples are collected on a monthly basis, depending on weather.

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

During this reporting period, the City worked with other Copermittees of Order 2001-01 to continue developing model guideline programs and implementing all the requirements of the Permit (Order 2001-01). The City implemented its Jurisdictional Urban Runoff Management Program (JURMP) that was developed and submitted on February 21, 2002. In a relatively short time frame, the City was able to create a storm water team consisting of staff from various departments, implemented all of the components of the JURMP and trained all of its staff as to the expectations of the Permit.

Accomplishments to prevent and reduce pollution, eliminate contamination and improve water quality include the following:

- *The City successfully implemented comprehensive educational, inspection and enforcement procedures for municipal, commercial, residential, industrial and construction component activities as described in the City's JURMP.*
- *The City maintains a storm water team approach that integrates staff from various departments, bringing diverse expertise and strengths to the program.*
- *The City monitors a Storm Water Hotline and email address to receive complaints, questions, and general information 24 hours a day, seven days a week, 365 days a year.*
- *The City provided recurring training for all staff regarding general Best Management Practices and specific department-related BMPs.*
- *The City maintains an inventory of all commercial properties in the City, including prioritization of those that pose a threat to water quality.*
- *The City inspected a majority of high priority businesses and notified all high-priority businesses of specific BMPs related to each type of business.*
- *The City collaborated with neighboring jurisdictions within their respective watersheds to develop educational brochures, surveys, and host community events and distributed hundreds of brochures to residents and the business community.*
- *The City continues to modify plan-check review processes to include a requirement for Erosion Control Plans, BMPs, structural change and runoff mitigation alterations in project proposals and/or construction activities.*
- *The City participated in the 2006/2007 San Diego County Wet Weather Monitoring Program.*

- *The City investigated about 47 complaints regarding urban runoff. These complaints only include the ones in which follow-up actions were required. On average the City receives approximately 3-4 calls a week from residents reporting a potential violation.*
- *The City continues to enforce a smoking ban at all local beaches and parks, the first jurisdiction in the nation to do so.*
- *The City provided several opportunities for public participation including educational workshops/classes, Beach Clean-up Day, Copermittee meetings and Household Hazardous Waste drop-off collection sites.*
- *The City continues to implement the new "Environmental" review to ALL building/grading permit applications to ensure every project that gets approved by the City is reviewed for storm water management.*
- *The City Council lowered the grading threshold from 200 cubic yards to 50 cubic yards for all projects within the City. This caused more projects to be assessed by the City engineers to implement pre, during, and post construction BMPs than previously.*
- *The City co-sponsored the second annual "Beach Blanket Movie Night" that provided residents a night of free movies and environmental education. The City had a booth co-sponsored by the Solana Center for Environmental Innovation that contained educational materials and games for attendees, and one of the films shown was dedicated to environmental protection of our ocean resources.*
- *The City authorized a part-time Code Enforcement Officer to continue weekend patrols for storm water violations.*
- *The City added storm water specific language and reporting duties to new "standard" street sweeping contract to be used in all current and future contracts.*

CERTIFICATION STATEMENT

CERTIFICATION STATEMENT

I certify that the work performed, and the report prepared herein, was conducted under the supervision and guidance of the City of Solana Beach Public Works/ Engineering Department to meet the requirements of the *Waste Discharge Requirements for Discharges of Urban Runoff from the Municipal Separate Storm Sewer Systems (MS4s) Draining the Watersheds of the County of San Diego, the Incorporated Cities of San Diego County and the San Diego Unified Port District* (NPDES No. CAS0108758). I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

Dan Goldberg, P.E. **Date**
Interim City Engineer
City of Solana Beach

CHAPTER 1
Introduction

CHAPTER 1: INTRODUCTION

The City of Solana Beach (hereinafter, referred to as "City") has prepared this report in compliance with Order No. 2001-01, NPDES Permit No. CAS0108758, *Water Discharge Requirements for Discharges of Urban Runoff From Municipal Separate Storm Sewer Systems Draining Watersheds of the County of San Diego, the Incorporated Cities of San Diego and The San Diego Unified Port District* (hereinafter referred to as "Permit"). The California Regional Water Quality Control Board, San Diego Region (hereinafter, referred to as "RWQCB") issued the Permit on February 21, 2001 to all Copermittees (all Cities of San Diego County, the County of San Diego, the Airport Authority and the Port District).

Under the Permit, each Copermittee is required to submit an Annual Report in January of each year describing its jurisdictional program for the previous fiscal year (July 1 to June 30). The purpose of the report is to document to the RWQCB the City's progress and program accomplishments during the reporting period.

On February 21, 2002, Copermittees were required to implement a new comprehensive storm water program (Jurisdictional Urban Runoff Management Program [JURMP]) and submit a copy of the new program to the RWQCB. The implementation of this program occurred during the reporting period July 1, 2006 to June 30, 2007 for this 2008 Annual Report. This Annual Report will cover the fifth and final full year of implementation under the Permit.

The scope of the City's storm water program was significantly expanded by the requirements of the new Permit. The Permit also requires a more comprehensive Annual Report of the City's activities to reduce urban runoff than had been submitted in previous years (prior to 2001). This 2008 Annual Report covers the City's storm water program activities throughout the entire 2006/2007 fiscal year reporting period.

1.1 Report Organization

This report contains a description of all activities conducted to meet the requirements of the Permit. The information will be discussed in chapters applicable to each component of the JURMP, which occurred during this reporting period.

The organization of this report follows the outline of the JURMP and includes the following sections:

- Municipal (Existing Development) Component
- Industrial (Existing Development) Component
- Commercial (Existing Development) Component
- Residential (Existing Development) Component
- Land Use Planning for New Development Component
- Construction Component
- Illicit Discharges Detection and Elimination Component
- Education Component
- Public Participation Component
- Assessment of JURMP Effectiveness Component
- Fiscal Analysis Component
- Special Investigations
- Conclusions and Recommendations

This report will also include a discussion about the sections of the City's JURMP that have been altered or updated, if any occurred during the respective reporting period. A complete copy of the City's JURMP is available upon request or can be viewed and downloaded from the City's Website at www.ci.solana-beach.ca.us (click on "Environmental Programs").

1.2 Common Activities

The City participated with the Copermittees of Order 2001-01 in several common activities (workshops, educational program component elements, model programs, etc.) that allowed for a sharing of resources and knowledge, which will provide a more cohesive message to the community. The common activities are described in the Copermittee Unified Urban Runoff Management Program (URMP) Annual Report, submitted with this report by the County of San Diego and incorporated herein by reference.

In addition, the Copermittee Unified Urban Runoff Management Program (URMP) Annual Report includes a "common response" to letters received by Copermittees from the RWQCB.

The City of Solana Beach supports the common response approach to the above issues, as it will help bring consistency to the various jurisdictional programs, reduce confusion among communities and agency staff, and improve program coordination among agencies. Where appropriate, this report will reference the Copermittee common response to these activities.

1.3 Report Content

The content of this report includes the activities associated with implementing the storm water program (JURMP). The development of the City's JURMP required the City to inventory and prioritize its municipal facilities, commercial and industrial businesses, develop a method to educate the business and residential community about the new requirements, evaluate existing municipal ordinances, and adopt new laws if needed to ensure enforcement action was available, develop a method for educating agency staff, and develop a commercial, industrial and construction site inspection program.

The content of this report will include discussions about the programs and activities that occurred during this reporting period (July 1, 2006 to June 30, 2007). The City presumes that the reader recognizes that significant activity has occurred subsequent to the end of the reporting period for this report. As a result, throughout this report a summary of post-reporting period activities will be discussed (where appropriate) to assist the RWQCB in understanding the City's efforts to reduce urban runoff and pollution and to comply with the Permit.

One significant addition to this report is the "Response to Comments" to the September 26, 2007 letter titled, "Review of 2005-2006 Jurisdictional Urban Runoff Management Program Annual Report for the City of Solana Beach, Order R9-2001-01." That letter requested written responses to comments regarding the FY 2005-2006 Annual Report. These comments will be addressed in the chapters that the comments were issued in.

1.4 Program Goals

The primary goal of the City's JURMP is to reduce or eliminate pollutant discharge into the City's MS4 (municipal separate sewer storm system) and receiving water bodies, including the Pacific Ocean, thus improving the quality of water in the City, neighboring jurisdictions, and region-wide.

The City recognizes that a *scientifically measurable* change in water quality is a long-term goal that would require many years of data collection, research and analysis, extending beyond the life of the current Permit (which expires in 2007). As a result, the City's program includes short-term goals expected to focus the City's program on permit compliance as well as water quality improvements.

The following summarizes the City's current short-term annual program goals:

FY 02/03: Integration of WURMP(s), SUSMP and JURMP activities
FY 03/04: Complete assessment of JURMP (using regional strategy)
FY 04/05: Complete overall assessment of Regional Programs JURMP, WURMP and SUSMP; prepare for new Permit from RWQCB
FY 05/06: Assessment of JURMP, WURMP and SUSMP in preparation of new Permit anticipated to be adopted in early 2007. This involves the assessment of water quality data to focus on the sources of high priority pollutants locally as well as watershed and regionally.
FY 06/07 Further assessment of JURMP, WURMP and SUSMP to effectively develop new programs for incorporation in the new JURMP, WURMP and SUSMP that will be required by the new Permit (adopted January 2007). The complete program will be assessed to determine the effectiveness of existing programs and to develop better, more efficient programs to include in the next Permit cycle.

CHAPTER 2
Municipal Component

CHAPTER 2: MUNICIPAL COMPONENT (EXISTING DEVELOPMENT)

In accordance with Permit Section F.3.a, this section of the report describes the City's efforts to prevent or reduce pollutants in runoff from municipal land use areas and activities.

In each Annual Report to the RWQCB, this section will include modifications to the City's inventory of municipal facilities, pollutant source identification and potential threats to water quality. In addition, this section of each Annual Report will include results from the City's efforts to implement BMPs at municipal facilities, program accomplishments and activities. Also, a summary of activities conducted post-reporting period may be included if the activity is deemed essential to understanding the City's efforts at reducing urban runoff or Permit compliance.

Municipal facilities and areas within the City of Solana Beach include public parks, public buildings, streets, roads, and parking lots, a public works yard, and the MS4 system. During this reporting period, the City conducted a comprehensive re-evaluation of its municipal sites to understand potential sources of pollution, threats to water quality, and to develop a plan to mitigate or eliminate urban runoff and pollution from its facilities by implementing Best Management Practices (BMPs). This was accomplished through inspections of all public facilities.

2.1 Inventory of Municipal Facilities

During this reporting period, in response to the requirements of the Permit and in an effort to improve the quality of water in the region, the City once again inventoried its municipal sites and activities. Table 2-1 presents the City's municipal facilities, by prioritization level. *There is one change in the City's inventory of municipal sites from those submitted to the RWQCB in the City's 2007 Annual Report.* The change is the addition of the Del Mar Shores Beach Access. In past reporting periods, the City included the two adjacent parking lots to Del Mar Shores but not the access itself. The City felt it prudent to include the access as well to be consistent with the other beach accesses in the City.

The City's municipal facilities include five public buildings (City Hall, one Fire Station, the Marine Safety Center and the Community Centers at La Colonia Park and Fletcher Cove), one Public Works Yard, six public parking lots, City

streets and roads, the Municipal Separate Storm Sewer System (MS4) and the beach (which consists of four access locations: Del Mar Shores, Seascape Sur, Tide Beach Park, and Fletcher Cove).

Table 2-1
Existing Municipal Facilities, By Priority Level

Facility Name	Facility Address	Type of Activity	Priority
Public Works Department	1764 Highland Drive	Materials storage, fleet parking, administration	High
North Seascape Sur Surf Park	Public beach access west of Highway 101	Public beach	High
Roads, streets	Citywide	Circulation	High
MS4 System	City-wide	Storm-water conveyance system	High
Fletcher Cove Parking Lot	North end of Plaza St.	Parking	High
Distillery Parking Lot	Sierra and Lomas Santa Fe		
Solana Beach and Tennis Club	West end of Dahlia St.		
Seascape Sur Parking Lot	Seascape Sur Easement		
Del Mar Shores Parking Lot	Sierra Ave. near Del Mar Terrace		
Del Mar Beach Club East Parking Lot	Sierra Ave. east of Del Mar Beach Club Dr.		
City of Solana Beach Fire Department	500 Lomas Santa Fe	Public Building - Fire Station, fleet and fire equipment storage	Medium
City of Solana Beach City Hall	635 S. Highway 101	Public Building -Administrative	Low
Marine Safety Department, Fletcher Cove	111 S. Sierra Ave.	Public Building Administrative, marine safety equipment storage	Low
Fletcher Cove Community Center	111 S. Sierra Ave.	Public Building – Community Center	Low
La Colonia Park and Community Center	715 Valley Ave	Public Park and Building – Community Center, administrative, park	Low
Tide Beach Park	302 Solana Vista Drive	Public beach	Low
Del Mar Shores	190 Del Mar Shores	Public beach	Low

2.1.1 Inspection Frequency of Municipal Sites

The City inspects all of its municipal sites listed above on a continuous basis. Every winter, prior to the wet season, the Public Works Yard (Yard) is given a complete inspection and all Public Works employees are given a complete storm

water refresher training seminar. Also, the Public Works Crew is put through a practice run of the Weather Triggered Action Plan to prepare for the upcoming wet season. At this annual inspection, the current inventory of the storm water BMPs kept on-site (gravel bags, bio-filter rolls, straw rolls, etc) is documented and additional supplies are ordered if necessary. Additionally, every Wednesday, the Public Works Yard is inspected by the Environmental Specialist during the "weekly safety meetings." All storm water issues are discussed and the Yard is thoroughly cleaned, if necessary. Visual inspections are conducted on a daily basis by the Public Works Crew. Here are the specific dates and numbers of inspections for the City's municipal areas:

Public Works Yard: Weekly on Wednesdays and every October to prepare for wet season. Inspection and training conducted last year on 6/26/07.

Roads and Streets: Continuous visual inspections daily. Every street is swept at least once per month. Main arterial streets are swept once per week and collector streets are swept every other week.

Parking Lots: Visual inspections weekly. Every City parking lot is swept once per month.

MS4 System: Continuous visual inspections weekly. Highest priority catch basins cleaned annually (those with accumulated debris inside). Approximately seven (7) cubic yards of debris was removed from the MS4 system during this reporting period.

Fire Department: Continuous visual inspection by City Staff. Last inspection was conducted on June 26, 2007.

City Hall: Continuous visual inspection by City Staff. Last inspection was conducted on June 26, 2007.

Marine Safety: Continuous visual inspection by City Staff. Last inspection was conducted on June 26, 2007.

Parks and Recreation Department (La Colonia Community Center): Continuous visual inspection by City Staff. Last inspection was conducted on June 26, 2007.

Beaches: Daily inspection by City Staff (Marine Safety Department).

2.1.2. Follow-up Activities

The City did not have any follow-up activities as a result of municipal inspections. All facilities were implementing the necessary BMPs and all employees were properly trained. The Public Works Yard required no corrective action as everything remained in compliance. The Wet-Weathered Action Plan was successfully implemented and the employees were trained again and had a practice run prior to the beginning of the wet season.

2.1.3 Implementation of Pesticides, Herbicides and Fertilizer BMPs

The City has implemented all the appropriate pesticide, herbicide and fertilizer BMPs that are listed in the JURMP. The City's Public Works Department only handles approximately 10% of pesticide, herbicide, and fertilizer application for the City. There is a small amount of Round-Up kept on-site at the Public Works Yard that is stored and locked indoors. All employees of the Public Works Department are registered with the County of San Diego Department of Agriculture and are inspected on an annual basis. As part of the Integrated Pest Management Program, Public Works Staff has switched from using harmful pesticide Dursdan to a more environmentally friendly insecticidal latex coating to control the roach problems in City sewer manholes.

2.2 Pollutant Source Identification

To assist the City in determining the source of pollutants in its receiving water bodies, and/or the receiving water bodies of neighboring jurisdictions, the municipal facilities were also identified by Watershed in the City JURMP*. There are no changes to report in the municipal facility by watershed classification.*

During this reporting period, staff continued to evaluate the possible types of pollution that could be generated from each municipal facility. The evaluation included the following:

- Type of materials stored or used on site
- Activities conducted on site
- Proximity to conveyance system, or environmentally sensitive areas
- Any additional activities that may affect water quality such as additional storage or new materials kept on-site

Results from the evaluation indicate that most City facilities are a low threat to water quality (as discussed in report Section 2.3). Parking lots, streets and roads, and the Public Works Yard are the highest priority of municipal facilities as they

could introduce pollutants into the conveyance system, which could impact water quality.

The City is committed to implementing BMPs that will reduce pollutants from parking lots, streets and roads and the Public Works Yard in particular. The City has installed and maintains a BioClean filter in one of the upstream catch basins that lead to the problem Seascape Sur pipe. Also, the Yard is visually inspected weekly and BMPs are maintained and reinforced as needed. In addition, the City utilizes results from its dry-weather-monitoring program to determine if pollutants are entering the system from its municipal facilities.

During this reporting period, the results from the City's 2006 Dry-Weather-Monitoring Program (DRMP) were completed and presented to the City in January 2007. The results indicated a concern at Seascape Sur, which has been an ongoing problem in the City for more than six years (see discussion in Chapter 13, Special Investigations) where elevated levels of bacteria were detected. An investigation into the identification of the pollutant source is ongoing, and the City is looking into alternatives ways to address the situation. No municipal facilities were found to be contributing the pollutants.

The City utilized the information from the 2002, 2003, 2004, 2005 and 2006 dry-weather-monitoring programs and the criteria established by the Permit (Order 2001-01) to further develop its 2007 Dry-Weather-Monitoring Program. Although the results from the 2007 program were presented to the City after this reporting period (in December 2007), they are noteworthy to include in this report. The City results indicate that the City's municipal facilities are not a likely contributor of pollutants.

2.3 Threat to Water Quality Prioritization

The City utilized the criteria prescribed in Permit Section F.3.a. (3)(a) and (b) to prioritize the facilities based on their potential threat water quality from storm water runoff. In addition, dry-weather monitoring data and previous complaint records were included in the evaluation. As noted in the City's JURMP, results from the dry-weather monitoring program indicated that there were no illegal discharges or illicit connections associated with existing municipal facilities. However, the City still classified its public parking lots, MS4 system, streets and roads and the Public Works Yard as *high priority* using the criteria of the Permit. As also noted in the JURMP, the City classified the beach at Seascape Sur as a *high priority* because results from the dry-weather monitoring program indicated

elevated levels of bacteria (see Chapter 13, Special Investigations).

The Fire Department facility was the only municipal site classified as medium-priority. The City Hall building, the Community Center at La Colonia Park, Tide Beach Park, Fletcher Cove Community Center and the Marine Safety Center facility were classified as low priority primarily due to the activities conducted at those sites.

There are no changes to report in the City's prioritization of its municipal facilities. As stated in the 2003 Annual Report, the results of the 2003 Wet Weather Monitoring Program revealed very high levels of the pesticide Diazinon within the watershed. The City focused its efforts on reducing the use of Diazinon within the City and by municipal landscaping contractors through educational activities. The City is happy to report that Diazinon was not found in any of the samples analyzed by the lab for our 2004, 2005, 2006 or 2007 dry weather programs. This is consistent with the overall trend region-wide showing that diazinon levels have been steadily decreasing. The City can now focus on other pesticides or high priority pollutants in the ongoing effort to improve water quality in the region.

2.4 Pollution Prevention Methods

As described throughout the Municipal Component Section of the JURMP, the City has established pollution prevention methods that focus on municipal operations, including operation and maintenance of its MS4 system with the goal of preventing and reducing pollutants in runoff. The following is a list of some of the methods in place to accomplish this goal:

- Annual Cleaning of the City's entire MS4 system
- Routine street sweeping (schedule is on the City's web site and available upon request)
- Daily trash removal from streets and parks
- Sediment and erosion control methods (application of Visqueen, materials coverage, silt fences, etc.)
- Facility and ground maintenance conducted in a manner that would not contribute pollutants to a conveyance systems and expected to reduce pollutant runoff during storm events
- The use of bio-filter roll(s) as a PPM at municipal facilities
- Maintenance of the MS4 including routine inspections, annual cleaning and proper disposal of captured materials
- Spill response procedures (street and road spills, facility spills)

- Household Hazardous Waste Collection (Note: the City participated in a reciprocal use agreement with the Cities of Vista, Poway and Escondido for use by Solana Beach residents to recycle their household waste materials.) The City also offers a door-to-door program (more on this later in the Report).
- Installation and maintenance of catch basin inlet filter at ongoing problem area directly upstream from beach outfall.

In the City's JURMP, the above pollution prevention methods were expanded for implementation at all Cities' municipal facilities, depending on the type of activities conducted at each facility. To assist in developing appropriate BMPs, the facilities were categorized into the following types:

- Landscape and recreational facilities
- Roads and streets maintenance
- Public buildings
- Public Works Yard
- Parking facilities
- Storm Drain Conveyance System (MS4)

Specific BMPs were then developed for each category type identified and presented in the City's JURMP. For example, BMPs for the Public Works Yard (JURMP, Table 2-7) include:

- Materials storage alterations
- Visual inspections
- Improved operations and maintenance
- Good housekeeping procedures
- Preventative maintenance
- Spill prevention
- Sediment and erosion control
- Employee training
- Vehicle and equipment maintenance operation alterations
- Waste disposal and recycling
- Vehicle equipment and washing
- Storage tanks
- Outside storage

During this reporting period, the City implemented pollution prevention methods (BMPs) for each facility type based on what was presented in the City's JURMP. The BMPs were discussed at citywide staff meetings, handouts were created for general housekeeping for all staff to implement, and municipal facilities were inspected by City staff to ensure the implementation of BMPs was occurring.

2.4.1 Proactive Approach to Pollution Prevention

Because of the City's proximity to the Pacific Ocean, the City has been proactive in its approach to urban runoff and pollutant mitigation and reduction, not only during this reporting period but also prior to the implementation of the JURMP.

Annual Cleaning of Storm Drain System

The City conducts an annual cleaning of its storm drain system – citywide. Public Works Staff visit every catch basin in the City and prioritize each based on the severity of sedimentation and trash build-up**.** Any catch basin that shows signs of trash or sediment build-up will be cleaned using a Vactor truck. During this reporting period, the City removed seven (7) cubic yards of material from the storm drain system (which includes open channels, etc.). Samples of the material, primarily sediment and debris, were properly disposed of as a non-hazardous material. The City had the debris tested by Enviromatrix Analytical Inc and received a five year exemption from the local landfill.

Pet Waste Bag Dispensers

The City installed Pet Waste Bag Dispensers and actively maintains the dispensers to encourage proper pet waste disposal. The City posted these dispensers and signs along both sides of Sierra Avenue to encourage their use (Sierra Avenue is the street closest to the beach, and runs parallel to Highway 101). The City implemented this BMP in response to results from its dry weather and coastal outfall monitoring, which indicated the presence of fecal bacteria at Seascape Sur. In an effort to educate the community about pet waste, the City included a discussion about its Dog Ordinance (Municipal Code 11.12.020X), which prohibits dogs in some locations of the City and on some beaches, in its Summer 2001 City newsletter and recreation guide *Shorelines* Vol. 14. No.1). In addition, City staff met with property managers of the condominiums along Sierra Avenue and educated them on storm water regulations and solicited their help in educating their residents.

The City recently completed its much anticipated Coastal Rail Trail. This trail runs parallel to Highway 101 the length of the City, and has become a popular

walking/jogging spot for not only the residents, but their pets as well. The City required the project to include additional pet waste dispensers, and have found them to be used very frequently. This shows the City's proactive approach to protecting the integrity of the local waterways. This practice of requiring pet waste dispensers at all new public projects will continue as it has been received very well by the community.

As part of the Public Works Department routine tasks, the bag dispensers are refilled daily. The amount of material that is prevented from entering the City's MS4 system as a result of this PPM is unknown and there is no acceptable method of estimating it, however, the City's Public Works Crew refilled approximately 1,298 bags per week in this reporting period, up from 775 last reporting period, 625 the year before that, and 550 the first year this was documented. The increase this reporting year is most likely due to the additional education and outreach and the residents changing their behaviors. The total amount comes out to approximately 67,500 total bags at a cost of approximately $2,700 (4 cents per bag). Those numbers are up from 37,800 bags and approximately $1,590 from last reporting period.

Solana Center for Environmental Innovation

The City is proud to be associated with the Solana Center for Environmental Innovation (formerly Solana Recyclers), hereinafter referred to as Solana Center. Due in large part to the efforts of this group, the City was the first city in San Diego County to have a comprehensive *curbside* recycling program. In addition, to help educate the community, the Solana Center routinely writes articles for the City *Shorelines*. For a complete listing of articles written in the *Shorelines,* please see Chapter 5, Residential Component.

Recycling Efforts

The total amount of material recycled throughout the City during this reporting period is unknown at the time of this report (numbers will be available after March 15, 2008). However, the last reporting period ending in 2006 showed the City at a 56% recycling rate, which is on the upper tier of cities in the county and in compliance with the 50% rate required by Assembly Bill 939 (AB939). Additionally, on September 16, 2006, the City hosted its annual beach and lagoon clean-up day and 118 volunteers (up from 71 a year ago) collected over 245 pounds of trash and 80 pounds of recyclable materials that might have otherwise ended up in the landfill or worse, City streets and possibly the City's MS4. The rise in participants and fall in pounds of trash and recycling can both be described as successes for the City. The rise in participants shows the

excitement and pride that the residents have for their City as well as demonstrating that the City's education and outreach programs are successful. The decline in trash and recycling numbers show that the area is getting cleaner, which is another major success.

The City also implemented a new residential solid waste and recycling automated single stream commingled collection program. This will be described in greater detail later in this report, but it should be noted that as of the first nine months of implementation, residential recycling increased by 22%, which is pretty remarkable.

Hazardous Materials Management Team

The City Fire Department contracts with San Diego County Hazardous Materials Management Division and established an Emergency Response Program to contain hazardous materials that result from automobile accidents, spills, illegal dumping or any other activities within the City of Solana Beach. Generally, the County's Hazardous Materials Team handles recovery and disposal of the materials, although work crews from the City's Public Works Department also contain some small spills and are on call 24 hours a day, 7 days a week to respond to all spills that occur within City limits.

Storm Drain Inventory and Stenciling

The City has inventoried all of its storm drain conveyance structures (inlets and catch basins). The inventory list includes addresses, cross streets and a bit-map. This information was then utilized to implement a program that affixed a stenciled tile at each location that reads, *"No Dumping! This drains to the ocean."* The City has successfully completed application of the tiles at *each* storm drain inlet or catch basin. In addition, the City now requires all new or re-development projects that install a storm drain curb inlet or catch basin to include the a stenciled tile. The City constantly monitors the catch basins and if a tile is broken or has been removed, another one is immediately installed.

The City also participated with the non-profit group I Love A Clean San Diego (ILACSD) to sponsor an ongoing Tile Stenciling Program in which the City provides volunteers with a GIS map of all catch basins in the City and a box of tiles so they can compass the City and replace any tiles that are damaged or missing. This was a highly successful program/partnership that the City will continue to ensure all catch basins have tiles permanently affixed to them.

Street Sweeping

The City already had a comprehensive street sweeping program prior to the Permit and the implementation of the JURMP. The residential streets are swept once each month, while major arterial streets are swept once each week. In response to the comments received from the RWQCB on the FY 02/03 annual report, the City developed a form to characterize and measure the amount of material collected by the street sweeper (Appendix A). The driver of the street sweeper completes the form after every trip and it is verified by the appropriate Public Works employee.

As reported in last year's Annual Report, the City was having major problems with its contracted street sweeping company. The contractor was not performing up to contract specifications, and the City was having a difficult time getting the proper reports from the drivers. A contractual battle ensued and documentation was not submitted. The City eventually relieved the street sweeping company of their duties and selected another contractor. The new contractor has been much more effective and responsive. This reporting year, the amount of debris collected by the street sweeper totals 188, which is a decrease over last year's total of 299.1 cubic yards.

To demonstrate the City's commitment to documenting the amount of debris collected by the street sweeper, and to ensure that all activities were conducted in compliance with the storm water regulations, the City included specific language in its new street sweeping contract. This language will be used in every subsequent street sweeping contract to ensure all contractors are adhering to all storm water regulations, which was a comment made by the RWQCB in its JURMP Annual Report Review.

Spill Prevention

The City's Public Works Department maintains on-site at the Public Works Yard, a 55-gallon drum and specially equipped vacuum to handle small hazardous materials spills. The drum and vacuum are small enough to travel with the work crews and have been utilized to contain oil from an automobile accident, spillage of work-related materials (paint and debris), and collection of minor hazardous materials. In the event the material exceeds the amount that can be collected by the work crews, the City Fire Department initiates its spill response plan (discussed above). Work crews used the new spill-vacuum on several occasions to collect hazardous waste material. However, City work crews do not have the resources to weigh the amount of material collected or to track and document the

amount of material collected. Significant spills for which the work crews responded to are discussed in Chapter 8: Illicit Discharges Detection and Elimination.

Staff Trainings

The City implemented a citywide staff-training program. Each month the City Hall hosts an all-hands meeting, which was determined to be the appropriate location to conduct the storm water training. Employees are educated about the Permit requirements, informed regarding expectations of staff, provided General Housekeeping handouts, facility-specific designated BMPs (from the City's JURMP), and instructed on the use of the Storm Water Hotline (see below). Staff trainings regarding storm water are routinely included in the monthly all-hands meeting when deemed appropriate.

The City anticipates that the new Permit adopted January 2007 will require additional intensive departmental trainings. The City anticipates another series of staff trainings to discuss the new aspects of the Permit and how each one relates to different departments within the City. This will also serve as an opportunity to review and refresh City staff responsibilities as they pertain to elements in the newly adopted Permit.

Storm water Hotline

To assist the public in directing their calls for complaints and service, the City maintains and responds to a storm water hotline 24-hour telephone recording (858) 720-4424. When the number was first established, it was checked twice each day. However, to facilitate a quicker, more effective response time, the City now links all calls to the direct extension of the City's Environmental Specialist. Therefore, all calls that are made to the City regarding storm water issues will be handled immediately. This has been proven very successful, as the issues are addressed immediately. This leads to much quicker responses, which result in more efficient spill response and enforcement actions. The City informs the public about the hotline number at City Council meetings, on flyers and handouts at workshops, on business cards, on educational materials and during inspections.

Materials Storage

Although only minor quantities of hazardous materials are stored at municipal facilities (as noted in the City's JURMP), the City stores those materials indoors when feasible. Only non-hazardous materials, such as Class 2 gravel, temporary stockpiles of topsoil, etc., are stored outdoors for short periods of time. When

this does occur, City Staff ensures all storm water BMPs are installed around the piles and they are covered, if necessary, to ensure nothing leaves the Public Works Yard.

Sediment and Erosion Control

The City Public Works Department augmented the City's supply of Visqueen as a method to reduce or prevent sediment and erosion control. The Visqueen is utilized at the Public Works Yard on the sand and soil that is kept on-site. In addition, the work crews utilize bio-filter rolls to catch runoff. As added insurance, the City's Operations Manager always orders extra erosion control BMPs before the wet season to store on-site for emergency situations. Most of these practices were instituted as a result of suggestions made by the RWQCB during their inspection in August 2002.

Storm Drain Inlet/Catch Basin Insert

The City is currently participating in an ongoing experimental application of a catch basin insert in one of its MS4 curb inlets. The insert is being studied to determine its effect on the elevated levels of bacteria in the inlet. Although early results from the pilot program are inconclusive regarding bacteria, the catch basin filter has been extremely effective in eliminating large quantities of trash and organic matter from the MS4 system. Public Work Crews empty the filter on a scheduled weekly basis and routinely remove about half a trash bag full of debris. Additionally, inspection of the catch basin insert has revealed occasional violations of the adjacent landscapers as a large amount of grass clippings were found in the catch basin. An investigation resulted in a Notice of Violation (NOV) to the landscaping company and a discussion with the property management company. No additional violations have been reported.

2.4.2 New Municipal Pollution Prevention Methods

Smoking Ban on Public Beaches and Parks

During a previous reporting period (December 2003), the City of Solana Beach jumped to the forefront of pollution prevention, on a nation-wide scale. The City was the first city in the nation to ban smoking at its public beaches and parks. The ordinance (Ordinance 316, see Appendix B) bans smoking at all public beaches and parks, and is actively enforced by the Marine Safety Department and Code Enforcement Department. The public has been very responsive to this

ordinance, and the City has had many requests from other jurisdictions, as far away as Australia. The City appears to be a trend setter, as the City of Los Angeles and other Orange County cities are following suit with their own ordinances in the works. More locally, the City of Del Mar and San Diego have followed with their own ordinances and other cities such as Oceanside are investigating the possibility. This is a significant pollution prevention action the City has undertaken, as cigarette butts are routinely found as the most abundant type of debris collected in beach clean-ups. The impact on the local beaches will be extremely beneficial, and the City is proud to be the trend setter in another environmental arena (the City was the first jurisdiction in San Diego County to provide curbside recycling).

Recycling/Trash Containers

One of the priorities of the Environmental Specialist was to improve the recycling program throughout the City. When the Environmental Specialist took over, there were no public recycling receptacles located anywhere in the City. If someone wanted to recycle, they would have to do so at home, but since this is a popular tourist location, it seemed necessary to provide recycling opportunities in high traffic areas. It's well known that people will recycle if it's made convenient and efficient for them, but since there were no opportunities available, it can only be assumed that everything was being discarded into the trash, or worse, finding its way into the storm drain system. This was a high priority for the Environmental Specialist, but initially the money was not there to purchase any new receptacles.

However, during a previous reporting period (December 2004), the opportunity presented itself when the City received its Department of Conservation (DOC) monies to be used toward the City's environmental program. In the past, this money was used to purchase picnic benches and tables made from recycled plastic. The Environmental Specialist managed to redirect this money into purchasing four new trash cans that have a separate container for recyclables. The new receptacles were placed at Fletcher Cove, two bus stops and at the community center. They have been very well received by the public and are very effective in separating recyclables from trash. The City has been so impressed with the results that the next round of DOC money is already earmarked for more of these receptacles and more money is being sought to purchase as many as possible to be placed throughout the City.

During the last reporting period, the DOC funds were approved to be used on additional recycling containers. The Environmental Specialist met with a

Councilmember to come up with a recycling "master plan" to help prioritize the City's recycling needs. It was agreed upon that the best location for the new recycling containers would be along the recently completed Coastal Rail Trail (CRT). Five (5) new containers were placed out on the CRT and are highly utilized by the community. The City had to add an additional recycling dumpster at the Public Works Yard to accommodate the increase in recyclable materials from these new containers. In addition, the City included nine (9) of these containers to be installed in the new Fletcher Cove Community Park.

Ensuring Implementation

To ensure that the PPMs are implemented, City staff meets periodically with all Department Directors to review the BMPs, Permit requirements and program expectations. Department Directors are responsible for ensuring that their staff carries out the BMPs for their facilities. The City Engineer meets every Wednesday with the Operation Manager and his crew, the Environmental Specialist, and the City Inspector at the Public Works Yard for safety meetings. It was decided that at these meetings, storm water issues, including BMPs, should be discussed and the Yard will be inspected to ensure compliance. The Environmental Specialist will also conduct random compliance inspections. During this reporting period, there were no violations observed at the City's municipal facilities and all appropriate BMPs were being properly installed and maintained.

2.5 Pollution Prevention Strategy Effectiveness

One of the issues that the City faces is developing an appropriate process to determine the effectiveness of the pollution prevention methods and strategies, (BMPs). The City is committed to developing a consistent approach that could be agreed upon by all Copermittees. It is important to collect data and analyze results in a consistent manner – county/region wide – in order to be able to share results and draw conclusions across agencies, particularly given that water is not restricted by jurisdictional boundaries.

To address this issue, the Copermittees met several times in the fall of 2002 and in 2003 to work out a more appropriate strategy. A guidance document was prepared by the Copermittees and submitted to the RWQCB on October 16, 2003, titled *"A Framework for Assessing the Effectiveness of Jurisdictional Urban Runoff Management Programs".* This guideline presents a comprehensive assessment strategy that initially focuses on programmatic assessments and

moves toward water quality-based assessments to determine program effectiveness. More specifically, it addresses six levels of assessment:

- Compliance with Activity-based Permit Requirements
- Changes in Knowledge/Awareness
- Behavioral Changes
- Load Reductions
- Changes in Discharge Quality
- Changes in Receiving Water Quality

The City implemented this assessment program during the last reporting period, which is described in more detail in the Effectiveness of JURMP Assessment Component of this report.

2.6 2005/2006 JURMP Comments from RWQCB

As discussed in the Introduction, the City received one comment on its 2005/2006 JURMP Annual Report regarding the Municipal Section. This comment claims the City did not adequately report on Municipal Separate Storm Sewer System (MS4) maintenance activities. The following table contains the information for 2005/2006 and 2006/2007 as requested.

Table 2-2
2005/2006 MS4 Maintenance Activities

Type	Frequency	Date	Total Number	Number Inspected	Comments
Inspection and Cleaning of MS4	Annual	10/17/05	309 catch basins, 15 unimproved storm drains (brow ditches, channels, etc)	309 catch basins, 15 unimproved storm drains (brow ditches, channels, etc)	All catch basins and unimproved storm drains inspected, 4 cubic yards removed
Inspection and Cleaning of Unimproved Storm Drains (Brow Ditches, Channels, etc)	Monthly	The 30th of every month	15	15	All unimproved storm drains inspected on the 30th of every month and cleaned as needed.

Table 2-3
2006/2007 MS4 Maintenance Activities

Type	Frequency	Date	Total Number	Number Inspected	Comments
Inspection and Cleaning of MS4	Annual	11/29/06	309 catch basins, 15 unimproved storm drains (brow ditches, channels, etc)	309 catch basins, 15 unimproved storm drains (brow ditches, channels, etc)	All catch basins and unimproved storm drains inspected, 35 catch basins cleaned, 7 cubic yards removed
Inspection and Cleaning of Unimproved Storm Drains (Brow Ditches, Channels, etc)	Monthly	The 30th of every month	15	15	All unimproved storm drains inspected on the 30th of every month and cleaned as needed.
Inspection and Cleaning of City MS4 after Rain Events	After Rain Events	10/18/06 1/30/07 2/20/07	15	15	No debris removed, MS4 clean

The tables above represent the inspection and cleaning activities related to the City's MS4. As you can see, the City conducts the annual inspections of the entire MS4 as the Permit requires, but goes above and beyond the inspection and cleaning requirement with monthly unimproved storm drain (brow ditches, channels, etc) inspections and "after rain event" inspections. Currently, just the dates that these activities take place are being recorded, but the City will begin recording and documenting the amount of debris removed so that a better assessment can be made on the Municipal Programs. It should be noted that these activities are above and beyond the Permit requirements, but it shows the City's dedication and pro-active approach in maintaining a functional MS4 system.

2.7 New Activities and Improvements for FY 07/08

The City anticipates continuing the activities of the Municipal Component as specified in the JURMP. The focus will on continuing the cooperation among different departments, ensuring municipal facilities are in compliance with the Permit, and collaborating with other Copermittees. The City Department Directors were required to integrate more responsibilities into positions in order to implement the Watershed Urban Runoff Management Program (WURMP) and Standard Urban Storm Water Mitigation Plan (SUSMP). Because of our team approach, this transition occurred rather seamlessly. The Planning Department and Engineering Department worked closely together in implementing the SUSMP requirements.

As mentioned previously in this Chapter, the new Storm Water Permit was adopted in January 2007. This contained new elements that will require additional/modified requirements/duties of different Departments within the City. Additional staff trainings will be required to ensure that all Staff activities will be in compliance with the new Permit and some job duties will have to be altered. Since the new Permit has now been adopted, the majority of the City's efforts will be spent developing programs to meet the requirements of the new Permit. A significant amount of time will be spent updating old programs such as the SUSMP, JURMP and WURMPs in anticipation of implementing this new programs beginning January 2008. These changes will have to be implemented on the fly, and will require all Departments within the City to work collaboratively to accomplish the goals within the new Permit. The City is confident that the infrastructure of the City as a whole will allow for a relatively seamless transition to the requirements of the new Permit.

2.8 Summary

The City has been successful at implementing the Municipal Component of the JURMP, establishing BMPs for its municipal facilities and providing informative and meaningful staff trainings. The City made significant advancements in the manner in which its storm water program is integrated into the routine tasks of various staff and has developed an effective interdepartmental working relationship. The Environmental Specialist position has greatly enhanced the coordination and implementation of the Permit, as well as other environmental programs (solid waste, HHW, etc.)

Highlights of the accomplishments of the City's Municipal Program Component include:

- Implementation of two comprehensive WURMPs
- Creation of an effective inspection process
- Implementing storm water issues and inspections of Public Works Yard at weekly safety meetings between the City Engineer and Public Works Supervisor and crew
- Annual cleaning of the City's storm drains resulting in seven cubic yards of debris diverted from receiving water bodies
- Implementation of street sweeping tracking form that now allows the City to evaluate the effectiveness of the street sweeping program.
- Provision of public pet waste bag dispensers (67,500 bags were utilized by the community during this year at a total cost of $2,700 (4 cents per bag)
- Addition of new trash/recycling receptacles in high traffic area of City to promote recycling and prevent trash from entering storm drain system
- Enforcement of Smoking Ban on Public Beaches and Parks Ordinance which has significantly reduced amount if pollution on local beaches and parks.
- Implementation of weekly task for Public Works Crew to self inspect the Public Works Yard
- Implemented scheduled cleaning of Fletcher Cove Low Flow Diverter
- Maintenance of Biofilter at La Colonia Community Center
- Maintenance of City-owned CDS units
- Maintenance of filter basket at upstream catch basin of Seascape Sur outfall

CHAPTER 3
Industrial Component

CHAPTER 3: INDUSTRIAL COMPONENT (EXISTING DEVELOPMENT)

In accordance with Permit Section F.3.b, this section of the report describes the City's efforts to prevent or reduce contaminants in urban runoff originating from existing industrial facilities. In compliance with the Permit, the City evaluated businesses within the City and categorized them as commercial or industrial, as noted in JURMP sections 3.0 (Industrial) and 4.0 (Commercial).

In each Annual Report to the RWQCB, this section will include modifications to the City's inventory of industrial facilities, pollutant source identification and potential threats to water quality. In addition, this section of each Annual Report will include results from the City's efforts to implement and enforce BMPs at industrial sites, related accomplishments and activities. Also, a summary of activities conducted post-reporting period may be included if the activity is deemed essential to understanding the City's efforts at reducing urban runoff or permit compliance.

During the last reporting period (July 1 2006 to June 30, 2007), the City conducted an evaluation of the industrial facilities doing business within the City. Facilities were identified as industrial sites based on criterion required by the Permit, which included activities conducted on site, SIC codes and also included a site visit. The City prepared an inventory of the industrial sites in order to understand potential sources of pollution, threats to water quality, and to develop a plan to mitigate or eliminate urban runoff and pollution from the facilities by implementing Best Management Practices (BMPs). The City reviewed the list from last reporting period and visited all existing and potential new sites to determine if there would be any changes or additions to the inventory.

3.1 Inventory of Industrial Facilities

There is currently one industrial site operating within the City (Baker Iron Works). Table 3-1 presents the City's industrial facility, including its prioritization level. *There is no change in the City's inventory of industrial sites from those submitted in last year's Annual Report. The City's other industrial site, submitted to the RWQCB in the City's original JURMP (February 21, 2002), (Blalock Cabinet Shop) is no longer in business in Solana Beach*. It relocated to the City of Vista.

Table 3-1
Existing Industrial Facilities

Facility Name	Facility Address	Narrative Description	SIC Code	Priority
Baker Iron Works	710 Valley Ave	Iron works / metal fabrication	3441	High

3.2 Pollutant Source Identification

To assist the City in identifying potential sources of pollutants in its receiving water bodies, and/or the receiving water bodies of neighboring jurisdictions, City staff evaluated the possible types of pollution that could be generated from each industrial facility. The evaluation included the following:

- Type of materials stored or used on site
- Activities conducted on site
- Proximity to conveyance system, or environmentally sensitive areas
- Watershed location

Results from the evaluation concluded that the City's only industrial facility could be a potential source of pollutants (Baker Iron Works),

The conclusion that Baker Iron Works could be a potential source of pollutant discharge was due to the fact that the facility generally uses metal materials in the fabrication of structural devices; most of their work is performed outdoors, which is exposed to storm water, and runoff from the property can potentially enter the City's conveyance system. However, the City has worked closely with Baker Iron Works to minimize the potential for pollutants to run off their property and into the City's MS4 system. Baker Iron Works has been more than willing to work with the City to ensure compliance with the Permit, and has completed numerous tasks suggested by the City. These include:

- Permanently covering all stock piles of metal materials kept outside to shield it from rain events.

- Cleaning of yard as needed but no less than weekly with a magnetic device to pick up all loose metal shavings.

- Moving all chemicals indoors to ensure that they will not run off the property and into the City's MS4 system.

- Training all staff on proper storm water BMPs and general housekeeping

for all activities that may impact the City's MS4 system.

- Installation of low flow sump/infiltration structure at the northwest corner of the facility to handle all low flows from the entire facility. The low flows will enter a small drain that extends across the driveway and enters into a small infiltration well structure to prevent the water from entering the MS4. This structure has worked very well in eliminating all low flows from leaving the site. Baker Iron Works employees routinely monitor and maintain the infiltration well to ensure proper functionality.

- Permanently sealing a trench drain near office building that used to drain directly to street. Now the runoff bypasses the drain and travels down to the low flow sump/infiltration structure mentioned above.

The results of the 2006 dry weather program indicate that no related pollutants were found downstream from this industrial facility. This is consistent with the 2001, 2002, 2003, 2004 and 2005 dry-weather-monitoring program results which also indicated that no related pollutants were found downstream from this facility. The City will continue to inspect and monitor these locations in the future to further ensure that they are not contributing to downstream pollution. In addition, Baker Iron Works has agreed to forward all results from their required water quality monitoring under the Statewide General Industrial Permit to City staff, upon request, for review during rain events.

The City utilized the information from the 2006 dry-weather-monitoring program, the criteria established by the Permit, and the evaluation of the potential sources of pollutants (discussed in this chapter and Chapter 3 of the City's JURMP) to develop its 2007 dry weather monitoring program. Similar to last year, one site downstream and one site upstream from Baker Iron were selected for testing. Although the results from the 2007 program were obtained by the City post this reporting period (in December 2007), it is important to note that no significant pollutants of concern were found downstream from Baker Iron Works. However, the City will continue to monitor runoff downstream from that facility over the next few years.

3.3 Threat to Water Quality Prioritization

In the City's JURMP, the industrial sites were classified as a high, medium or low priority, based on their potential threat to water quality from storm water runoff. The classification utilized criteria prescribed in Permit Section F.3.a. (3)(a), (b).

There are no changes to report in the City's classification of its industrial facilities from last year's Annual Report. Baker Iron Works is still classified as a high priority industrial site.

3.4 Pollution Prevention Methods

The City realized that since Baker Iron Works is the only high priority industrial site in the City, it would be prudent and feasible to monitor their site frequently. Although the Permit requires only annual inspections, the City dedicated more time to ensure that the site was always in compliance. This pro-active approach that occurred in the beginning of this Permit cycle has proved to be well worth the effort. By spending the extra time and effort the first couple of years of this Permit to get this facility into compliance have built a strong working relationship between the owners and the City. This facility has had no violations the last couple of years and continues to stay in compliance.

As reported in last year's Annual Report, this facility was attempting to come into coverage under the statewide General Industrial Storm Water Permit (GISW). The reason they were not already covered was because of a major fire in the office of this facility during the reporting period, and all the documents were lost. However, the City has confirmed that Baker Iron Works is *now fully compliant* with the state GISW and is currently adhering to all requirements.

Baker Iron Works employees use a large magnet to clean their entire yard as often as needed but no less than once per week. This magnet is very effective in cleaning up small steel waste products that result from daily activities. The parking lot is swept and water is never used. All chemicals are kept in a locked storage shed that has secondary containment and is kept above ground, which was a recommendation of RWQCB staff.

3.5 New Activities and Improvements for FY 07/08

City staff will continue to work closely with the proprietors of Baker Iron Works to 1) ensure functionality and maintenance of the filtration device, 2) ensure compliance with the City's storm water regulations and 3) educate the business owners and employees about the importance of protecting the community's water resources.

During FY 07/08, the City will continue to inspect Baker Iron Works, using the City's Storm Water Compliance Checklist (Appendix C) as often as necessary to

ensure total compliance to the Permit. The City will also continue to visually inspect the facility at least once a month, and always before the wet season and during rain events. If the City observes a non-compliant facility, the City will inform its appropriate representative at the RWQCB.

3.6 Summary

The City has been effective at working with owners of the one industrial site to ensure compliance with Permit and City regulations. The owners have installed and properly maintained the filtration system at the northwest corner of the property to collect and infiltrate all on-site low flow runoff before it enters the MS4 system. The City has established a great working relationship with the owners/operators of the site and they have made drastic strides to maintain compliance. City Staff will continue to monitor and inspect the facility frequently to ensure compliance with the Permit. Baker Iron Works have been very responsive and immediately remedy any problems encountered during inspections. They have gone above and beyond what is required to ensure they are in compliance with the Permit.

CHAPTER 4
Commercial Component

CHAPTER 4: COMMERCIAL COMPONENT (EXISTING DEVELOPMENT)

In accordance with Permit Section F.3.c, this section of the report describes the City's efforts to prevent or reduce pollutants in runoff from existing commercial properties.

In each Annual Report to the RWQCB, this section will include modifications to the City's inventory of commercial facilities, pollutant source identification and potential threats to water quality. In addition, this section of each Annual Report will include results from the City's efforts to implement BMPs at commercial sites, significant program accomplishments and activities. Also, a summary of activities conducted post-reporting period may be included if the activity is deemed essential to understanding the City's efforts at reducing urban runoff or permit compliance.

During this reporting period, the City continued inspections of the high priority facilities (excluding restaurants). As discussed in last year's Annual Report, inspections during this reporting period were meant to be more compliance related, with follow-up activities based upon the initial educational inspections initially conducted in FY 03/04.

4.1 Inventory of Commercial Facilities

As a result of the compliance inspections, the City's inventory of commercial facilities that were inspected *had no changes*. The City's Environmental Specialist visited selected locations based on higher priorities such as automotive servicing, gas stations, repair and fueling, commercial rental yards, and golf courses but did not have to make any changes to the list shown on Table 4-1. The City will continue to update the inventory list as new businesses apply for permits or site inspections reveal changes.

Table 4-1

Changes to High Priority Commercial Facilities

Category	Address	303(D)	Discharges Pollutant Of Concern?
Automobile Servicing And Repair	136 N Cedros Ave	Ocean	No
	371 N Highway 101	Ocean	No
	421 N Hwy 101	Ocean	No
	126 N Cedros Ave	Ocean	No
	637 Valley Avenue E	San Dieguito	No

Category	Address	303(D)	Discharges Pollutant Of Concern?
	201 S Hwy 101	Ocean	No
	146 N Cedros Ave	Ocean	No
	301 N Hwy 101	Ocean	No
Automobile/Vehicle Washing	435 N. Highway 101	Ocean	No
	615 S Hwy 101	Ocean	No
Retail Or Wholesale Fueling	660 Via De La Valle	San Dieguito	Yes
	705 Lomas Santa Fe	San Dieguito	Yes
Eating And Drinking Establishments	731 S. Highway 101 #1-B	Ocean	Yes
	905 Lomas Santa Fe Dr	San Dieguito	Yes
	159 S Hwy 101	Ocean	Yes
	524 Stevens Ave 11	San Dieguito	Yes
	667 San Rodolfo Dr 133	San Dieguito	Yes
	437 S Hwy 101 601	Ocean	Yes
	106 Solana Hills Drive South	San Dieguito	Yes
	124 Lomas Santa Fe Dr 108	San Dieguito	Yes
	437 S Hwy 101 118	Ocean	Yes
	512 Via De La Valle 102	San Dieguito	Yes
	650 Valley Avenue	San Dieguito	Yes
	607 Valley Avenue	San Dieguito	Yes
	640 Via De La Valle	San Dieguito	Yes
	166 Solana Hills Dr South	San Dieguito	Yes
	150 S Acacia Ave	Ocean	Yes
	243 Highway 101 North 8	Ocean	Yes
	280 Lomas Santa Fe Drive	San Dieguito	Yes
	145 S Hwy 101	Ocean	Yes
	647 South Highway 101	Ocean	Yes
	315 S Hwy 101 #A	Ocean	Yes
	437 S Hwy 101 112	Ocean	Yes
	514 Via De La Valle 100	San Dieguito	Yes
	937 Lomas Santa Fe D Out of business	San Dieguito	Yes
	117 West Plaza	Ocean	Yes
	106 S Sierra Ave	Ocean	Yes
	945 Lomas Santa Fe Dr	San Dieguito	Yes
	135 Highway 101 North	Ocean	Yes
	689 Lomas Santa Fe D	San Dieguito	Yes
	524 Stevens Avenue	San Dieguito	Yes
	731 S Hwy 101 #1-A	Ocean	Yes
	550 Via De La Valle	San Dieguito	Yes
	445 N Hwy 101	Ocean	Yes
	126 S Solana Hills Dr	San Dieguito	Yes
	437 Highway 101 South #117	Ocean	Yes
	141lomas Santa Fe	San Dieguito	Yes
	979 Lomas Santa Fe Drive	San Dieguito	Yes

Category	Address	303(D)	Discharges Pollutant Of Concern?
	124 Lomas Santa Fe Dr #102	San Dieguito	Yes
	124 Lomas Santa Fe Drive 105	San Dieguito	Yes
	691 Lomas Santa Fe	San Dieguito	Yes
	125 N Hwy 101	Ocean	Yes
	124 Lomas Santa Fe Drive 101	Ocean	Yes
	123 W Plaza St	Ocean	Yes
	689 Lomas Santa Fe #A	San Dieguito	Yes
	315 S Hwy 101 D	Ocean	Yes
	315 S Hwy 101 # G	Ocean	Yes
	221 N Hwy 101	Ocean	Yes
	691 Lomas Santa Fe Drive A	San Dieguito	Yes
	621 Valley Ave	San Dieguito	Yes
	665 San Rodolfo Drive 123	San Dieguito	Yes
	271 N Highway 101	Ocean	Yes
	143 S. Cedros # V	Ocean	Yes
	132 S Cedros Ave	Ocean	Yes
	524 Stevens Ave #1	Ocean	Yes
	437 S Hwy 101 #501	Ocean	Yes
	124 Lomas Santa Fe #209	Ocean	Yes
	911 Lomas Santa Fe	Ocean	Yes
Cement Mixing Or Cutting	659 Marsolan Ave *	Ocean	Yes
Mobil Carpet, Drape, Or Upholstery	214 S. Nardo *	Ocean	No
Landscaping	618 Sonrisa St *	San Dieguito	Yes
	339 Barbara Avenue *	Carlsbad	Yes
	906 Santa Florencia *	Carlsbad	Yes
	426 N. Cedros Ave	Ocean	No
	301 Santa Helena *	Carlsbad	Yes
	944 Santa Estella *	Carlsbad	Yes
Nurseries	355 N Hwy 101	Ocean	No
	330 S Cedros Ave	Ocean	No
	170 Nardo Avenue *	Ocean	Yes
Golf Courses	1500 Lomas Santa Fe Dr	San Dieguito	Yes
	1580 Sun Valley Road	Carlsbad	Yes

* Denotes “residence.”

The commercial property inventory was utilized to identify potential sources of pollution, prioritize the businesses and to develop an inspection frequency program, as noted in the City's JURMP.

4.2 Pollutant Source Identification

Eight percent (8%) of the City's 2,211 total drainage acres (roughly 177 acres) are zoned for commercial use. Some of the areas within the City zoned for commercial use drain to environmentally sensitive water bodies and 303(d) listed waters (impaired water bodies), as noted in the City's JURMP. Some of the 303(d) listed water bodies have been identified as having *constituents of concern (COC)* or pollutants that are of particular concern to those water bodies. Table 4-2 identifies the 303(d) water bodies and COCs that are impacted by drainage from the City of Solana Beach. There is *no change* to report in the City's source identification of pollution. As reported in last year's Annual Report, based on water quality data analysis of the past few years, Diazinon has been removed from the San Elijo Lagoon COC list.

Table 4-2

303(d) Water Bodies and COCs

303(d) Water Body	Constituent(s) of Concern
San Elijo Lagoon and Ecological Reserve	Coliform, sediment, nutrients
San Dieguito Lagoon (and its tributary, Stevens Creek)	Coliform, TDS
Pacific Ocean	Coliform

Using the inventory list, businesses were classified by types of activities conducted on the property in order to identify potential sources of pollution in accordance with Permit section F.3.c.(2). The Permit specified 25 possible high-priority businesses for each Copermittee. Upon review of the City's business license inventory, the high priority business categories applicable to the City of Solana Beach include automobile servicing and repair; automobile/vehicle washing; retail or wholesale fueling; pest control services; eating and drinking establishments; mobile carpet, drape, or upholstery cleaning; cement mixing or cutting; landscaping; nurseries; and golf courses.

Potential pollutants for each of the eleven (10) categories identified above include, but are not limited to the following.

- *Automobile servicing and repair facilities have the potential to generate pollutants such as heavy metals (Cu, Zn, Cr, Ni, Pb), oil, grease, engine and transmission fluids, antifreeze, brake fluids, suspended solids, phosphates, litter, organic debris, fluids, sediments, paint, solvents, paint chips/dust, sand and broken glass.*
- *Automobile/vehicle washing facilities have the potential to generate pollutants such as suspended solid(s), pH, oil, grease, phosphates, heavy metals, detergents, engine and transmission fluids, litter, organic debris, fluids, sediments, paint, solvents, paint chips/dust and sand.*
- *Retail or wholesale fueling facilities (gas stations) have the potential to generate pollutants such as detergents, oil, grease, engine fluids, suspended solids, phosphates, litter, organic debris, fluids and sediments.*
- *Pest control services have the potential to generate pollutants such as harmful chemicals, pesticides, fertilizers, herbicides, nitrogen salts, and phosphorus and in particular, the chemical "Diazinon."*
- *Eating and drinking establishments have the potential to generate pollutants that occur due to improper waste disposal of oil and grease, improper application of pesticides, litter along sidewalks and parking lots, and sediments from equipment cleaning.*
- *Mobile carpet, drape, or upholstery cleaning businesses have the potential to generate pollutants such as BOD, COD, suspended solids, organic matter, cleaning solutions, animal-related wastes, litter and organic debris along sidewalks and parking lots.*
- *Cement mixing or cutting facilities have the potential to generate pollutants such as suspended solids, oil and grease, heavy metals, hydrocarbons, solvents, and metals*
- *Landscaping and maintenance activities have the potential to generate pollutants such as sediments, oil, grease, organic matter, fertilizers, herbicides, pesticides, nitrogen salts, nitrogen and phosphorus.*
- *Nursery (greenhouse) facilities have the potential to generate pollutants such as sediments, fertilizers, herbicides, pesticides, suspended solids (roof coating), nitrogen salts, phosphorus, oil, grease and organic matter.*
- *Golf courses conduct activities that may produce pollutants associated with landscaping and maintenance activities including litter, BOD, COD, sediment, bacteria/viruses, oil/grease, heavy metals, manure, pesticides, fertilizers and detergents.*

4.2.1 2006 Dry Weather Monitoring Results

Results from the 2006 Dry Weather Monitoring Program (DWMP) were collected and analyzed by the City in October 2006 (but are already outdated at the time of

this report). The 2006 program utilized the criteria established by the Permit (and the Copermittee Monitoring subcommittee). The City reviewed the results from the 2006 Dry Weather Monitoring Program looking for the pollutants listed above, and in particular, COCs described in Table 4-1. The results indicated that the bacterial levels at Seascape Sur outfall (which drains to the Pacific Ocean) continued to exceed the action levels established in the Permit and the IC/ID investigation continued (see Chapter 13).

The City continues the non-point source investigation (See Chapter 13), and utilized the results to help design its 2007 dry-weather monitoring program. Although the results from the 2007 monitoring program will be presented to the City after the writing of this report, preliminary results did not indicate any exceeded levels of COCs that would cause great concern, except the bacteria levels at Seascape Sur, which is described in Chapter 13.

4.3 Threat to Water Quality Prioritization

The inventory of businesses for the City included identifying those that potentially posed a high threat to water quality as set forth in the Permit section F. 3.c.(2). As noted above, the City also categorized its businesses by the potential to generate the pollutants described. A detailed inventory of the high priority commercial businesses was provided in the JURMP, Table 4-1.

As shown on Table 4-3, the City has identified 88 commercial sites as high priority. *There are no changes to report in the prioritization of types of commercial businesses within the City, from the JURMP Annual Report submitted in January* 2007*.* Site inspections at all locations listed in Table 4-1 revealed no changes in the City's inventory.

However, it is important to note, many commercial businesses change very frequently, especially restaurant facilities. Of the facilities inspected during this reporting period, there are no changes to report. The City will make inventory adjustments as inspections reveal changes are necessary. This is an ongoing procedure that will continue into further reporting periods. So, although the inventory was accurate at the time of writing this report, it may be different next time inspections are conducted.

Table 4-3

High Priority Commercial Facilities by Type of Business

Type of Business	Number
Automobile servicing and repair	8
Automobile/vehicle washing	2
Cement mixing or cutting	2
Eating and drinking establishments	60
Golf courses	2
Landscaping	8
Mobile carpet, drape, or upholstery cleaning	1
Nurseries	3
Retail or wholesale fueling	2
Total	**88**

4.3.1 Business Community Education Campaign

City staff has implemented an aggressive education campaign for the business community. As stated in previous annual reports, education is conducted during the annual storm water inspections. The City, along with the North County Storm Water Program (the cities of Carlsbad, Encinitas, Escondido, Oceanside, Solana Beach, San Marcos, and Vista) developed two commercial BMP posters. The first is aimed toward automobile repair shops and the second toward restaurants. These posters are distributed by City staff during inspections. The business owners are required to place the posters in a noticeable location for all employees to see. On subsequent follow-up inspections, City staff checks to see if they comply.

Additional educational/training tools developed to be distributed to the local businesses are the “Green Wrench Guide” and the “What’s Cookin’ Guide” developed by the Regional Outreach Workgroup. These guides are also distributed during site inspections as an extra training tool to help these businesses come into compliance. These guides have a couple pages in the back for employee to sign after they read the material to show educational compliance.

The City believes that distributing these educational tools directly to the businesses during inspections will have the greatest impact. Not only will we have their undivided attention, but we can also guarantee delivery and track who

has received the informational guides. Therefore, when it comes to compliance issues, we can easily determine who has and has not been informed of the regulations. These education tools will be discussed further in the Educational Component of this Annual Report.

By the time this inspection program was fully implemented, Code Enforcement Officers found that a majority of business owners were "aware" or had some "basic knowledge" of storm water requirements. City staff believes this is due in large part to the education campaign aimed at business owners. Although the jurisdictional business workshops have been postponed temporarily due to lack of attendance, the City understands the importance of these activities. Therefore, if the demand increases in the business community or if modifications of the Permit regulations or City regulations occur, the City is committed to resuming the business workshops.

4.4 Pollution Prevention Methods

4.4.1 Proactive Approach to Pollution Prevention / Commercial Property

Because of the City's proximity to the Pacific Ocean, the City has been proactive in its approach to reducing urban runoff, not only during this reporting period, but prior to the implementation of this Permit as well. For example, prior to the implementation of the JURMP, the City had several pollution prevention methods (PPMs) in place for commercial properties, which continues during this reporting period and included, but were not limited to:

- Prohibition of all non-storm water discharges to the City's storm water conveyance system (SBMC 13.10.060).
- Measures to reduce pollutants to the maximum extent practicable (MEP) were required of business owners (SBMC §13.10.090).
- Persons owning or operating a parking lot (or impervious surface) were *required* to "clean those structure thoroughly as is necessary to prevent the discharge of pollutants to the City of Solana Beach storm water conveyance system to the maximum extent practicable, but not less than once prior to each wet season" (SBMC 13.10.090).
- The City maintained by municipal code the authority to inspect business properties for compliance with the provisions of Solana Beach Municipal Code, Chapter 13 (SBMC 13.10.110).
- Required maintenance of commercial property (trash cans covered, litter removal, etc.) and appropriate waste disposal.

- Routine articles in the citywide community newsletter, *Shorelines* to educate the community about pollution prevention (see Chapter 9).

4.4.2 New Pollution Prevention Methods

In the City's JURMP, the above pollution prevention methods were expanded for commercial facilities, depending on the type of activities conducted at each business. Numerous activity-specific BMPs were also developed for each business type identified. Complete tables describing the BMPs in detail were included and presented in the City's JURMP, which was submitted to the RWQCB on February 21, 2002. *There are **no changes** to report with respect to BMPs designated for existing commercial properties.*

A) Common Commercial Property BMPs

Many of the BMPs provided to commercial property owners/managers were activity-specific to the type of business conducted on-site. However, there are several BMPs common to all commercial properties, which are described below.

- *Employee Training*: The training of employees on proper business practices to prevent or reduce urban runoff is listed as a BMP for all businesses. Knowledge of pollution prevention methods requires instruction from one person to another, particularly as the requirements are new to many employees and given that employees handle the majority of tasks at a commercial business, staff has explained to proprietors the importance of adequate employee training.

- *Good housekeeping* pollution prevention BMPs are required of most commercial facilities. Good housekeeping includes the proper disposal of waste materials and proper coverage over waste dispensers, dry sweep outdoor areas, keeping the facility in generally good repair and maintained in good operating condition to prevent deterioration of materials.

- A *Spill Response Plan* (SRP) is required of most commercial facilities as noted in the JURMP. An effective SRP should prevent on-site hazardous materials from leaving the private commercial property and entering the City's storm drain conveyance system. Commercial property proprietors are being educated about an SRP and are now required during inspections by City staff.

- *Minimize Use of Water for Washing / Cleaning:* The BMPs associated with a reduction in the use of water for washing and cleaning is suggested for most commercial facilities operating within the City. It has been common practice for many years to use power-washing methods to clean the outside of buildings, windows, and out-door eating areas at restaurants. In addition, it has been common practice by commercial property owners (and their contractors) to hose-down the sidewalks in front of their businesses to collect trash, debris, and landscaping remnants. These types of cleaning procedures use a lot of water and it is likely that the water will run off of the property and into the City streets or storm drain system, bringing with the water a significant amount of pollutants. For that reason, commercial property owners are requested to find new methods of cleaning, reduce the amount of water used, and prevent the runoff from leaving their property.

- Various other activity-specific BMPs are required or suggested to commercial property owners and are listed in the City's JURMP.

B) Other Pollution Prevention Methods Affecting Commercial Properties

Municipal Code and General Plan Amendments

There were *no changes* to the Municipal Code or General Plan Amendments during this reporting period.

Brochures

The City worked collaboratively with other North County cities (see Chapter 9, Education Component) to jointly develop brochures in order to provide a consistent message to the community, and in particular, commercial property owners/managers. The brochures were utilized by City staff to inform and educate the community, including commercial businesses. Public works crews, Code Enforcement Officers, Planning and Engineering staff passed out brochures when an educational opportunity presented itself. Staff also visited many businesses and distributed the brochure, "*Only Rain in the Drain"* and spoke to business owners about the need for pollution prevention.

4.4.3 Ensuring Implementation through Commercial Property Inspections

One effective pollution prevention method is to ensure that commercial property owners are implementing the required BMPs (as stated in the JURMP) by

inspecting facilities for compliance. To ensure that the BMPs are implemented, the City developed a two-tiered inspection program in 2004. The two-tiered method is different than proposed in the City's JURMP. The two-tiered method included two inspections (Advisory and Compliance) and was meant to provide another means of educating the high-priority businesses and developing a cooperative working relationship. As previously described in this report, (Section 4.3.1 *"Business Community Education Campaign")*, City staff utilized various methods to educate the business community about new and existing storm water pollution prevention requirements. Most importantly, *all* businesses identified in the JURMP have been notified in writing of the required BMPs according to the type of business conducted at their property site.

Prior to Inspection

Code Enforcement Officers developed a schedule to inspect all high priority businesses by the end of 2002 (medium and low priority by the end of 2003) and verified the businesses listed in the City's JURMP. As previously reported in last year's Annual Report, several of the businesses that were initially listed as high-priority were actually residential addresses. City staff verified that those businesses with a residential address were not conducting the activities associated with that business on-site (most of these were landscaping businesses that listed the owner's home address). In an effort to educate everyone, City staff mailed the appropriate BMP to each address, whether or not the address was in a residential neighborhood.

Advisory Inspections

To measure the business owners' knowledge, in 2002, staff utilized a survey during the Advisory Inspections. The survey was also used as a tool to educate the business owner and/or store manager about what would be expected during a Compliance Inspection. Further, staff used the survey to verify that the business had received the BMP letter; any brochures or visits from other staff and determine how well the community education campaign was working. Staff also informed the business owners/managers about the workshops in which they could learn more about the storm water regulations. City staff also distributed the BMP posters and educational/training guides discussed previously in *Section 4.3.1, Business Community Education Campaign.*

1. By the end of December 2005, staff visited almost all (about 95%) of the high-priority facilities operating within the City. There were a couple of sites that did not respond to a request for inspection or that were closed at

time of inspection. City staff visited every site, but a couple places were either closed or could not meet at time of inspection.

2. By the end of June *2007*, staff visited *all high priority facilities* operating within the City. The inspection focus during *06/07* was to ensure complete compliance of those types of businesses that have a high potential to discharge pollutants of concern within the City. These businesses include automotive repair shops, gas stations, heavy equipment rental shops and golf courses located adjacent to environmentally sensitive areas.

Compliance Inspections

A second inspection was used to determine if the facility is "in compliance" with the storm water regulations, hence, it is called a Compliance Inspection. Staff would schedule a "Date for Compliance" at all sites that required a follow up compliance inspection at the time of the advisory inspection. City staff would then conduct the compliance inspection unannounced after the "Date for Compliance" to ensure that the corrections were being carried out at all times, not just on the date it is required.

All inspections during this reporting period were "Compliance Inspections" because staff determined that the high priority businesses have had adequate time to bring their facilities into compliance since the beginning of this Permit cycle. All high priority sites in the City have remained constant for at least the last three (3) years, so Advisory Inspections are not warranted. If Staff determined that a new commercial facility has opened in the City, then an Advisory Inspection would be conducted initially. However, all current high priority facilities in the City have remained constant for the last few years (restaurants excluded).

Inspection Procedures

The City has made some minor modifications to its procedures for conducting inspections, from what was reported in the City's JURMP. The procedures, including modifications are briefly described below.

Pre-Inspection: The City had planned to conduct the inspections unannounced so as to properly observe the BMP implementation and effectiveness (City JURMP, Section 4.4). Although most of the advisory inspections were unannounced, City staff was not able to spend adequate time with business owners/managers during the unannounced visit. Therefore, staff now schedules the inspections in advance. City staff has developed a standard form letter notifying the business of the upcoming inspection and giving them an option of

setting up an appointment time. This gives the owner the ability to set aside some time to discuss their practices and show the Environmental Specialist around. However, City staff still inspects sites unannounced on occasion to ensure that the proper BMPs are being implemented (especially for high priority facilities). Additionally, if the City receives a call regarding a possible storm water violation, Code Enforcement Officers and/or the Environmental Specialist immediately respond and inspect the facility.

Documentation: The City developed an Inspection form that addressed several issues identified during the Advisory Inspections. First, business owners/managers wanted a copy of the Inspection form. Secondly, the form needed to be comprehensive, but not burdensome. And finally, the form needed to be tailored to commercial property, with a small space for the City's Industrial Sites. The form that the City developed was modeled after the forms used by the City of San Diego and the City of Vista. The form has been reproduced in duplicate so that the business owners receive a copy immediately after the inspection to keep on-site at the facility.

A significant addition to the inspection program occurred during this reporting period. The City further modified its inspection form, along with the other North County Cities, to include two assessment questions. This was done so that the cities in North County could get a better grasp of the knowledge of the particular business community. Up until this point, there was no way of assessing the inspection program, as inspections would only take into account what was seen at that particular time. With the addition of these questions, the North County Cities could now better understand the general knowledge of the business community to assess whether the overall program is successful.

Non-Compliance Citations: Subsequent to the City's submission of its JURMP, the City adopted an administrative fine procedure, which includes storm water violations. Storm water violators may now be fined up to $1,000 by the City for a significant failure to comply with the regulations, and/or for repeated warnings. *Four fines were issued* for storm water violations during this reporting period. The City had moved from the advisory/educational inspection mode of inspection into the compliance inspection mode during this reporting period. The City prefers voluntary compliance but will not hesitate to levy a fine if a site continues to be non-compliant.

The City has discovered that most violations are caused by mobile businesses such as mobile detailers, concrete pumpers, pressure washers, etc., that come

into town for a quick job and then immediately leave. These mobile businesses appear to cause most of the violations within the City, maybe because they don't think they will get caught or in rare cases, have no knowledge of the regulations. The majority of permanent Solana Beach business owners are very sympathetic to storm water issues and are more than willing to do what it takes to comply with the Permit. This is a very progressive and proactive environmentally conscious community and the businesses reflect that in the way they conduct business.

Post-inspection Processing: Information obtained during inspections was used to update the inventory database (see report section 4.1). It was not necessary to make any referrals or to report any non-compliant sites to the RWQCB.

4.5 Enforcement

To ensure the City Code Enforcement Officers have sufficient legal authority to enforce the new storm water regulations required by the Permit, the Solana Beach City Council revised its Municipal Code Chapter 13, Storm Water Management.

In addition, to facilitate more effective and timely remedies to enforce the Municipal Code, an administrative fine process was adopted by the City Council on June 18, 2002. The administrative fine process allows Code Enforcement Officers to issue administrative citations and penalties in between $100 and $1,000 for each day the offense / violation occurs.

However**,** the Administrative fine process makes provisions for Code Compliance to issue citations for violations of the City's ***storm water*** ordinance, in the amount of **$1,000.**

Table 4-4

Administrative Fine Assessments

Violation[1]	**Amount**
First violation	$100
Second violation within one year of first [2]	$200
Third violation within one year of first [2]	$500-1,000

[1] *Each day a violation exists.*

[2] *The second and third violation must be of the same ordinance, term or condition and occur within one year of the first violation*.

However, as described in last year's Annual Report, City staff found itself limited by this method of enforcement and developed a new Civil Penalty Matrix (Matrix) that is much more detailed than the previous method (Appendix D). City staff encountered different scenarios in the field that were not addressed in the previous method. The Matrix was patterned after the City of San Diego's Penalty Matrix with a few modifications that were necessary for the City of Solana Beach.

The Matrix proved very successful when it was utilized in the field because it gave City staff a reliable, unbiased approach to resolving violations onsite. Staff did not have to return to the office to consult with each other or their superiors before issuing the proper citation because the Matrix showed them action to take. It proved very difficult in the past to try and track down the violator after the fact to issue the citation. With the Matrix, Staff could issue the citation onsite and have the responsible party sign it to ensure they would pay. This is a much more efficient process than what was in place previously, and the Matrix will continue to be used in the years to come.

4.5.1 Citations

City staff tracks reports of violations of the Municipal Code on a daily basis. In FY 06/07, Code Enforcement Officers issued 15 written NOVs and 13 verbal warnings regarding violations of the City's storm water ordinance. In addition, four (4) violations required a citation for illegally discharging activities. It should be noted that no citations were given to permanent commercial facilities in the City, but to commercial activities taking place such as construction activities and illegal discharges from contractors and residents to the City's storm drain conveyance system. The following table describes the type of violation and the action taken by the City:

Table 4-5
Violations Requiring Citations

Responsible Party	Date	Violation	Amount
Kathie Eileen	11/14/06	Illegal discharge allowed to enter San Elijo Lagoon	$500
Del Mar Beach Club	4/26/07	Illegal discharge due to construction activities.	$500
Genaro Antonio Pacheco	5/3/07	Illegal discharge to storm water conveyance system	$100
Daniel Allen Welsh	5/9/07	Illegal discharge of red paint into storm water conveyance system	$200

4.5.2 Multifaceted Approach

The City recognizes that it was able to implement the aforementioned multifaceted approach to educate commercial property owners and conduct two inspections primarily because of the relatively few numbers of high-priority business facilities operating within the City. The City is aware that many other cities have not been able to implement such an aggressive education and enforcement campaign, but the City wishes to acknowledge the other Copermittees for their assistance in developing the program.

4.6 2005/2006 JURMP Comments from RWQCB

The 2005/2006 JURMP comment letter consisted of three comments for the Commercial component. They will be answered for both 05/06 and 06/07 under the same comment heading. They are as follows:

Comment 1 (Commercial):

The first comment requests the number of commercial facilities that received compliance inspections during the 05/06 reporting period. There seems to be a little confusion with how the City reports commercial NOVs. The 37 NOVs issued to commercial companies are for IC/ID violations, and none of them resulted from City permanent commercial facilities. The majority of these NOVs were for mobile businesses, such as mobile detailers, concrete pumpers, minor construction violations (drywallers, tile cutters, etc.) and power washing activities. *No NOVs were issued as a result of commercial facility inspections*. There were minor infractions such as loose trash on the ground and open trash dumpsters, but nothing that warranted a NOV on the spot.

The number of commercial inspections that occurred FY 05/06 was eleven. These included the higher priority sites such as gas stations, automotive repair facilities, golf courses, equipment rental yards and construction yards. The City inspected *all* of these facilities in its inventory. The City inspected these same eleven facilities during the FY 06/07 reporting period. The City decided to focus the inspections on higher priority facilities that have the most potential for discharging pollutants into the MS4. All of these facilities conduct activities that have a high potential for discharging pollutants, and most of them conduct business outside. *No NOVs were issued as a result of commercial facility inspections during the FY 06/07 reporting period.*

The majority of facilities that make up the City's inventory are restaurants, but the City has determined through restaurant inspections in the past that they do not

present a high probability of discharging pollutants into the MS4. Most of the restaurants in Solana Beach are self-contained, with very little outside activities. The highest probability locations for pollutant loading are the trash enclosures, which are routinely monitored by City staff drive-bys. If a particular location is identified as a frequent violator of trash enclosure BMPs (open lids, loose trash on the ground, evidence of spills, etc), then they will be inspected immediately and added to the inspection list.

Comment 2 (Commercial)

The second comment under the Commercial component pertains to the incorporation of the City's Grease Trap Ordinance into compliance inspections. Although not a requirement of the Permit, the City has actively enforced the ordinance on new as well as existing restaurants. The City has also developed a Grease Trap/Interceptor Waiver for the smaller eating and drinking establishments if the City determines they are exempt from this requirement. The goal of the ordinance was to require some older, heavy grease disposing restaurants to install a device to prevent grease build-up in sewer lines that may lead to sewer spills.

The City employed a very aggressive but cooperative strategy to gain compliance from the restaurant community. City staff visited every eating establishment in the City and informed them of the new regulations. A waiver was developed for those smaller establishments that would not expect to discharge significant amounts of grease, oils or fats to the sewer system, but still tied them to future improvements if those elements are found in the line at a future date. The City decided that it would focus its resources on those larger restaurants that are known to contribute heavy amounts of grease to the City's sewer system. City staff visited the larger restaurants (Fidel's, Don Chuy's, Tony Jacal's and the Fish Market) and walked them through the entire permitting process with the City and the County. The City is proud to announce that all those restaurants have active grease interceptors installed and functioning.

The City has not conducted storm water inspections at restaurants the last two reporting periods. As stated above, restaurants have not been identified as a high pollutant source in Solana Beach. All restaurants were inspected by the end of the second year of this Permit cycle as required by the Permit and stated in the City's JURMP. After that, they were to be inspected as needed. However, our Public Works Crew has confirmed that there is a significant decrease in the amount of grease found in the sewer lines downstream from these restaurants,

which was observed during annual sewer cleaning. So, it appears this program is working. Additionally, the City expects to ramp back up the restaurant inspections with the implementation of the new Permit. Restaurants will once again become a priority and will be inspected.

Comment 3 (Commercial)

The third comment regarding the Commercial component states that the City did not provide a complete account of commercial enforcement and follow-up actions. The City contains an extensive database of all complaints and violations that includes all follow-up activities. The list is pretty extensive but is available upon request. The following table is an excerpt/sample from the database but gives a good reference as to what the table consists of. All subsequent Annual Reports will include these tables for a quick summary of the reporting period's enforcement actions.

Table 4-6
Sample from Complaint/Contact Spreadsheet

Violation	Date	Responsible Party	Enforcement	Follow-Up Action
Washing down driveway with a hose and broom into street. No containment.	8/19/2006	663 Circle Dr. (Shedley Masonry and Concrete	Written NOV	Frank stopped the violation and educated the RPs. Homeowners came out to discuss as well and were concerned. Violation stopped, written NOV sent to RPs company
Run off from car washing into storm water system	10/2/06	825 Santa Regina	Written NOV	Written NOV sent to RP
Dan noticed a paint-like substance flowing down street and	10/20/2006	Las Brisas Condos	Written NOV	Dan made contact with RP and notified him of violation. The employee of

into Fletcher Cove parking lot. He traced it back to Las Brisas Condos where a company was performing maintenance on tennis courts.				Ferandell Tennis Courts Inc knew of the regulations, and he dumped two buckets into landscaping. However, he was unaware that there was an area drain in landscaped area and the paint discharged to the street. He cleaned up discharge. Written NOV sent.
Power washing the driveway and allowing the runoff to enter the San Elijo Lagoon. There was no containment attempt at all.	11/14/2006	368 Holmwood Lane	$500 citation	I investigated immediately and made contact with the RP. I confirmed that there were no BMPs in place and no attempt was made to contain the washwater. A toxic substance was allowed to enter a drain and empty into a canyon in the lagoon. I stopped work immediately and we got Code Enforcement onsite. The RP was a day laborer and there was no company or licensed contractor on-site. We tried unsuccessfully to

				contact the homeowner. OES was contacted about the toxic spill in lagoon. It did not reach RW, and OES notified the necessary agencies. The homeowner was finally contacted, a meeting will be held tomorrow afternoon with all agencies involved. A fine will be issued and cleanup and abatement order. $500 fine issued.
Asphalt cutting for sewer line	2/1/07	505 Glenmont Dr.	Written NOV	Violation cleaned up and verbal warning issued
Employees washing parking lot with no containment	3/28/2007	Parioli Restaurant	Written NOV	I investigated the complaint and detected the recently washed parking lot. I spoke to the owner who admitted to his employees washing water. I explained the regulations and he promised to comply. A written NOV was sent
Employee washing down sidewalk in	3/28/2007	240 South Cedros (Leaping Lotus)	Written NOV	Frank stopped the violation and educated the violator. Written

front of business				NOV sent
Frank witnessed an employee washing down sidewalk in front of business	3/28/2007	107 South Cedros (Carizma)	Written NOV	Frank stopped the violation and educated the violator. Written NOV sent
Water discharge at the DMBC due to some construction activities.	4/26/2007	Del Mar Beach Club	$500 citation	I investigated and noticed the discharge. RP was no longer onsite. I surveyed the area and there was a red discharge onto Highway 101 from RP construction activities. I contacted the property management and set up a meeting with RP. RP did not show up. Investigation followed with contractor and Board of Directors. Discharge was cleaned on 4/28/07. RP issued $500 citation.
Employee washing down outside entry and not recovering	5/3/2007	530 Lomas Santa Fe	Verbal Warning	I investigated and made contact with the RP. He stated he was not aware of the regulations

water.				and would comply in future. Verbal Warning issued.
Red paint water was discharged into street.	5/9/07	834 S. Highway 101	$200 citation	$200 citation was issued.
Washing down the street in front of 208 Barbara Ave with a hose, not containing the wash water.	6/22/2007	208 Barbara Ave	Verbal Warning	I stopped to investigate and spoke with property owner. Apparently there was a large stain in front of residence that he wanted to get rid of and he stated he was not aware of storm water regulations. I educated him and he instructed his contractors to stop washing the street. The wash water did not go far and was directed to a dirt area just west of residence. No water reached storm drain and his contractors will clean up mess. Verbal Warning issued.

Table 4-7
Breakdown of Enforcement Actions Taken

Type	Number
Written NOVs	15
Verbal warnings	13
Citations	4
Total contacts	47

4.7 New Activities and Improvements for FY 07/08

The City believes that the inspection activities for commercial sites are working very well, with all the kinks worked out within the last couple of years. There most likely will not be any new activities regarding the inspection process, although the City is committed to re-inventory every year because businesses do leave and change frequently. The City will continue to actively enforce the storm water regulations with all commercial facilities, with the goal of inspecting every high priority commercial facility annually (excluding restaurants).

The City will look to improve educational materials for commercial facilities. The City is committed to working with the other North County Cities (as well as the Regional Outreach Workgroup) to collectively put together educational materials with a consistent message. Additionally, the City will work with the respective Watershed Groups to alter inspection forms or processes if a consensus is met within the group. One new addition that was agreed upon by the Carlsbad Watershed Group was the inclusion of two assessment questions at the end of the inspection to gauge the knowledge and/or behaviors of the facility owner/manager. This was included to gain a better understanding of the level of knowledge of the responsible employees and see if their behavior changes over time. Hopefully, this will give the Copermittees a better assessment tool to analyze program strengths and weaknesses.

4.8 Summary

The City has successfully identified commercial facilities that pose a threat to water quality, devised a two-tiered inspection method to focus on education of the business owners first and has inspected all high priority businesses at least once (over the life of the Permit). The City has also developed an effective enforcement process and notified all high-priority businesses of required BMPs. For the most part, the businesses in this community have willingly adapted their

practices to meet the storm water regulations of the Permit.

The City's proactive approach of patrolling the City daily and stopping at sites where work is being conducted to discuss potential violations before there are discharges has greatly reduced the amount of NOVs and citations issued. The City has discovered that it is much more efficient and worthwhile to put forth the effort to stop a potential violation before it occurs rather than wait and deal with the consequences. So far, this proactive approach has been very successful, as most contractors appreciate City staff working with them, instead of the normal practice of regulating them.

CHAPTER 5
Residential Component

CHAPTER 5: RESIDENTIAL COMPONENT (EXISTING DEVELOPMENT)

In accordance with Permit Section F.3.d, this section of the report describes the City's efforts to prevent or reduce pollutants in runoff from existing residential development. There are *no changes* to this Component in the City's JURMP.

In each Annual Report to the RWQCB, this section will include any proposed modifications to the City's JURMP (Section 5.0, Residential Component) including prioritization of residential areas and pollutant source identification. Results from the City's efforts to implement BMPs will also be included. A summary of activities conducted post-reporting period may be included if the activity is deemed essential to understanding the City's efforts at reducing urban runoff or permit compliance.

The City conducted numerous community education discussions, distributed flyers and door-hangers and published articles in the City newsletter. The City also operated a 24-hour hotline for the community to be able to report any suspected violations or contact City staff. In addition, the City conducted its Household Hazardous Waste (HHW) collection and recycling program, which includes door-to-door services.

5.1 Pollution Prevention Methods

Polluted urban runoff in residential areas stem from activities associated with the following: automobile use, maintenance, cleaning, and repair; home and garden care; outdoor pets; outdoor washing activities; landscaping and home maintenance. The pollutants that can be generated by these activities (bacteria, detergents, heavy metals, grease, oil, herbicides and pesticides) are important to prevent from entering the City's MS4 to the best extent practical

The City continued several pollution prevention methods that reduce, prevent or mitigate the harmful pollutants in urban residential runoff. The City continued its HHW collection program, operated a 24-hour hotline for reporting violations and passed out flyers and brochures.

5.1.1 Hazardous Waste Collection and Recycling

Under the 1989 California Integrated Waste Management Act (AB939), cities are required to provide Household Hazardous Waste (HHW) collection programs to residents in order to limit the volume of HHW (paint, household cleaners, pesticides, car batteries, automobile waste) that might otherwise find their way

into a landfill, or worse, illegally dumped. For San Diego County, the HHW program had been funded by a tipping fee until 1997, when the County of San Diego sold the landfill system to private companies.

During the FY 06/07, the City of Solana Beach continued its partnership and the reciprocal use agreements with the cities of Vista, Poway and Escondido to provide permanent HHW drop-off service to City residents at a cost of $55 per vehicle. To encourage participation, the cost is picked up by the City of Solana Beach which was utilized by 118 participants this reporting period. Additionally, the City operates a door-to-door program where, for a small co-payment of $10 per visit, a service will come directly to the resident's house to pick up the Household Hazardous Waste so that residents do not have to drive to Poway, Vista or Escondido. The door-to-door home pickup program was utilized by 261 participants this year and the permanent facility was used by 118 participants for a total of 379. The City also has a program for senior citizens and homebound residents where the door-to-door service is provided free of charge, with the City paying for the service. These programs are offered to encourage the proper disposal of hazardous wastes to prevent it from entering and polluting our sensitive waterways. The program also includes the disposal of e-wastes, including TVs, computers, VCRs, etc.

The City keeps records of how many people utilized the program throughout the FY06/07. Records indicate that 379 participants utilized this program in FY06/07. In addition, a questionnaire is provided to the participants at the time of disposal to acquire useful information such as how they heard of the program and what types of wastes were disposed. Many respondents listed local programs such as the City's newsletter "*Shorelines*" and educational brochures as the source of their knowledge of this program. Other sources include the two local trash haulers (EDCO and Coast Waste), Solana Center for Environmental Innovation, searching the internet, and basic word of mouth. Obviously, this bodes well for the educational work of City staff and is a good indication that the City's educational program is effective at getting the word out to the community about environmental concerns, water quality, and opportunities to participate as the program continues to grow. Additionally, it shows the beneficial cooperation efforts between the City and its contractors. .

The City is a member of the Regional Solid Waste Association (RSWA). As a member, the City participates in a multi-city agreement with EDCO Waste and Recycling Services, Inc. (EDCO). As reported earlier, the agreement resulted in a very successful program for elderly and homebound City residents to dispose of HHW at their door, *at no charge to the residents*.

This agreement is necessary because the City of Solana Beach does not have the capacity to operate its own HHW facility within its jurisdictional boundaries. Without this RSWA agreement, the residents would have very limited options in dealing with the proper disposal of HHW. This would ultimately lead to the improper disposal of HHW, which would threaten the local waterways and sensitive environment. However, due to the foresight of the City government, the formation and participation in groups such as RSWA lead to increased opportunities for the community to protect the local environment. It also allows the City to subsidize the costs of disposal to assist the residents in properly disposing their HHW.

Recycling

As noted in the Introduction of this report, the City is a proactive agency working to improve the environment along with its partner in this effort, Solana Center (formerly known as Solana Recyclers). The City was the first city in the county to initiate a curbside recycling program.

Another component of AB939 requires cities to divert at least 50% of their total solid waste away from landfills, and the best way to accomplish this is through recycling. The percentage of waste that the residents of Solana Beach recycled in 2005 (the latest known total as of this reporting period) is 56%. This shows that the City's programs are working and the awareness of the residents is very high, as many of the cities in the region failed to reach 50%. The process of writing the 2006 AB939 report is underway, but not completed before this report was submitted. These numbers will be included in next year's report.

One significant modification to the City's solid waste and recycling collection occurred during this reporting period. As stated in last year's Annual Report, the City was participating in a pilot study to determine the feasibility of transitioning from manual trash and recycling collection to automated collection. Studies have shown that automated collection drastically improves recycling rates by providing more efficient "single stream commingled recycling." The large-scale transition resulted in a 22% increase in residential recycling, which is a huge success.

In addition, the residents received new trash and recycling containers that are more durable and have lids attached. This has drastically cut down on the amount of loose trash that frequently escaped the old resident supplied containers that were much lighter and easier to tip over, and frequently had no lids. This allowed for the animals and birds to get into the cans and spread trash around the neighborhoods, which can enter the City's MS4 system.

5.1.2 Annual Clean-up Day

Each October, the City hosts an Annual Clean-up day. The City's waste hauler provides roll-off containers for the collection of large appliances, yard waste, and scrap metal. Residents only need to bring their trash to La Colonia Community Center to drop off anything that they have, to save them a trip to the landfill, and it's *free of charge*. Additionally, Solana Beach residents who call the City's trash hauler can set up an appointment for *free curbside pick-up* and disposal of up to three bulky items up to three weeks prior to the event. It is well documented that the easier and more efficient it is for people to recycle or dispose of large items the more often they will do it. By offering this convenient, local and free of charge event, the less likely residents will dispose of their large items illegally, and keeping them out of our local waterways.

Each September, the City of Solana Beach participates in the annual Beach Clean-Up Day sponsored by the California Coastal Commission and I Love A Clean San Diego. The City hosted two sites again this year, one at Fletcher Cove and one in the San Elijo Lagoon, where residents came and spent the morning beautifying the local community. This event was another huge success with a combined 118 volunteers collecting 245 pounds of trash, and 80 pounds of recyclables.

5.1.3 24-hour Hotline

To assist residents in obtaining information, reporting suspected storm water violations or to report illegal dumping, the City operates a 24-hour "storm water hotline" during this reporting period. The hotline (858-720-4424) is available 24 hours a day, seven days a week, 365 days a year. The hotline is linked directly to the voice mail of the City's Environmental Specialist to increase efficiency and ensure prompt responses. This way, calls can be immediately fielded and handled in the appropriate manner.

5.1.4 Community Workshops

As previously discussed in last year's Annual Report, the City initiated monthly workshops in March of 2002 to educate the local community about the requirements of the Permit and the various storm water programs managed by the City. Workshops were scheduled and advertised in the North County Times, at City Council meetings, and flyers were distributed around town, including the local library. Unfortunately, only a handful of people attended the first few workshops.

City staff tried various methods to generate interest, including mailing flyers to "high priority" residential areas and hand delivering flyers to affected businesses, however few people attended. The City last hosted a community workshop in April 2003, and not one resident attended. It was decided at this time to suspend the community workshops and concentrate our efforts on outreach that has proven successful, such as; education during compliance inspections, education during daily driving rounds throughout the City and mailers with specific BMPs to specialized businesses.

During previous reporting periods, city staff met with local HOA groups to talk with them regarding storm water issues to bring back to their respective members. Staff developed additional handouts that some HOA's incorporated into their newsletters that are distributed to all members. Also, City staff wrote an article regarding the proper handling and disposal of grease in a local HOA newsletter that also included an article on picking up after pets. This particular HOA has had problems in the past and it is located directly adjacent to the Seascape storm drain outfall, a historically bad pipe with very high levels of bacteria. The City has worked closely with this particular HOA and property management staff to educate the residents to prevent bacteria from entering the City's storm drain system. More will be discussed about this relationship in the IC/ID Investigation chapter. These types of activities prove to be much a more effective and efficient use of Staff's limited time as opposed to holding poorly attended community workshops.

5.1.5 Pet Waste Bag Dispensers

The City installed and maintains Pet Waste Bag Dispensers to reduce the potential of pollution stemming from residents (and visitors) not collecting waste from their pets while walking. This was a measure added to hopefully help the high levels of fecal coliform detected at the Seascape Outfall revealed during wet and dry weather monitoring. The City has posted dispensers and signs to encourage their use. The program appears to be working very well because, during this reporting period, approximately 67,500 waste bags (up from 37,800 last year, 30,000 the year before that and 26,400 the first year this was documented) were utilized by the community.

5.1.7 Education and Outreach

The City's entire education and outreach program is provided in Chapter 9 of this report. Activities associated with the educating of residents are addressed in this

section, which may also be repeated in Chapter 9.

Shorelines articles:

The *Shorelines* is the City's Newsletter and Recreation Guide for community information. The newsletter is now distributed four times a year (Spring, Summer, Fall and Winter) to each resident and business within the City (up from twice annually in the past). It is one of the best methods to get information to the public about a variety of issues.

In the Summer 2006 issue (Appendix F), the City published articles relating to environmental education. These articles included:

- "New Local Recycling Options for Alkaline Batteries and Electronic Waste" This article discussed HHW and e-waste disposal options for local residents which now includes alkaline batteries.

- "San Elijo Reserve Receives National Wildlife Federation Certification"

- City of Solana Beach Department of Parks and Recreation Summer Camp Program Schedule, including "Fantastic Rain Forest" and "Ecology and Lagoon Exploration."

o In the *Shorelines* for Fall 2006 (Appendix F), the City published a variety of articles relating to environmental education and storm water activities. These articles included:

    - "Clean Oceans and Waterways or Clean Cars?"

    - "Solana Center FREE Watershed Presentations"

    - "Solana Beach Annual Bulky Item Clean-Up Day"

    - "Annual Coastal Clean-Up Day 2006"

    - "Beach Blanket Movie Night"

- In the *Shorelines* for Winter 2006 (Appendix E), the City published a variety of issues relating to environmental education and storm water activities. These articles included:

- ”San Elijo Lagoon Conservancy, 20 Years of Watershed Moments”
- “New Wastewater Pipeline Across Lagoon”
- “Solana Beach Welcomes: Automated Trash and Recycling”
- “Holiday Tree Recycling/Collection Program”
- “San Dieguito River Park”

- In the *Shorelines* for Spring 2007 (Appendix G), the City published a variety of issues relating to environmental education and storm water activities. These articles included:
  - ”San Elijo Lagoon Conservancy, 20 Years of Watershed Moments”

- In the *Shorelines* for Summer 2007 (Appendix H), the City published a variety of issues relating to environmental education and storm water activities. These articles included:
  - “The City of Solana Beach Water Quality Program”
  - “Sewer Forcemain Replacement Project”
  - “City Streets Make A Clean Sweep”
  - “Residential Automated Trash and Recycling Program Update”
  - “San Elijo Lagoon Lecture Series”
  - “City of Solana Beach Department of Parks and Recreation Summer Day Camps”
    - Oceans Week
    - Ecology and Our Environment
    - Rainforest Exploration

Brochures and Door hangers

In 2002/2003, the City collaborated with neighboring Copermittees (the cities of Del Mar, Encinitas, Oceanside, Vista, San Marcos, Escondido and Carlsbad) to develop several educational brochures. One particular brochure is referred to as the "door-hanger." The door-hanger is an excellent tool to inform groups or individual residents about pollutants that were found in their area, but may or may not have been contributed by them specifically. The door-hanger has a place for staff to leave their business card, indicate the types of pollution found (from landscaping to pet waste) and lists various specific BMPs for eliminating street and gutter debris in their area. Staff hopes that by placing the brochures around the entire neighborhood, residents will report to the City where the discharge came from or alter their behavior to prevent the discharge from occurring again.

Also in 2002/2003, the City collaborated with the other North County cities and created a brochure "*Only Rain in the Drain*," which is distributed at local community events and to visitors at City Hall, the Fire Department and Community Center. The brochure is also available at many community businesses. The brochure reviews Best Management Practices for residents and the need to prevent or mitigate pollution to the best extent practical. The brochure also provides a consistent message because all cities in the North County use it.

Staff distributed the door hangers and brochures to residents and business owners throughout the community. These educational materials have been used by Public Works staff, Code Enforcement Officers, and others and have been found to be an informative and effective tool. This includes those given out to neighborhoods during IC/ID and source tracking investigations, those given out individually during routine rounds around the City and any community fairs (Fiesta Del Sol) or regional workshops/events (about 2 a week on average for all activities, totaling approximately 104 distributed).

School Presentations

The Solana Center conducts school presentations for the City to local schools within the City's jurisdiction. As part of both trash haulers' contracts (EDCO and Coast Waste) with the City, they are required to provide funds for public outreach and education. Both haulers have chosen to contract out this work to Solana Center. Therefore, Solana Center provides school presentations regarding storm water issues to the local schools. These presentations include discussions about

the importance of preventing pollution from entering the streets, gutters and storm drains. The Enviroscape model is also used during these presentations. Details regarding the school presentations that Solana Center conducted during this reporting period can be found in Chapter 10, Public Participation.

Additionally, the City's Park and Recreation staff conducts a summer "ecology camp" for local children to educate them on various environmental issues, including stormwater and recycling. The children go on field trips and have classroom discussions. It is a very interactive classroom setting where the children are encouraged to participate and really engage in the various activities. The ecology camp is an annual program that will be utilized to educate the children in all environmental issues.

These are reported on in further detail in Chapter 10, Public Participation Component.

Tile Stenciling

All storm drain catch basins in the City currently have tile markers already installed. The construction standard described in the City's JURMP, with respect to the requirement that all curb inlets have a tile marker permanently affixed on the face side, continues to be enforced. All new development/construction projects are required to install tile markers on all new curb inlets. City staff also document broken or missing tiles when detected in the field and report back to the Environmental Specialist to install.

Web site

The City's Web site (http://www.ci.solana-beach.ca.us/) is another tool that can be utilized by residents to obtain information about the City's storm water programs. The Web site address is printed on most educational and outreach materials, printed in the City's newsletter, and linked to other storm water programs (such as thinkblue.org; ProjectCleanWater.org; and the County's Department of Environmental Health).

5.2 Threat to Water Quality Prioritization

During this reporting period, the City re-evaluated the drainage areas to identify those areas that potentially posed a high threat to water quality as set forth in the Permit section F.3.a.(3)(b). A detailed inventory of the high priority residential areas was provided in the JURMP, Table 5-1.

*There are **no changes** to report in the City's prioritization of high-priority residential areas from those submitted to the RWQCB in the City's JURMP (February 21, 2002).*

5.3 Implementation of BMPs

As noted in this report, Section 5.1 (Pollution Prevention), the City has implemented various methods to prevent pollution to the Maximum Extent Practical (MEP) standard from entering the City's MS4. The City indicated in its JURMP (Submitted February 21, 2002) the designation of several BMPs for the High Priority Residential Areas and Activities (see JURMP, Table 5-2).

The City has informed its residents, visitors, and business owners of the BMPs through the various methods described in Section 5.1 of this report.

One of the most significant differences between the City and other local agencies, is that runoff from residential automobile washing *is strictly enforced* by Solana Beach Code Enforcement Officials. City staff is often dispatched to reports of people washing their cars, and City procedures allow for several warnings before a citation is given, except in the case of mobile-car-washing businesses. In that instance, mobile car detailers are informed to cease their activity and immediately clean up the resulting discharge. Mobile detailers are cited for failure to comply if they refuse to discontinue or remedy the discharge. City staff records all violators and if they encounter them violating the Permit again within the City, they are immediately given an administration citation and fine.

Other BMPs that the City has informed residents about (besides those described in the JURMP) include those identified on Table 5.2, Household BMPs:

Table 5-2
Household BMPs

Potential Pollutant Activity	Description of BMP for Households
Water Runoff	Redirect water so that it does not leave private property. Adjust sprinklers to run for a shorter period of time.
Lawn and Garden Care	Use a nutrient test kit to eliminate unnecessary products and reduce the possibility of pesticides and fertilizers entering the storm drain.
Pet Waste	Dispose of pet waste properly (trash or toilet).

Gutter Debris	Clean out rain gutters, particularly, prior to the first rainfall and divert the rain gutter from roof onto landscaped areas.
Car Washing	Wash car at car-washing facility.
Household Hazardous Waste	Never wash paintbrushes, cans, or paint trays in a manner that will produce water runoff that enters the streets and storm water catch basins. Dispose of fertilizers, chemicals, herbicides, motor oil, and non-water based paint at a hazardous materials collection center:

5.4 New Activities and Improvement for FY 07/08

The City will continue implementing the activities described in the Residential Component of the City's JURMP. The focus will continue to be education through brochures, flyers, public announcements, community fairs and one-on-one contact. The City will look for ways to generate interest in community workshops although the results of a recent survey indicate that a very high proportion of residents are knowledgeable about storm water issues. Additionally, the Civil Penalty Matrix will continue to be implemented and analyzed to determine the effectiveness of it and make changes if necessary.

The new Permit adopted in January 2007 contains increased requirements for the residential sector. This is one key area that the Permit focuses on; so new programs will have to be developed by the City to address these requirements. There is also a focus on regional programs to address the residential sector, so the City anticipates working with the other Copermittees to develop these programs cooperatively to express a consistent message. The City will be working to develop these programs for implementation in FY 07/08.

5.5 Summary

The City has been successful at implementing the Residential Component of the JURMP including among other things:

- Provision of public pet waste bag dispensers (approximately 67,500 bags were utilized by the community during this year).

- Collaborating with neighboring jurisdictions (NCSWP) to develop several brochures, which have been distributed at local events, to City Hall visitors, and in neighborhoods.
- Using the City's Web site to post informative information about the City's storm water programs.
- Operating a 24-hour, 7 day a week storm water hotline that residents can report any storm water violations.
- Operating a community-wide hazardous waste collection program that offers door-to-door service for all residents.
- Implementing a new community-wide curbside single stream commingled recycling program for all residents.
- Providing opportunities for local school presentations regarding storm water issues.

CHAPTER 6
Land-Use Planning Component

CHAPTER 6: LAND-USE PLANNING COMPONENT (NEW DVLPMT)

In accordance with Permit Section F.1, this section of the report describes the City's efforts to prevent or reduce the water quality impacts from new and redevelopment projects through revisions to land-use planning processes. There are no significant changes to the City's JURMP to report in this component.

In each Annual Report to the RWQCB, this section will include new modifications to the City's General Plan (if any), review process for new and redevelopment projects, inventory of current public and private projects and activities associated with the Standard Urban Storm Water Mitigation Plan (SUSMP). Activities conducted post-reporting period may be included if the activity is deemed essential to understanding the City's efforts at reducing urban runoff or permit compliance.

The JURMP (Section 6.0: Land-Use Planning for New Development and Redevelopment) describes the City's plans to integrate new project review processes to require mitigation of urban runoff. In addition, the City adopted a SUSMP and submitted it to the RWQCB on December 13, 2002.

6.1 Assessment and Modification of General Plan

Effective land use planning can provide important water quality protections by controlling the type and placement of activities allowed in critical areas, and by providing a framework within which site-specific control measures may be identified and imposed during land development and redevelopment activities. As such, the General Plan is crucial to the long-term success of its water quality and environmental programs.

There were *no changes* to the General Plan during this reporting period.

6.2 Project Approval and Environmental Review Process Modifications

As noted in the City's JURMP, during this reporting period the City continued to evaluate its project approval process and planned to, or made some modifications to the process for approving new and redevelopment projects. As noted in last year's Annual Report, the plan check routing sheet was further modified to include additional information regarding storm water management. The intent of the modifications is to ensure that pollutants and runoff from development will be reduced to the maximum extent practicable (MEP) standard and/or will not contribute to an exceedance of receiving water quality objectives.

Project Applicants (Applicants) are required to submit a detailed project application, which addresses a variety of concerns, including urban runoff and environmental impacts. The project application provides an opportunity for City staff and/or City Council to determine whether or not the project will be exempt from the California Environmental Quality Act (CEQA) process. If the project is subject to CEQA, the environmental impacts of the project must be reviewed and depending on the potential impacts, a more substantial environmental impact report (EIR) may be required.

As reported in previous Annual Reports, every applicant who inquires about a particular project at the City Hall counter will be given a copy of the City's Construction BMP Brochure (Appendix M). This is being done to ensure that every person will have received a copy of the City's educational guide, many times more than once. Additionally, the plan check routing sheet was previously modified to include a separate box to check when the applicant receives the BMP guide. The project will not be approved until the box is checked. This was done not only to ensure that all applicants receive the guide, but as well as helping the Code Enforcement Department enforce violations much more efficiently. For example, if there is a storm water violation at a particular project, staff can now go back and check the plan check routing slip to see if the applicant received the BMP guide. If the box is checked, then staff knows that they have the guide and should be aware of the proper regulations, therefore increased enforcement can be taken.

As reported in last year's Annual Report, a significant addition occurred to the plan check process during FY 05/06. Any project that increases the impervious area of a site by a minimum of 1,000 square feet must complete a Storm Water Plan Check Comment Form (Appendix J). This sheet requires a variety of information to ensure that there will be no additional run-off as a result of the project. The first requirement is the preparation of an Erosion Control Plan. Also, the applicant must demonstrate that the project *does not increase stormwater runoff*. Lastly, the applicant must demonstrate that they are implementing and maintaining all precautionary measures necessary to ensure that pollutant discharges from the site *will be reduced to the maximum extent practicable*. All additional storm water must be completely contained and treated onsite. This is not required by the Permit, but the City believes that it would be prudent to address this issue on such a small scale because of the relative abundance of these smaller projects within the jurisdiction and the lack of larger scale projects that would otherwise be dealt with through the SUSMP process. Instead of

ignoring these projects all together, the City felt it would be in its best interests to review these “minor” projects to ensure that most new construction and redevelopment would address these storm water concerns.

During this reporting period, another significant modification to the plan check process occurred. The plan check routing sheet was further modified to include another section titled *Environmental* (Appendix K). This section was included to ensure that *all* plans submitted would be reviewed for storm water implications, no matter how small or relatively insignificant. Previously, plans would be routed through the Engineering Department and if the Engineering Technician determined that it warranted further review, the plans would be passed through to the Environmental Specialist. The process was modified to ensure that all plans would be reviewed just in case something was missed or overlooked. The City believes that plan review is essential to ensuring storm water compliance, so we are doing everything possible to make sure it is done thoroughly and accurately. This new and improved process resulted in the Environmental Specialist reviewing 286 plans during this reporting period.

In addition to the CEQA review process, all applicants must obtain a permit from the California Coastal Commission (CCC) because the City does not have a Local Coastal Plan. The City also has strict environmental standards requiring compliance and governing land-use planning and construction.

The application includes some of the following questions:

- Financial interest of all parties who own, or intend to own the property.

- Proof that all owners of record within 300 feet of the exterior boundaries of the property have been noticed of the intent to develop (this allows opportunity for public participation in the process).

- Present use of property and proposed development description (commercial, residential, mixed use, etc.).

- Current floor area ratio (FAR) and proposed (this allows review of the proposed change in impervious to pervious surface area). The City has a strict FAR and prohibits development within 40 feet of the western edge of the coastal bluffs.

- Proposed area to be graded (this allows the Engineering Department to

assess potential erosion and runoff).

- Environmental condition of property (vegetation, drainage, noise, etc.) and neighboring properties.

- Business Applicants are required to submit information pertaining to the types of hazardous materials, whether or not industrial wastewater will be discharged in the property *and/or* off the property.

6.2.1 Project Requirements

As mentioned above, applicants are required to submit plans for all new and redevelopment of current structures to both the Planning and Engineering Department prior to approval. The Engineering Department reviews the project's grading and construction plans for potentiality of contributing to urban runoff. The City Engineering Department also determines the appropriate BMP requirements for each project and attaches the Storm Water Plan Check Comment form to the project plans and returns the plans to the applicant for modification, if required. Applications may be required to submit one or more of the following:

- An Erosion Control Plan (which requires BMPs to manage storm water and non-storm water discharges from the site at all time and shall emphasize sediment control).

- Evidence that the project will not increase storm water runoff.

- Storm Water and Non-Storm Water Runoff Control (this requirement address long-term control of runoff and may require structural modifications to direct discharges into permeable areas such as landscaping).

In addition, all grading projects are required at a minimum to include the following:

- Source control BMPs for all projects expecting to generate runoff.

- Implementation of site design/landscape measures to reduce and/slow runoff, minimize impervious to previous ratio, maximize infiltration and promote alternative driveways and parking lots to include pervious land surfaces (as described in detail in the City's JURMP).

- Implementation of buffer zones for natural water bodies, where feasible and if

not, trees, lighting and access restrictions are required.

- Industrial applicants are also required to provide evidence of coverage under the California General NPDES Permit for Storm Water Discharges Associated with Industrial Activities.

- Applicants are required to be in compliance with the City's current grading and storm water management ordinances, inspection requirements, general requirements for construction activities during the wet and dry season and implementation of appropriate BMPs to control erosion and runoff.

6.2.2 SUSMP

The City participated with other Copermittees in the development of the model Standard Urban Storm Water Mitigation Plan (SUSMP), which was approved by the RWQCB on June 13, 2002. The Solana Beach City Council adopted the City's SUSMP on December 3, 2002, which was submitted to the RWQCB on December 13, 2002.

The SUSMP addresses post-construction urban runoff pollution from new development and redevelopment projects that are designated as "priority projects" under the Permit. Most of the criterion that specifies which projects will be priority projects will not be applicable to the majority of City projects. The reason for this is that the City of Solana Beach is more than 95% "built-out" and primarily a residential community with small-business commercial properties (there are a few large commercial sites in the City). As a result, the City made few modifications to the Model SUSMP that was developed collectively by the Copermittees for its SUSMP. Over time, City staff will evaluate the effectiveness of the SUSMP and discuss changes to the Plan in this section of the Annual Report.

During this reporting period, the City of Solana Beach had *two projects* approved subject to the SUSMP requirements. These will be described in the following Construction Chapter.

However, the City's Planning Department (also referred to as Community Development Department) is well aware of the SUSMP requirements and is consistently on the look out for potential projects that may fall under the SUSMP requirements. The Engineering Department handles all of the BMP review for the City, however, the Planning Department is the first department to review

applicant plans.

6.3 Education

Municipal Staff Education

The City of Solana Beach is a very intimate, cooperative group. All departments work very well with one another because they are forced to do so on a daily basis to serve the relatively small community. This makes training and education a much easier task.

The previous formation of the storm water team brought together the directors of all the different departments (Planning, Engineering, Public Works, Assistant City Manager, Public Safety Chief, Code Enforcement Officers, Environmental Specialist, City Attorney and City Inspector) and forced them to discuss storm water issues and come up with solutions collectively. In turn, the directors would educate their respective employees on the specific tasks they were to perform. This was a very effective and efficient way to educate the Municipal Staff when the Permit was first adopted and the JURMPs were initially being implemented.

City staff welcomes additional training opportunities and often seeks outside training opportunities to keep up with the ever-changing storm water universe. Part of the City's budget is specifically earmarked for training expenses to encourage Staff participation. Additionally, numerous consultants have made presentations to City staff regarding the latest technologies in the protection of water resources, including techniques to reduce erosion, bacteria and other COCs in urban runoff. City staff is always seeking new training opportunities to stay on top of this rapidly evolving field. The City's budget specifically allocated $1,700 for training and conferences in the Environmental Services budget for the FY 06/07.

Owner / Developer Education

The City has developed a counter handout, *Stormwater Best Management Practice (BMP) Guide for Construction and Building Activities* (see Appendix L). The handout explains how to control erosion and urban runoff during pre and post-construction activities and provides a description of General Construction BMPs. In addition, the City suggests that Applicants consult the California Construction Stormwater BMP Handbook and the Caltrans Stormwater Quality Handbook for technical assistance.

Also, as reported in last year's Annual Report, the City collaborated with the

other North County cities to develop and distribute the Construction BMP Brochure (Appendix M). These brochures are distributed at the counter, at pre-construction meetings and in the field during inspections.

In addition, the City sends a “Rainy Season Reminder” to all current and active private projects within the City as a tool to educate and remind project owners and developers about the need to strictly adhere to the erosion control requirements during the rainy season.

Inspections are another opportunity staff utilizes to educate owners and developers about City and State runoff and erosion requirements. During inspections, the City Inspector points out problem areas and requires mitigation compliance immediately. If an owner or developer fails to comply, increased enforcement including fines can be levied and the City Inspector has the authority to halt construction practices.

The City has implemented similar procedures for public projects as those utilized for private projects. That is, during pre-construction meetings (for grading projects) the requirements for erosion control and runoff management are discussed; the City Inspector makes daily inspections of the construction site to ensure appropriate BMPs are implemented and verifies effectiveness; and if necessary, the City Inspector will require modification of practices and activities to reduce runoff or control erosion.

6.4 New Activities and Improvement for FY 07/08

The City will continue implementing the activities described in the Land-Use Planning Component of the City’s JURMP. In addition, with the implementation of the SUSMP, the focus for FY 07/08 will include the continued implementation and education of planning staff, builders, residents, and the community at-large as to how regulations of the SUSMP will impact construction. A more streamlined and effective approach will be implemented during permit application to ensure that all applicants are fully aware of the storm water regulations and the consequences of not adhering to them.

In addition, the new Permit will require updates to the City’s municipal code that will significantly affect this component. The new Permit will necessitate ordinance changes, specifically to the Stormwater Management section (13.10) and the Grading Ordinance (15.40). These changes will be described in more detail in next year’s Annual Report.

6.5 Summary

The City has successfully implemented the Land-use Planning Component of the JURMP. Some of the key accomplishments include:

- Education of planning staff, owners/developers and the community regarding changes in planning processes.
- Implementation of new procedures to ensure new and redevelopment projects do not contribute to an exceedance in water quality standards.
- Addition of Environmental section of permit routing sheet to ensure *all* plans/projects are reviewed by Environmental Specialist for storm water issues.
- Increased cooperation between City departments in implementing SUSMP requirements.

CHAPTER 7
Construction Component

CHAPTER 7: CONSTRUCTION COMPONENT

In accordance with Permit Section F.2, this section of the report describes the City's efforts to prevent or reduce water quality impacts from construction site activities. Some portions of the City's JURMP for this Component have been modified in response to the Best Professional Judgment (BPJ) of City staff. Noteworthy modifications to the program will be discussed within this section of the report.

In each Annual Report to the RWQCB, this section will include modifications to the City's inventory of active construction sites (private and public), modifications to the City's policies or Municipal Code with respect to construction activities, modifications to identified potential threats to water quality. In addition, this section of each Annual Report will include results from the City's efforts to require BMPs at construction sties and program accomplishments. Also, a summary of activities conducted post-reporting period may be included if the activity is deemed essential to understanding the City's efforts at reducing urban runoff or Permit compliance.

During this reporting period, the City conducted an evaluation of its construction practices and inventoried existing construction sites in an effort to understand potential sources of pollution, threats to water quality, and to develop a plan to mitigate or eliminate urban runoff and pollution from these construction sties by requiring BMPs.

7.1 Modification of Grading Ordinance

There were *no modifications* of the Grading Ordinance during this reporting period. The last significant modification occurred June 30, 2005 in which the grading threshold was lowered from 200 cubic yards to 50 cubic yards for all construction projects, meaning much smaller projects that would not normally be scrutinized for storm water management would now be required to go through the grading permit process. This gave City staff more discretion on smaller projects to require storm water mitigation, and with it, gave Staff more power to enforce the installation and/or site design modifications to that would not have been required if a grading permit were not necessary.

7.2 Modification of Construction and Grading Approval Process

The modifications to the City's processes for project approvals are described in detail in the previous chapter of this report (Chapter 6). Although Chapter 6 specifically addresses Land-use Planning, the discussion included a description of various processes that Project Applicants must proceed with in order to obtain approval of their construction plans. Chapter 6 also describes the improvements made to the plan check routing slips as well as the increased education efforts City staff has made to ensure Permit compliance.

The Storm Water Plan Check Comment Form (see Appendix J) may require the Applicant to submit an Erosion Control Plan, proof that the project does not increase runoff from the property and/or implementation of structural changes to redirect runoff onto impervious surfaces.

The City also continued implementation of the SUSMP process during this reporting period, and there were *two projects that required the SUSMP process review* (see Table 7-1 below for more information on these projects). The City does not anticipate many projects that will fall under the SUSMP guidelines, since the City is 95% "built out." However, any project that may be proposed that fall under the guidelines will be put through the process. Planning staff and Engineering staff have been trained and are aware of the SUSMP requirements, and will implement the program when appropriate.

As reported in last year's Annual Report, a significant improvement to the building permit routing sheet that occurred this reporting period was the addition of the *Environmental* section (Appendix K). As noted in Chapter 6, the routing sheet was modified to ensure *all* permit applications were thoroughly reviewed by the Environmental Specialist. Last year's revision was necessary to bring the Environmental Specialist into the review process for larger projects, but the City felt it necessary to completely involve the Environmental Specialist in *all plan reviews* to bring consistency to the process.

7.3 Construction Site Inventory

This section of each Annual Report will include an inventory of construction sites active during this reporting period. Given that the reporting period for these Annual Reports ends approximately six months prior to the submittal of the report, the inventory will most likely be outdated by the time the report is reviewed by the RWQCB. However, the City maintains an inventory of current

construction project sites, which is always available for review. In addition, the Planning Department maintains an inventory of proposed sites and projects. Large private project (commercial sites, multi-unit housing, etc.) may remain on the "active" inventory for a significant period of time.

As shown on Table 7-1, there are currently seven major construction sites active within the City. In addition, City Engineers are in constant discussions with private project property owners during the plan check process to ensure their projects include an Erosion Control Plan, modify drainage alterations to re-route runoff to pervious surface areas, proof that the project would not result in an increase in runoff from the site or other various structural BMPs, and require all projects to control and mitigate all run-off before it reaches the City's MS4 system (Table 7-2). Also, all grading permits require an Erosion Control Plan.

Table 7-3 is a list of all *new* grading projects that required an erosion control plan and proof that the project would not result in an increase in runoff from the site. Table 7-4 is a list of all follow-up activity to construction site inspections. As you can see, most construction sites within the City are in compliance due to the fact that there are relatively few sites and City staff can work with the contractors on an individual basis and spend more time with them in the field. The advisory notices described in this table are the result of visual inspections pre and post storm events where City staff visit all sites and list any problems detected prior to a storm and right after the storm is over. This is performed prior to a rain event to ensure that all sites have proper erosion control BMPs installed and post rain event to see if any deficiencies are detected that need to be addressed.

Table 7-1

Construction Site Inventory- Large Grading Projects 2006/2007

Project Name and Location	Priority Category	Current Zoning	Type of Construction	Project Size	Hydrologic Unit	Drainage	Draining to 303(d) listed water?	303(d) Pollutants of Concern	Required BMPs
Rosa Pedestrian Bridge	Medium	Commercial	Pedestrian Bridge	<1 acre (Ped Bridge)	San Dieguito	NCTD private drainage, to San Dieguito Lagoon	Yes	Coliform	Storm Water Management Plan. Erosion Control Plan
Santa Fe Christian School 838 Academy Dr.	Medium	Medium/High Density Residential	Redevelopment and Expansion of School Facility.	15.65 Acres (Entire Site)	San Dieguito	Stevens Creek, which drains to San Dieguito Lagoon.	Yes	Coliform	Erosion Control Plan pre/post construction. Low flow drainage diverted to playing fields—acts as constructed biofilter as required by City
Fletcher Cove Community Park	High (Public)	Park	Construction of community park	> 1 acre	Pacific Ocean	Runoff drains to Pacific Ocean. Low flow drainage to sewer system through low-flow diverter	Yes	Ocean – Coliform	SWPPP required; Erosion Control Plan; pre/post construction runoff mitigation. Installation of CDS Unit, shower drains to sewer through existing Low-Flow diverter, increased landscaping for infiltration
140 North Rios	Medium	Residential	4-unit subdivision	< 1 acre	San Dieguito	Runoff drains to San Dieguito Lagoon	Yes	San Dieguito-Coliform	Erosion Control Plan; pre/post construction runoff mitigation.
Boys and Girls Club – 537 Lomas Santa Fe	High	Public Institution	Construction of New Pool, Retaining wall, Etc	2.96 acres	San Dieguito	Runoff drains to Steven's Creek- Then to San Dieguito Lagoon in the south.	Yes	San Dieguito-Coliform	SUSMP required. SWPPP required; pre/post construction runoff mitigation. Installation of CDS unit and catch basin insert filters

American Assets Commercial Property Remodel – Including Parking Lot	High	Commercial	Construction of Additional Retail – Reconfiguring of Parking Lot	.8 acres	San Dieguito	Runoff drains to Steven's Creek- Then to San Dieguito Lagoon in the south.	Yes	San Dieguito-Coliform	SUSMP required. pre/post construction runoff mitigation. Installation of CDS unit
Solana Beach Sewer Forcemain Project	High	Open Space	Replacement of existing 45 year old sewer forcemain underneath San Elijo Lagoon	1.1 miles underneath San Elijo Lagoon	Carlsbad	Runoff drains to San Elijo Lagoon	Yes	Carlsbad-Coliform, Sediment, Nutrients	Primarily underground trenchless work. Erosion Control Plan required. Daily inspections due to highly sensitive location. Spill response plan required.

Table 7-2

Construction Site Inventory

Small Private Projects Requiring Plan Review/Modifications

Address	Type / Priority	General Storm Water Comments	Storm Water Plan Check Comment Form	Comments
787 Avocado Ct.	Residence / Low	Yes	No	Storm Water BMPs required throughout project, no discharges allowed off-site
723 Barbara Ave.	Residence / Low	Yes	No	Storm Water BMPs required throughout project, no discharges allowed off-site
339 Barbara Ave.	Residence / Low	Yes	Yes	Erosion Control Plan Needed. Proof runoff not increased. Location of Impervious drainage required to be shown on plans.
720 Barbara Ave.	Residence / Low	Yes	No	Storm Water BMPs required throughout project, no discharges allowed off-site
319 Barbara Ave.	Residence / Low	Yes	No	Storm Water BMPs required throughout project, no discharges allowed off-site
440 Canyon Dr.	Residence / Low	Yes	Yes	Erosion Control Plan Needed. Proof runoff not increased. Location of Impervious drainage required to be shown on plans.
136 S. Cedros Ave.	Residence / Low	Yes	Yes	Erosion Control Plan Needed. Proof runoff not increased. Location of Impervious drainage required to be shown on plans.

200 N.	N. Cedros Ave,	Residence / Low	Yes	No	Storm Water BMPs required throughout project, no discharges allowed off-site
228	S. Cedros Ave.	Residence / Low	Yes	No	Storm Water BMPs required throughout project, no discharges allowed off-site
337 + 341	S. Cedros Ave.	Residence / Low	Yes	No	Storm Water BMPs required throughout project, no discharges allowed off
205	Estrella Street	Residence / Low	Yes	No	Storm Water BMPs required throughout project, no discharges allowed off
651	North Granados Ave.	Residence / Low	Yes	No	Storm Water BMPs required throughout project, no discharges allowed off
218	N. Helix	Residence / Low	Yes	No	Storm Water BMPs required throughout project, no discharges allowed off
228	S. Helix	Residence / Low	Yes	No	Storm Water BMPs required throughout project, no discharges allowed off
915	Highlander Drive	Residence / Low	Yes	No	Storm Water BMPs required throughout project, no discharges allowed off
1426	Highland Drive	Residence / Low	Yes	No	Storm Water BMPs required throughout project, no discharges allowed off
1445	Highland Drive	Residence / Low	Yes	No	Storm Water BMPs required throughout project, no discharges allowed off
445	N. Highway 101	Residence / Low	Yes	No	Storm Water BMPs required throughout project, no discharges allowed off

973	Jeffery Rd.	Residence / Low	Yes	No	Storm Water BMPs required throughout project, no discharges allowed off
817	Juanita St,	Residence / Lowe	Yes	No	Storm Water BMPs required throughout project, no discharges allowed off
200	Marine View.	Residence / Low	Yes	Yes	Erosion Control Plan Needed. Proof runoff not increased. Location of Impervious drainage required to be shown on plans.
454	Palmitas	Residence / Low	Yes	No	Storm Water BMPs required throughout project, no discharges allowed off-site
760	Ramona Pl.	Residence / Low	Yes	Yes	Erosion Control Plan Needed. Proof runoff not increased. Location of Impervious drainage required to be shown on plans.
624	Ridgeline Pl.	Residence / Low	Yes	No	Storm Water BMPs required throughout project, no discharges allowed off
208	S. Rios Ave.	Residence / Low	Yes	No	Storm Water BMPs required throughout project, no discharges allowed off
217	S. Rios Ave.	Residence / Low	Yes	No	Storm Water BMPs required throughout project, no discharges allowed off
508	N. Rios Ave.	Residence / Low	Yes	No	Storm Water BMPs required throughout project, no discharges allowed off
510	N. Rios Ave.	Residence / Low	Yes	No	Storm Water BMPs required throughout project, no discharges allowed off
701	N. Rios Ave.	Residence / Low	Yeas	Yes	Erosion Control Plan Needed. Proof runoff not increased.

					Location of Impervious drainage required to be shown on plans.
949	San Lorenzo Ct.	Residence / Low	Yes	No	Storm Water BMPs required throughout project, no discharges allowed off-site
313	San Lucas Dr.	Residence / Low	Yes	Yes	Erosion Control Plan Needed. Proof runoff not increased. Location of Impervious drainage required to be shown on plans.
404	San Lucas Dr.	Residence / Low	Yes	No	Storm Water BMPs required throughout project, no discharges allowed off
493	Santa Dominga St.	Residence / Low	Yes	No	Storm Water BMPs required throughout project, no discharges allowed off
972	Santa Estella	Residence / Low	Yes	No	Storm Water BMPs required throughout project, no discharges allowed off
1107	Santa Gabriella	Residence / Low	Yes	Yes	Erosion Control Plan Needed. Proof runoff not increased. Location of Impervious drainage required to be shown on plans.
1032	Santa Queta	Residence / Low	Yes	No	Storm Water BMPs required throughout project, no discharges allowed off
443	Seabright Lane	Residence / Low	Yes	No	Storm Water BMPs required throughout project, no discharges allowed off
515	Seabright Lane	Residence / Low	Yes	Yes	Erosion Control Plan Needed. Proof runoff not increased. Location of Impervious drainage required to be shown on plans.

533	S. Sierra	Residence / Low	Yes	No	Storm Water BMPs required throughout project, no discharges allowed off
305-307	W. Solana Circle	Residence / Low	Yes	No	Storm Water BMPs required throughout project, no discharges allowed off
1530	Uno Verde Ct.	Residence / Low	Yes	Yes	Erosion Control Plan Needed. Proof runoff not increased. Location of Impervious drainage required to be shown on plans.
505	Via De La Valle	Residence / Low	Yes	No	Storm Water BMPs required throughout project, no discharges allowed off-site
400	Marine View	Residence / Low	Yes	Yes	Erosion Control Plan Needed. Proof runoff not increased. Location of Impervious drainage required to be shown on plans.
127	S Rios	Residence / Low	Yes	Yes	Erosion Control Plan Needed. Proof runoff not increased. Location of Impervious drainage required to be shown on plans.

Table 7-3
Construction Site Inventory
Small Grading Permit Projects 2006/2007

Project Name and Location	Priority Category	Current Zoning	Type of Construction	Watershed	Required BMPs
825 Gonzales St.	Medium	Residential	SFR	San Dieguito	Erosion Control Plan Needed. Proof runoff not increased. Location of Impervious drainage required to be shown on plans.
347-355 Pacific Ave.	Low	Residential	Upper bluff reconstruction	San Dieguito	Storm Water BMPs required throughout project, no discharges allowed off
228 S. Cedros Ave.	Medium	Special commercial	Office Building	San Dieguito	Erosion Control Plan Needed. Proof runoff not increased. Location of Impervious drainage required to be shown on plans.
208 S. Rios Ave.	Medium	Low residential	SFR	San Dieguito	Erosion Control Plan Needed. Proof runoff not increased. Location of Impervious drainage required to be shown on plans.
339 Barbara Ave.	Medium	Med/high residential	SFR	San Dieguito	Erosion Control Plan Needed. Proof runoff not increased. Location of Impervious drainage required to be shown on plans.
734 Ida Ave.	Medium	Medium residential	SFR	San Dieguito	Erosion Control Plan Needed. Proof runoff not increased. Location of Impervious drainage required to be shown on plans.

Table 7-4

Public Projects Pre-Construction Meetings 2006/2007

DATE	PROJECT	DETAILS
8/4/06	Soil for grading permit	Erosion Control/Storm Water requirements discussed.
8/4/06	Import fill for bluff repair project	Erosion Control/Storm Water requirements discussed.
8/10/06	2006 Street Repair and Slurry Seal project	Erosion Control/Storm Water requirements discussed.
8/31/07	Fletcher Cove park improvements	Erosion Control/Storm Water requirements discussed.
9/7/06	Distillery Parking Lot Improvements	Erosion Control/Storm Water requirements discussed.
9/7/06	Solana Beach Forcemain Replacement Final Design	Erosion Control/Storm Water requirements discussed.
11/27/06	Temporary Use Permit for construction staging areas	Erosion Control/Storm Water requirements discussed.
2/6/07	Cliff Street bicycle/pedestrian bridge	Erosion Control/Storm Water requirements discussed.
6/26/07	Highway 101 rubberized asphalt overlay	Erosion Control/Storm Water requirements discussed.

**Table 7-4 is not meant to be part of the Construction Inventory. This table is simply to demonstrate that the City conducts Pre-Construction Meetings prior to public projects and that storm water issues are discussed. The projects that require storm water inspection oversight from this table are included in their respective tables (Table 7-1, 7-2 and 7-3).*

Table 7-5

CONSTRUCTION FOLLOW-UP ACTIVITIES 2006/2007

DATE	PROJECT	Violation Type	TYPE OF FOLLOW UP
12/14/2006	505 Glenmont	BMP Installation Incomplete	Verbal Warning
12/14/2006	825 Gonzales	BMP Installation Incomplete	Verbal Warning
1/8/2007	Solana Beach Forcemain	Perimeter Protection BMP Installation	Written NOV
1/30/2007	602 Glenmont	General BMP Installation and Maintenance	Written NOV
1/30/2007	454 Palmitas	General BMP Installation and Maintenance	Written NOV

Construction Follow-Up Activities:

The City is very aggressive with its follow-up activities, and unless otherwise stated, all follow-up activities were properly addressed and corrected within seven (7) working days. Many times the corrections are made immediately, however the City's policy is to allow the responsible party seven days to correct the violation. However, if there is an immediate threat to public health or safety, the City can require immediate corrective actions. All five violations above were corrected within the seven (7) day window.

7.3.1 Capital Improvement Projects Inventory

In addition to the inventory for private projects, City staff believes it is equally important to discuss both public (Capital Improvement Projects [CIPs]) and private projects under construction.

CIPs are held to the same *or stricter* standards for reducing runoff as private projects. BMPs, Erosion Control Plans, and structural changes to reduce or mitigate runoff pre and post-construction are required. Most, if not all, CIPs in Solana Beach are constructed by private contractors selected through the standard public bid process. Contractors are informed *prior to submitting a bid,* that the City requires adherence to RWQCB standards, Permit and City storm water regulations. To ensure compliance the City Inspector conducts a daily inspection of each CIP site during construction. Stop Notices are issued if the contractor fails to comply with any storm water / erosion control regulations.

Additionally, the Environmental Specialist is included in pre-construction meetings that are required for *all* public projects. A line item discussing NPDES regulations and requirements is standard for all public project agendas (Appendix N). This is just another way to ensure that all contractors are aware of the requirements before the project begins, and to help with possible enforcement actions.

In FY 06/07, the City Inspector did not issue any Stop Notices to contractors for failing to comply with storm water/erosion control regulations.

7.4 Threat to Water Quality Prioritization

In accordance with Permit Section F.2.e., the City described the criterion for designation of construction projects as high, medium, or low priority, in its JURMP. *There are **no changes** to report in the City's criterion for determining a project's impact or threat to water quality.*

Of the active projects currently under construction, *there are no changes to report with respect to the potential threat to water quality*. The City is 95% "built out" which does not leave much room for major development projects. The only projects that would fall under the high priority would be significant redevelopment projects, which there were none of during this reporting period. The City is closely monitoring three potential projects that may fall under the high priority in the next reporting period, pending permit approval. It is important to note that

City staff is currently working with the prospective developers to ensure they integrate beneficial storm water designs during the design phase. The following projects are being closely monitored by City staff:

1) Multiple plans have been submitted to the City to build a hotel/restaurant and condos on the east side of Highway 101 at the northern tip of the City (commonly referred to as the Magellan site), however it has been met with some opposition within the community and a compromise is being sought. Plans still have not been adopted by the City Council at the time of this report. If a project is accepted for development in that area during the next reporting period, it will be a high priority project subject to the SUSMP process because of its proximity to the San Elijo Lagoon, a 303 (d) listed water body.

2) Another *potential* high priority project that is being discussed is a large multi-use residential/commercial development on what is currently the North County Transit District's (NCTD) train station property. This proposed project has also come under heavy scrutiny from the public and no plans have been approved by the City. If a project is accepted for development on this site during the next reporting period, it will be a high priority project because of its size. It will be subject to the SUSMP requirements much like the project mentioned above.

3) A potential high priority project that is still in the planning stage is the significant redevelopment of a portion of a commercial property located just east of Interstate 5 at Lomas Santa Fe. Currently, there exists a large commercial site consisting of multiple large stores, including Vons, Marshalls and a Big 5 Sporting Goods store. The site contains a large parking lot and conceptual plans have been discussed that would add another large store to the complex and redevelop another portion of the existing buildings. This project would be significant for Solana Beach and is being closely monitored through the beginning stages of the design.

The City's Capital Improvement Projects, available upon request, will be considered at least a medium priority for several reasons. First, priority categories may only result in a change in the frequency of oversight and the City Inspector visits each public construction site on a daily basis, which therefore eliminates the need for delineation in priority. Second, given the City's proximity to the Pacific Ocean, all erosion, sediment and runoff control practices are very important and are expected to be very beneficial to the community. Therefore, the designation of "medium or high priority," improves the likelihood that CIPs will not contribute to an exceedance of water quality standards. It doesn't make

sense to categorize a CIP project as low priority since the City holds itself to a higher standard than the rest of the community. The City strongly feels it should lead by example, and since the City Inspector is onsite everyday at CIP projects, storm water issues are addressed daily.

Two highly visible and much anticipated public projects were occurring during this reporting period. First, the much anticipated public Coastal Rail Trail project continued during this reporting period. Due to the size and location of the project, the City felt it prudent to hire an independent inspector just for this project. The City does not have the resources to dedicate a full time employee to this project, so it was necessary to hire some outside help. Included in the duties of the inspector was storm water compliance. The inspector was required to complete weekly reports on storm water compliance and submit them to the City's Environmental Specialist for review. This project has been completed and is no longer in the City's inventory.

The other highly anticipated project that was started during this reporting period was the Fletcher Cove Community Park redevelopment. This project consisted of turning a large, completely impervious parking lot into a multiuse community park with large areas of grass and landscaping. The park is located directly adjacent to the ocean which meant that extra care was given during the planning phase to ensure there would be no negative impacts to the environment. Some highlights of the park include:

- Turning approximately half of the parking lot into a large grassy area for the community to enjoy

- Planting native, drought tolerant plants to increase the amount of landscaping and pervious areas

- Creating a small patch of artificial turf located adjacent to the coastal bluff to eliminate irrigation and prevent bluff failures

- Installing a new shower that no longer drains to the ocean but instead is redirected into the sewer system. The shower also contains a sand trap to remove sand before it can impact the sewer system

- The installation of a CDS unit to treat all the runoff from the site prior to discharge to the sewer system

- The installation of nine (9) new dual trash/recycling containers to provide recycling options for the visitors

- The installation of a new, pervious asphalt low flow infiltration system to a parking lot across the street to compensate for the loss of parking as a result of this redevelopment. The City installed this system to treat runoff from an existing parking lot.

This new park will be a testament to the community's passion for the environment. The park will have an environmental theme throughout and will not drain any runoff towards the ocean. New catch basins are going to be installed at the front of the site to capture runoff from up the street and divert it into the sewer system.

7.5 BMPs and Pollution Prevention Methods

As noted in the City's JURMP, the City requires general and specific BMPs for construction sites and with the modifications in the development review process; the City is able to require site design, source control and treatment BMPs prior to construction. Owners and developers are provided a BMP Construction Brochure (see Appendix M), and they meet with engineering staff to develop methods to ensure that runoff is not increased as a result of their proposed project. The City believes that working with the contractors during the plan approval process is the most critical time period to ensure that appropriate BMPs (structural, pre-and post-development) are built into the project *before* pollutants are allowed to enter the storm drain conveyance system.

BMP Selection

The City does not require a specific or certain type of BMP (except for SUSMP projects) for all projects similarly designed. Instead, staff members evaluate each project on its own merit and determine if modifications to the plans are required to control erosion and/or reduce runoff. City staff works together with property owners and developers to find satisfactory solutions to project problems.

Pollution Prevention Methods (PPM)

- Construction limitations – the City limits construction during the wet season when construction plans warrant and when it is feasible. Implementation of this PPM reduces the potential for pollution.

- Education – the City sends out letters to all active public and private construction projects at the start of the wet season to remind them of the importance of implementing the required BMPs (see City JURMP for a description) and the importance to take precautions during storm events. Additionally, a BMP Construction Brochure is attached to all permit approvals and distributed at City Hall Engineering and Planning counters to all prospective developers and interested members of the community.

- Inspections – as discussed below and elsewhere in this report, the City Inspector and Environmental Specialist visit construction sites and keep a record of BMP implementation and effectiveness. When a developer does not comply with the City Inspector's request to modify practices to reduce runoff or erosion, construction activities can be halted at the site and fines may be levied.

7.6 Enforcement and Inspections

Enforcement of the City's Municipal Code is conducted by the City's Code Enforcement Officers. The City Inspector and Environmental Specialist conduct inspections of construction site BMPs, but if enforcement actions above written NOVs are necessary, Code Enforcement Officers are notified.

Code Compliance

The City has developed procedures to track and monitor citations issued to property and business owners, visitors, and developers. These procedures include the adoption of an Administrative Fine process which was adopted by the City Council on June 18, 2002. This process allows Code Enforcement Officers to issue administrative citations and penalties in between $100 and $1,000 for each day the violation occurs; this applies to construction sites, public and private.

In addition to the administrative fine process, the City adopted a Civil Penalty Matrix (Matrix). This is a very significant tool that has greatly enhanced the enforcement of storm water violations. The City felt it was necessary to develop a matrix to evaluate each violation in the field, and to respond to them in a consistent and appropriate manner. The Matrix was designed so that anybody in the field who witnesses a violation can apply the parameters of the Matrix to decide the appropriate way to respond. This greatly enhanced the efficiency of the storm water program, as now not all violations would require multiple staff to respond or, if a fine was necessary, staff did not have to wait for approval from

upper management to issue it. This would sometimes take as long as month, but with the Matrix, this could happen instantaneously in the field.

The Matrix was modeled after the City of San Diego's Civil Penalty Matrix. The Matrix was scaled down and modified for the type of violations most often encountered in Solana Beach, but the foundations are very similar. The Matrix basically breaks down the violation into two categories, Environmental Significance and Compliance Significance. These two categories are further broken down into Moderate, Major, and Severe. According to the type of violation and the history of the violator, the penalties will be placed in the appropriate section of the Matrix. This ensures that all violations are treated consistently, and the feelings of the investigating officer do not interfere, so the enforcement actions do not vary. This, according to our Code Enforcement Department, is extremely important if a fine gets challenged in court. The Matrix is currently being used, and a fine has not been successfully challenged yet. The Matrix was developed in cooperation between the City's Environmental Specialist and Code Enforcement Officer, further showing the great working relationship between City Departments.

The Matrix is used for all violations, not just construction related offenses. It can be applied to municipal, commercial, and residential offenses. For the complete Civil Penalty Matrix, see Appendix D.

The City also purchased seven radios to be used by the Engineering/Public Works Department that are used to communicate between Staff to report storm water violations. The radios were purchased so communication can be made at all times with appropriate staff, in the case of a storm water violation. The radios also can connect with the City's Code Enforcement Department, Fire Department, and Marine Safety Department, as well as the City of Del Mar Code, Fire, and Marine Safety Departments. This allows for immediate contact with appropriate staff to respond to any situation, including storm water. Before the radios, people either had to be paged or had to be at their desks, which proved to be very inefficient. The delays would often cause staff to miss violations because they did not get the information in time. The radios have allowed for much better communication and increased enforcement, as violators are often contacted while the violation is occurring.

Site Inspections

All construction sites that have a potential to discharge pollutants are inspected

by the City Inspector and Environmental Specialist; this includes public and private development projects. As stated in the City's JURMP, it was anticipated that private development projects would be inspected by the City's Building Department, which is shared with the City of Encinitas. However, a partnership to handle inspections did not develop. As a result, the City Inspector and Environmental Specialist have been visiting all development projects in the City, unless the project is an indoor remodel. In that case, the City Inspector would only visit the property if time and resources permit, and if prohibited activity is noticed, a letter is sent to the property owner.

With the addition of the Environmental Specialist, the City is often times able to inspect construction sites more frequently than required by the Permit. Both the City Inspector and Environmental Specialist devote time out of their schedule to visually monitor all construction sites. Sometimes this is done in tandem, but often times it is simply a drive by of all sites. They meet at the end of the day and discuss any problems observed, if any. This has been very successful in preventing pollution from leaving construction sites, as most problems are fixed before any illegal discharges leave the property. Since there are not too many projects in the City, this type of monitoring is highly successful, as private project managers and city staff communicate very effectively.

In addition to the visual inspections discussed above, more thorough on-site inspections are conducted in accordance to the City's JURMP. These inspections are conducted by both the City Inspector and Environmental Specialist in conjunction with the project superintendent. These inspections are set-up beforehand to ensure that the project superintendent has time set aside to walk the site with City staff and discuss storm water compliance. As reported in the JURMP, all high priority construction sites will be inspected on a weekly basis and more frequently when deemed necessary during both wet and dry seasons. All medium priority sites will be inspected at least once per month and more frequently when deemed necessary during both wet and dry seasons. All low priority sites will be visited at least once during both the wet and dry seasons, with more inspections likely during the wet season months.

If any possible violations are noticed during either the visual inspections or on-site inspections, City staff may stop and talk with the property owner, write a letter, request Code Compliance to issue a citation, issue a "stop work notice" or a combination of these activities. The City's new adopted Civil Penalty Matrix, discussed previously, is also used for construction related violations.

In addition, City staff conducts inspections at all medium and high priority construction sites prior to a rain event to ensure all BMPs are installed correctly and working properly. A follow-up site inspection is then conducted after the rain event to monitor how effective the installed BMPs were and if any modifications need to be done. Construction sites are constantly evolving and require constant monitoring, which the City staff understands and enforces.

Enforcement of BMPs

During inspection of construction sites, City staff verifies that appropriate BMPs have been implemented and are effective (sediment is on-site, erosion control methods in place, runoff mitigated or not leaving property, etc.). In addition, City staff has the authority to immediately require new BMPs if erosion control, runoff, or other activity is taking place that contributes pollutants into the City's MS4.

During this reporting period, the City staff conducted daily inspections of all CIPs and mandatory inspections of private projects within the City's jurisdiction and did not need to report any non-compliant sites to the RWQCB. Any site that was determined to be out of compliance was immediately notified and the problems were resolved within the time frame specified by the City.

Educational Activities

The education activities conducted for construction sites consisted mainly of verbal conversations between the contractor/developer and City staff. Because of the relatively few projects in the City, it is possible and practical to discuss issues on-site with the contractors. Also, they are given either the "Stormwater Best Management Practice (BMP) Guide for Construction and Building Activities (see below) or the Construction BMP brochure and storm water issues were specifically brought up. The City believes that it is much more effective to talk with the contractor face-to-face about these concerns and, since we are a small city, it has been and continues to be very effective.

City staff previously developed an educational Construction BMP guide (Appendix L) that is available to actual and prospective developers/contractors at City Hall. This BMP Guide provides some background on the storm water regulations and provides examples of proper storm water management for construction sites. These BMP Guides are available at the City Hall Engineering/Planning Departments to anyone that inquires about projects or storm water issues in general. This used to be the primary tool used to

disseminate information/guidelines to the development/construction community. However, as discussed briefly before in this report, a new and improved tool has been developed by the North County Storm Water Program and is now being distributed to all prospective and active construction applicants.

The new tool that was developed and discussed in last year's Annual Report is the Construction BMP Brochure (Appendix M). This was developed by the North County Storm Water Program to provide a consistent message/requirements to all contractors/developers in the region, regardless of where they are doing work. This brochure was meant to supplement each individual cities educational outreach to ensure that the development community was receiving a consistent message regarding proper construction practices. This brochure has been very well received by the development community and in Solana Beach has replaced the Construction BMP Guide as the primary educational tool distributed to the development community. The Construction BMP Guide is still readily available at the Planning/Engineering counter, but the Construction Brochure is now attached to all permit plans routed through the City.

Additionally, as discussed previously, the recent addition of the *Environmental* section to the building permit checklist has afforded the City another opportunity to educate the applicant/contractor on the storm water regulations. Every project that has the potential to discharge pollutants to the MS4, regardless of size or type, is reviewed by the Environmental Specialist and commented on. The Environmental Specialist always includes a statement on the routing sheet to remind the applicant/developer, "No discharges permitted off-site during the construction process and erosion control BMPs must be utilized and maintained throughout the life of the project." This statement varies slightly depending on the project but is always included to remind the applicant/contractor of their responsibilities. It is just another reminder that they must adhere to the storm water regulations, and sometimes, it will result in a conversation between the applicant and City staff in the beginning of the project phase that can become very beneficial in establishing a good working relationship that carries throughout the project.

Another educational tool utilized by the City to get the word out to our residents was a series of articles published in the bi-annual newsletter "Shorelines" put out by the City. The newsletter is received by everyone in the community and is very popular and eagerly anticipated. A variety of storm water topics are touched upon, including construction. These articles are intended for smaller projects

such as remodeling and single home construction, but it is still very important nonetheless. These smaller projects hold a much higher priority in our City because of the lack of larger projects; so educating the individual homeowners is extremely vital. Also, the City has found that the smaller projects have the most potential violations, as most are owner/contractor situations where they are not aware of the storm water regulations. The larger projects often have erosion control specialists and employees who are required to attend storm water education classes. The newsletter comes out four times a year, and are included as Appendices and described in previous Chapters of this Report.

Special Project BMP Education

A new tool developed during this reporting period was the development of a specialized BMP notice given to a specific type of construction activity. During this reporting period, a large scale effort was made to underground overhead power lines for view impact reductions around the City. These were special projects that did not go through the normal permitting process. Therefore, these plans would not have been reviewed by the normal parties, and since the City is dedicated to storm water protection, City staff developed a special "Undergrounding Utility District Construction Best Management Practices" handout (Appendix W). This was a one page handout to be included in every permit application submitted by those participating in this program. Since the process of undergrounding utilities involves moving a lot of dirt, the City felt it prudent to take this extra precaution to ensure the proper BMPs are in place.

If any special projects in the future require project specific BMPs, the City is dedicated to developing materials to distribute to the applicants.

Four-Tiered Approach

As mentioned in previous Annual Reports, the City has implemented a four-tiered approach to construction education/inspection to ensure compliance with the Permit. This approach is for all high priority projects that consist of those requiring grading permits and all CIP projects. The aspects of the approached have been touched on briefly in this chapter, but a more concise description is discussed below:

- First Tier- The first tier is the distribution of the Construction BMP Guide and/or Brochure. As discussed previously, this Guide and/or Brochure are given to all prospective and actual applicants at the City Hall counter as well as in the field during inspections.

- Second Tier- The second tier is the pre-construction meeting and forms that are completed prior to the start of construction (Appendix O).
- Third Tier- The third tier is the actual construction inspection and form to be completed on-site with the project superintendent (Appendix P).
- Fourth Tier- The fourth tier is the Wet-Weather Triggered Action Plan that is required to be completed and kept on-site by all project superintendents. The form is to be updated as needed and must be available for review during site inspections (Appendix Q).

Post Construction BMP Inspection

Another major change that occurred during this reporting period is the ability to ensure that all post construction BMPs are installed and maintained by the contractor and/or property owner. The *Environmental* review section on the routing sheet contains a section that can be marked for inspection required prior to installation or prior to final approval of the project. This was done to ensure post construction BMPs required on the plans are actually installed and ensures maintenance through a special agreement that is recorded through the County of San Diego. The City found in some cases that the post construction BMP(s) are sometimes buried in the ground before inspection, thereby making it impossible to inspect and ensure it was actually installed. So, there is now a spot on the routing sheet that will put the onus on the contractor to call for an inspection during the installation to ensure it is actually being done. This way it can be more efficiently documented and inspection required before the permit gets final approval. In addition, with the adoption of the new Permit, this activity of inspecting post construction BMPs will now be required. So, the City is now slightly ahead of the game and will use this tool to track and inventory new post construction BMPs for future inspection.

7.7 **2005/2006 JURMP Comments from RWQCB**

There were five comments regarding the Construction component of last year's Annual Report. They are as follows:

Comment 1 (Construction)

The first comment is in regards to the prioritization of Table 7-2 and 7-3. Table 7.2 is low priority projects and Table 7.3 is medium priority projects.

Comment 2 (Construction)

The second comment is in reference to Table 7-4. These projects are listed

separately simply because they are public CIP projects. While not all of the projects require construction inspections (slurry seal projects for example), they are listed to demonstrate the high level of over-site the City places on all public projects. All of these Pre-Construction meetings are attended by City staff and storm water issues are an agendized item that is discussed. The priority rankings for these projects are listed in the appropriate tables that contain their respective information. They can be found in Table 7-1, 7-2 and 7-3.

Comment 3 (Construction)

The number of high priority projects was actually three during FY 05/06 reporting period. The City regrets the mistake made in the Assessment Table of last year's Annual Report and will ensure accuracy in future Annual Reports.

Comment 4 (Construction)

The fourth comment is in reference to the frequency of construction site inspections. Construction sites, at a minimum, were inspected according to their respective frequencies. High priority sites are inspected weekly by the City Inspector, medium priority sites are inspected monthly by the Environmental Specialist and low priority sites are inspected one time during the wet season and one time during the dry season annually. Many times these sites are inspected more frequently during the wet season and prior to rain events through drive-by inspections to ensure BMPs are installed and maintained, but this is above Permit requirements. These activities were conducted for both reporting periods (FY 05/06 and FY 06/07).

7.8 New Activities and Improvements in FY 07/08

City staff will continue to enforce BMPs (site, source and treatment), conduct inspections and keep an accurate inventory of the private and public projects. The City has now transitioned into the enforcement stage of the inspection process, away from education. Although all new construction applicants will be provided adequate educational information prior to construction commencement, the City expects to continue implementation of the four-tiered compliance procedure with all new and existing construction projects to ensure compliance.

Additionally, the North County Storm Water Program has developed the region-wide (north county) construction brochure that is now distributed in the respective communities. This brochure combines the basic educational messages of each jurisdiction and includes a diagram of a successful BMP approach for a small

construction site. The purpose of this brochure is to bring consistency to the region regarding BMPs and requirements so that developers/contractors will be receiving same message and direction from all participating cities. It has been received well in the construction community as the requirements throughout jurisdictions will become consistent.

The City is committed to working with the other cities within its respective watersheds (Carlsbad and San Dieguito) to ensure compliance with all storm water regulations. Some activities for next reporting period will focus on construction projects to target sediment, which is a high priority pollutant in both watersheds.

In addition, the City anticipates developing new programs to comply with the new Permit. Although implementation of the new programs will most likely not occur until after FY 07/08, the development of the new programs will have to begin. Two major programs that will affect this section will be the updating of the SUSMP and the development of the new Low Impact Development (LID) programs. These will be discussed in more detail in next year's Annual Report as they will most likely be either developed or in the process of development and the status will be updated in next year's report.

Another significant development that occurred after this reporting period but should be noted is the development of a Building Department at the City of Solana Beach. Historically, Building Department services were provided to the City by a private company, EsGil. EsGil provided building services to the cities of Solana Beach, Encinitas and Del Mar on a contractual basis. In December 2007, the cities of Solana Beach and Del Mar decided to end that contractual relationship and develop a Building Department in-house. This will provide many benefits to the City of Solana Beach, such as:

- Bringing the Building Department (including staff) in-house, meaning the staff will have offices at the Solana Beach City Hall and will be full time staff members of the City.

- Bringing all plans, review and inspections in-house. This will allow the City more control over the plan review process and inspection process. Previously, EsGil determined the amount and extent of review and inspections, and was not willing to accommodate storm water into their processes. This left the review of plans and inspections up to existing staff, straining already limited resources. With the advertisement for these

new positions, the job descriptions included storm water plan review and inspections, so it's anticipated that the storm water program will greatly benefit from this new department.

Since the development and implementation of this new department will take some time and adjustments, it is not anticipated that it will be fully integrated until probably the FY 08/09 reporting period. However, City staff is very excited about this new development, as more staff will be available to assist in the storm water program. Additionally, as the SUSMP is updated and LID program implemented, it will be important to have the input and guidance from a dedicated Building Department staff in house. This way, all departments will be on board during the development stages to ensure buy-in and support of the new programs.

7.9 Summary

The City has been effective at implementing a plan-check process that has resulted in the implementation of BMPs, site design modifications, structural changes and runoff mitigation activities in project proposals and/or construction activities. Both public and private construction projects are subject to the City's strict standards, which provide a consistent approach to reducing urban runoff from construction activities. The City has effectively integrated the new stricter standards of the Permit, including the SUSMP, into its plan-check review process. Additionally, the City has successfully implemented the Four-Tier Approach which has been very successful during education and inspection procedures. The City has also begun developing project specific construction BMPs for large-scale specialized construction activities such as the Undergrounding Utility Districts that are forming around the community.

The City will continue to actively analyze the construction program and make necessary improvements/modifications to ensure the protection and enhancement of the local water quality. An example was the addition of the Environmental review section of the permit routing sheet. The City felt like some smaller projects, although not specifically required to be plan reviewed and inspected by the Permit, may have the potential to be overlooked. Therefore, now *all* plans are reviewed by the Environmental Specialist and necessary changes can be made before plans are approved. Also, the reduced grading ordinance modification demonstrates the City's commitment to reviewing as many projects as possible and integrating storm water management requirements to projects that would have been overlooked in the past.

The City is very excited and eagerly anticipating the creation of the new Building Department. As reported above, the City anticipates many benefits as a result of hiring full time staff and not contracting out the services. An update on the progress will be included in next year's Annual Report as this activity officially occurred after this reporting period; however the City feels it important to report in this Annual Report.

CHAPTER 8

Illicit Discharge Detection and Elimination Component

CHAPTER 8: ILLICIT DISCHARGES DETECTION AND ELIMINATION COMPONENT

In accordance with Permit Sections B and F.5, this section of the report describes the City's efforts to detect and eliminate illicit discharges (ID) and illegal connections (IC) into and from the City's storm drain conveyance system.

In each Annual Report to the RWQCB, this section will include results from efforts to eliminate and prevent IC/IDs, results from the Dry-Weather and Wet-Weather Monitoring Programs and Coastal Outfall Monitoring Program. Also, this section of the report will include any changes to the City's *Action Levels for Field Screening and Laboratory Parameters*. A summary of activities conducted post-reporting period may be included if the activity is deemed essential to understanding the City's efforts at reducing urban runoff or Permit compliance.

The City's JURMP outlines in descriptive detail the City's plans for detecting and eliminating IC/IDs, which would be redundant to repeat in this Report. However, the City's IC/ID program that was in place *prior to the JURMP,* directed the procedures for conducting the 2001 dry-weather monitoring program (DWMP), while the procedures identified in the JURMP, directed the 2002 DWMP. This report will discuss the results of the 2006 DWMP.

8.1 IC/ID Program History and Current Prohibitions

The City implemented its first IC/ID program in 1993, which included dry weather screening, annual storm water conveyance system inspections, and prompt responsiveness to complaints.

Between 1993 and 2002, the City's IC/ID program did not indicate any significant problems, except for occasionally high levels of bacteria at a curb inlet or manhole leading up to the Seascape Sur outfall. A complete discussion about the activities of this problem, including its history, can be found in Section 13: Special Investigations.

Over the years, the City has responded to complaints and results from its dry weather monitoring reports to detect IC/IDs. The City's efforts have been successful, but in response to the requirements of the Permit, the City expanded its program as described in the JURMP, Section 8.

Prohibitions

As noted in the City's JURMP, most non-storm water discharges are prohibited by Solana Beach Municipal Code (see JURMP Section 8.1.1). The City modified its Municipal Code and General Plan to ensure the City has sufficient legal authority to enforce the prohibitions of non-storm water discharges. The Solana Beach City Council adopted the amended Municipal Code and General Plan on February 19, 2002.

8.1.1 Significant Spills

The City operates a storm water hotline and email address that the community can use to report any violations or suspicious behavior they may encounter. This hotline can also be used to notify City staff of any significant spills that have occurred. Additionally, the City's website has a link to directly e-mail the Environmental Specialist to report violations or spills. The residents can also directly call City Hall and talk to the appropriate Staff member to report any significant spills.

There were *two significant spills* reported during this reporting period. The first spill occurred on November 24, 2006 and was the result of a blockage of a private lateral shared by a Long's Drugstore and Nobu, a sushi restaurant. The second spill occurred January 22, 2007 and was the result of a construction project installing an incorrect fitting on a sewer pipeline replacement project. These spills are described below in more detail.

The first spill that occurred at the Long's Drugstore was the result of a blockage in the pipe from paper towels/rags. Approximately 2,000 gallons of sewage spilled before the blockage was removed. The good news is that the sewage eventually traveled to the City's Low Flow Diverter, and was diverted back into the sewer system. The drainage was above ground surface flow and all the residual sewage was re-captured and the street sanitized with a bleach/water solution. So, no sewage reached the storm drain system or receiving water.

Unfortunately, another smaller spill occurred at the same location seven months later, and released 150 gallons into the environment. The City decided it was time to take a stronger approach with the commercial project and set up a series of meetings with the property management company. It was discovered that a new property management company was hired from the time the first spill happened to the time the second one occurred. Therefore, the City decided a cooperative approach with the threat of fines and further enforcement would be

the proper way to address the situation. The new property management company was very cooperative and addressed all the City's concerns and additional requirements.

The City required the commercial property to completely clean the problem line and then CCTV/video the line to inspect for structural problems to determine what the cause of the blockages might be. The CCTV showed that the pipe has a structural deficiency in the design which may be contributing to the blockages. Apparently, the pipes coming from Long's Drugstore and NOBU restaurant join before entering the City's main line, and this joint could be the point where the blockage is occurring. When the property was developed decades ago (before City incorporation), the developer did not have separate pipes for the facilities, and this could be causing the problems.

The property management had two options, completely tear up the sewer system and re-align the pipes, or develop a much more intense cleaning schedule and frequency and risk another sewer spill and enforcement actions that would follow. The property management company opted to go with the higher frequency cleaning, and submitted the contract to the City to prove they had obtained the services of a plumber. They are well aware of the consequences if there is another spill, and there will be swift action by the City. However, the City believes that the issue has been addressed adequately and will continue working with the property management to ensure another spill will not occur.

The second major spill that occurred was the result of a construction project. The project was a CIP project and consisted of replacing a 45 year old sewer forcemain pipe underneath the San Elijo Lagoon. The contractor installed the wrong connection valve which resulted in a 23,500 gallon spill. Fortunately, the City took extra precaution to prevent spills from entering the environmentally sensitive lagoon and prepared for an accident like this during the design of the project. The City hired a construction management company to take all the necessary precautions to ensure that if a spill occurred, it would be contained onsite and there would be no discharge into the lagoon. The City would have preferred that no spills would occur in the first place, but had the foresight to plan for one just in case. Because of this extra planning and precaution, the spill was redirected into a spill containment basin specifically designed for a sewer overflow adjacent to the pump station with a specialized clay lining. Therefore, all the sewage was contained and recovered with no gallons escaping into the lagoon. The valve was replaced with the correct one and no other problems occurred with this project.

8.1.2 HHW Program

The City manages an extensive HHW Program that is discussed in detail in the Residential Component of this report. As reported previously in this report, 379 participants utilized the City's HHW program during this reporting period, up from 319 participants the year before.

8.1.3 Grease Trap Ordinance

In October 2004, the City Council adopted a grease trap ordinance that requires new, remodeled, and even *existing* restaurants to install a properly designed grease trap/interceptor. Previously, the City's Building Department would require all new and significantly remodeled restaurants to install a grease trap/interceptor, but it was simply a policy, not an ordinance. The City realized the need for an enforceable ordinance that would grant the City the power to inspect the traps to ensure proper installation and maintenance. These inspections will now be part of the annual storm water inspections and City staff will check maintenance records to ensure the traps/interceptors are being properly maintained. The ordinance allowed existing restaurants eighteen (18) months to install the grease traps/interceptors and enforcement began in April 2006.

8.2 Dry Weather Monitoring Program (DWMP)

The dry weather field screening data is an important part of the City's IC/ID detection program. The results provide information on whether pollutants are detected in the storm drain system, which can be used to identify potential illegal discharges or connections.

The specific purpose of this program is to detect by system inspection and by field screening and lab water quality testing the existence of either illicit connections to the storm drainage system or the use of the storm drainage system for illegal discharges. The basic requirements for the program are described in the Permit.

The purpose behind conducting tests of storm drains during dry periods is that illicit connections and illegal discharges are most apparent when they are not being masked by storm flows or ground water discharges. Theoretically, there should be no flow in the storm drains during dry periods, except for the limited amount of exemptions listed in the JURMP Section 8.1.1. Therefore, if flow is

present, an investigation must be conducted to determine where the flow is coming from to determine if there is an IC/ID violation.

Prior to the implementation of the JURMP (from 1993 to 2001), the City completed eight years of dry weather testing, primarily with the services of Kinnetic Laboratories/Cooper Engineering Associates, which collected the field samples and conducted the testing and analysis. The City's program was based on a systematic and comprehensive approach.

In 1993, the City inspected selected outfalls within the City limits and monitored selected sites along Stevens Creek. In 1994, major outlets from the City were tested, in addition to the sites monitored in 1993. The primary objectives in the 1995 through 1999 dry weather field screening programs were to target strategic locations where the potential existed for possible pollutant discharges or illicit connections, as well as carry out a comprehensive monitoring of the City.

For completeness and consistency in reporting, the City will briefly summarize the results from the DWMP over the past few years.

8.2.1 Historical Results

The 1995 dry weather field screening data characterized outfalls, identifying areas of non-storm water, non-permitted discharges as well as the identification of problem or potential problem areas. Sampling points were selected in an effort to survey in-line flow as well as inflow and outflow at the City limits. As a result of the 1995 field screening, dumping of grease into Stevens Creek was discovered at a local restaurant. The City notified the property owner, as well as the business owner, to cease such activity, which occurred.

The 1996 dry weather field screening data continued to characterize outfalls, identifying areas of non-storm water, non-permitted discharges as well as the identification of problem or potential problem areas. Results from the 1996 program indicated elevated bacteria levels at the Fletcher Cove Outfall (O-03A). Subsequently, the City constructed a low flow diverter (in 1998), which diverts the flow to the City's sanitary sewer system. The diverter pumps 40 gallons per minute, year round, 24-hours a day. Runoff is only discharged at Fletcher Cove outfall during storm runoff events that exceed 40 gallons per minute. The diverter helps eliminate the contamination at the Fletcher Cove Outfall caused by storm water runoff.

The 1997 dry weather field screening data included several sites that had been screened in previous years, two new sites and an independent study. The new sites were added upstream of two previously monitored sites in Stevens Creek to try to isolate the sources of pollutants that had been detected at those sites during screening in several past years. The independent study was conducted to isolate the source of bacteria that the San Diego County Department of Environmental Health indicated had been found at a commercial site contributing to Seascape Sur Outfall. Additional investigations were conducted in Stevens Creek and the cleaning of the commercial site was ordered. Results indicated no significant problems had occurred during this reporting period.

The 1998 dry weather field screening data included further investigation of locations with consistent evidence of possible pollutant discharges (high pH) in Stevens Creek, the continual monitoring and bacterial testing of Seascape Sur Outfall, and the continual monitoring of representative areas in the City. The samples from Stevens Creek Outfall were collected while the Del Mar Racetrack was in operation to determine if that location (and its activities) was having an effect on the elevated levels bacteria. The results indicated that the pH phenomena in Stevens Creek were due to leachate migrating through the concrete structure. However, the effects of the Del Mar Racetrack were found to be inconclusive, but several outfalls were cleaned of trash and debris.

The 1999 dry weather field screening data continued to screen the same sites as in the previous year and again included the Fletcher Cove Outfall. The 1999 DWMP was again conducted during the early part of the racing season in Del Mar to build on the data collected in the previous years. Fletcher Cove was added back to monitor the bacteria and the effectiveness of the City's structural Best Management Practices for the low flow diverter. Results from the testing did not indicate any significant problem areas and the effects of the Race Track were again inconclusive.

The 2000 dry weather field screening data continued to build on the database the City has established. The report identified two locations with high levels of coliform (both flowing to the Seascape Sur Outfall). The City conducted an investigation and sealed off an old leaking sewer lateral that was found to be located near the curb inlet of the upstream site with elevated bacteria counts. The City contracted with Kinnetic Labs to provide additional testing, which showed reduced counts during the follow-up tests. The 2000 report recommended that the City clean several sites of trash and debris, which was done.

The 2001 DWMP included ten sites for testing, including the same two sites that had elevated bacteria counts in 2000, and Fletcher Cove Outfall (where the diverter is in operation). Site S-13A and S-13 were also included to detect the effects of the Del Mar Race Track during racing season. Seven of the ten sites had at least some flow or ponded water; and one site (S-02) required a follow-up investigation based on elevated levels of fecal and coliform bacteria. Although the S-02 site had elevated bacteria levels, they were lower than the previous year, which led City staff to believe that the problem (for which repairs had been recently completed), was simply residual bacteria. As a result, the City ordered that the line between the curb-inlet and the outfall be cleaned.

The 2002 DWMP increased the number of sites from 10 to thirty-one, with a representation of all five watershed sub-basins in the City. Sites were selected ensuring that historical problem areas, drainage to sensitive water bodies and sites with potential discharge from commercial areas were all represented. This was the first year of dry-weather monitoring under the new Permit, which included specific rules and guidelines developed by the Copermittees to ensure consistency. Some of the keys findings include the following:

- Water clarity at all but one site was clear.
- Floating trash was observed at four sites and sedimentation was observed at four sites.
- At the majority of sites, there was no biological activity noted.
- One site had excessive algae growth, while four had some vegetation and algae growth.
- All sites had pH levels below the action levels agreed upon by the Copermittees.
- Several sites had elevated levels of Ammonia, which triggered a follow-up investigation.
- Elevated levels of detergents were found at one site; as a result, staff has scheduled some time to pass out “door-hanger” flyers to educate the surrounding community as to the cause of this result (which is likely due to car washing, which is prohibited in the City).
- Levels of the all of the following were below the Copermittee action levels: oil and grease, surfactants, Diazinon[1], Chlorphyrifos and dissolved cadmium, copper, lead and zinc.

[1] *Results from the San Diego County Co-permittee 2001-02 Urban Runoff Monitoring Program, conducted by MEC Analytical indicated that the chemical Diazinon routinely exceeded water quality objectives in “nearly every watershed,” (page 8-1).*

8.2.2 Results from the 2003 DWMP

The 2003 DWMP was the first year the City staff has conducted the program in-house. The new Environmental Specialist took over the duties from the City's consultant. However, the consultant provided assistance when needed and still performed the lab analysis of the samples. The City basically took the previous year's program and followed it to ensure consistency. The results were fairly consistent, with the same problem area that has plagued the City for many years. Again, this report will summarize the results and include a detailed discussion (in Chapter 13) about the Special Investigation conducted to isolate this on-going problem.

Key findings from the 2003 DWMP include the following:

- There was only one site of major concern in the City, and that is at Seascape Sur. This problem, and the actions the City is taking to find the solution, is described in detail in Chapter 13, Special Investigations.

8.2.3 Results from the 2004 DWMP

The 2004 Dry Weather Monitoring Program found only one storm water conveyance line with an indication of illegal discharges to the City of Solana Beach's storm water system. The majority of the other sites visited were dry or damp. With the exception of the Seascape Sur area, sites that had water present did not have parameter concentrations high enough to cause great concern. For more information on this, please see the City's 2004 Dry Weather Monitoring Report (Appendix V).

8.2.4 Results from the 2005 DWMP

The 2005 Dry Weather Monitoring Program was conducted in September 2005 analyzed by the City in January 2006. The 2005 program utilized the criteria established by the Permit (and the Copermittee Monitoring subcommittee). The City reviewed the results from the 2005 dry-weather monitoring program looking for the pollutants listed above, and in particular, COCs described in Table 4-1. The results indicated that the bacterial levels at Seascape Sur outfall (which drains to the Pacific Ocean) continued to exceed the action levels established in the Permit and the IC/ID investigation continued (see Chapter 13).

8.2.4 Results from the 2006 DWMP

The 2006 Dry Weather Monitoring Program (DWMP) was conducted in September 2006. The DWMP found only one storm water conveyance line with an indication of illegal discharges to the City of Solana Beach's storm water system. The majority of the other sites visited were dry or damp, with some sites showing evidence of some over-irrigation and/or car washing discharges. With the exception of the Seascape Sur area, sites that had water present did not have parameter concentrations high enough to cause great concern. All necessary follow up activities did not reveal a dominant source, as the catch basins were either damp or dry. For a complete report of the activities conducted during the 2006 DWP, please see Appendix V.

The following is a brief summary table showing the locations and analytes that had exceeded the Copermittees Action Levels as requested in the September 26, 2007 Response to Annual Report Comments.

Table 8-1
2006 Dry Weather Exceedances

Location	Date Sampled	Analyte	Analyte Result	Action Level	Follow Up Date	Results
Site 3 (Santa Inez)	9/28/2006	Orthophosphate-P	5.5	2	9/29/2006	Over-irrigation upstream catch basi dry
	9/28/2006	Total Coliform	220,000	50,000	10/10/2006	Over-irrigation upstream catch basi dry
Site 9 (Santa Luisa)	9/28/2006	Total Coliform	70,000	50,000	10/10/2006	Over-irrigation a nature o outfall, vegetatio creates stagnan water, upstream catch basi dry

	9/28/2006	Fecal Coliform	30,000	20,000	10/10/2006	Over-irrigation a nature o outfall, vegetatio creates stagnan water, upstrean catch basi dry
Site 14 (Genevieve/Stevens Ave)	9/27/2006	Orthophosphate-P	2.5	2	9/28/2006	Inconclusiv result min and not a reasonab potential f IC/ID
Site 25 (Seascape Sur)	9/21/2006	Total Coliform	16,000,000	50,000	10/5/2006	Ongoing IC/ID, mo likely structura problem i pipe
	9/21/2006	Fecal Coliform	80,000	20,000	10/5/2006	Ongoing IC/ID, mo likely structura problem i pipe
	9/21/2006	Enterococci	10,168	10,000	10/5/2006	Ongoing IC/ID, mo likely structura problem i pipe
	9/21/2006	Ammonia	2.5	1	9/22/2006	Over-irrigation upstrean catch basi dry

The follow up actions were undertaken the following day after receiving the results for all four sites. Since the lab analysis takes longer to receive than the field screening, the follow up actions for bacteria took place a few weeks after the actual sample date.

8.3 Interim Action Levels to Trigger Follow-up Investigations

The City collaborates with the other Copermittees of Order 2001-01 in developing the standardized responses, procedures, processes, policies and programs by participating in the Dry Weather Monitoring Workgroup. This helps by providing

consistency in messages, requirements and community expectations.

It should be noted that the City's 2006 DWMP was guided by the common response for interim action levels developed by the Dry Weather Monitoring Program Workgroup.

8.4 Complaints, Reports, and Investigations of IC/IDs

Prior to the implementation of the City's JURMP, the City Engineering Department handled the complaints regarding possible IC/IDs and/or urban runoff as they occurred. Complaints were investigated by the Principal Engineer, the Storm Water Intern, the Code Enforcement Officers and/or the Public Works Crew. As noted in the City's JURMP, the City conducted non-point source investigations when a discharge is noticed and reported by City staff, Public Works Crews, the public, or during routine inspections. The City continued one "Special Investigation," which is described in Chapter 13. The City's Code Enforcement Officers worked hand-in-hand with the Engineering Department to respond to the calls reporting potential IC/ID violations.

In an effort to reduce the number of violations that occur on the weekends, the City has authorized a Code Enforcement Officer to work on various Saturdays throughout the year. It has come to the City's attention that a significant amount of violations are occurring on the weekends, when people know that no City staff is available for enforcement. The City hopes to monitor this situation and hopefully stop it altogether.

8.4.1 Complaint-Tracking Modification

The City developed a Contact/Complaint Excel database (Appendix R) to track daily reports of storm water contacts/complaints from the public, other city departments, or other regulatory agencies.

8.5 Coastal Monitoring Program

The purpose of the City's Coastal Outfall Monitoring program is to detect IC/IDs through monitoring of the City's coastal outfalls. Prior to 2002, the San Diego County Department of Environmental Health designed and conducted the Coastal Outfall Monitoring Program. In 2002, the City utilized its own staff to conduct an inventory of its outfalls and design the monitoring program, which is currently being implemented.

During this reporting period, the Coastal Monitoring Workgroup, comprised of the cities that have storm drains that flow into the ocean and lagoons, met periodically to discuss pertinent issues and establish monitoring guidelines and reporting limits. Here is a brief description of the City's Coastal Monitoring Program for FY 06/07.

The Permit requires cities to monitor all flowing coastal and lagoon outfalls located within the City. The sampling frequency is once per month required during the wet season, and twice per month required during the dry season (two samples at each location, one at storm drain, one at receiving waters). The samples are taken to a State-certified laboratory for analysis of three parameters; Total Coliform, Fecal Coliform, and Enterococcus. The reporting limits for these parameters are different for samples taken at storm drains and samples taken in the receiving waters. Here is the breakdown:

Location	Total Coliform	Fecal Coliform	Enterococcus
Storm Drain	160,000 MPN	24,000 MPN	20,000 MPN
Receiving Water	10,000 MPN	400 MPN	104 MPN

The City monitors one coastal outfall (Seascape Outfall) and eight lagoon outfalls. The results for the outfalls are as following:

- Seascape Outfall (Coastal Outfall): There were no receiving water violations for this outfall. The storm drain outfall frequently exceeds the water quality parameters and an ongoing IC/ID investigation is being conducted to identify the source of the bacteria (Chapter 13).

- Highway 101 North Outfall (Lagoon Outfall): There were no samples taken because the outfall was always dry. This outfall continues to be monitored even though there has never been flow.

- East Side Railroad Tracks Outfall (Lagoon Outfall): Same as above.

- Rios Access Road Outfall (Lagoon Outfall): Same as above.

- Rios Road Outfall (Lagoon Outfall): There were no samples taken from this outfall due to its inaccessibility. In order to access this outfall, it would require the monitor to track over environmentally sensitive habitats in the

San Elijo Lagoon. In talking with the San Diego County Park Rangers, it was determined that this would not be a good area to disturb because of the sensitive habitat. The area around the outfall was monitored to determine if anything looked suspicious.

- Santa Inez Outfall (Lagoon Outfall): This outfall is routinely damp and sometimes has ponded water. Since there is no detectable flow coming out, it is not sampled as part of the Coastal Outfall Monitoring Program. However, it is included in the City's Dry Weather Monitoring Program which requires the testing of ponded water.

- Santa Carina Outfall (Lagoon Outfall): There were no samples taken from this outfall due to its inaccessibility. The outfall is located at the bottom of a steep canyon. The brush was removed for fire concerns, therefore making it impossible to scale. This site was also still monitored to determine if anything looked suspicious.

- Santa Helena Outfall (Lagoon Outfall): Inaccessible.

- Santa Luisa Outfall (Lagoon Outfall): Same as Santa Inez Outfall.

Although no samples were taken at the lagoon sites, they were all still visited and monitored according to Permit standards. These sites will continue to be monitored for the FY 07/08 to determine if anything needs to be altered in this Monitoring Program. The Seascape Outfall has had historical problems and is the current target of an ongoing IC/ID investigation. This is discussed in detail in Chapter 13. For complete results, please see the Coastal Outfall Monitoring Annual Report submitted with the County Unified URMP.

It should be noted that the Lagoon Monitoring Program that is a part of the Coastal Monitoring Program is no longer included in the new Permit. Although the new Permit was adopted after this reporting period, it should be noted that once the new Permit is implemented, there will no longer be a Lagoon Monitoring component of the Coastal Monitoring Program. Additionally, the sampling frequency for the dry season will be reduced to one time per month to be more consistent with the wet season sampling protocol.

8.6 Wet Weather Monitoring

The Copermittees of Order 2001-01 collectively hired MEC Analytical again to

continue the regional Wet Weather Monitoring Program (WWMP) for 2006/07. For the results of the regional WWMP, please see the complete report included with the Unified Urban Runoff Report submitted by the County of San Diego.

8.7 Public Education

To educate the public about the need to improve water quality and the vast requirements of the Permit, the City passed out brochures, published articles in the City's newsletter (*Shorelines*), placed "door-hangers" on selected residential and business properties, operated a storm-water-hotline ([858] 720-4424) and email address, and required compliance of private and public construction sites. Details about these various activities can be found extensively in Chapter 9 (Education Component) of this report and in the City's JURMP.

8.8 2005/2006 JURMP Comments from RWQCB

There were two comments regarding the Illicit Discharges Detection and Elimination Component of last year's Annual Report. They are as follows:

Comment 1:

The first comment relates to the Dry Weather Monitoring Program (DWMP) and requests the dates of monitoring and a description of the extent and timing of follow-up actions. The letter also requested a summary table of exceedances be included in future Annual Reports. This table has been included in section 8.2.4 (Table 8-1) and will continue to be included in future Annual Reports.

Comment 2:

The second comment refers to the ongoing IC/ID at Seascape Sur and requests a summarization of the City's follow-up efforts at this site during 2005/2006 reporting period. As stated in last year's Annual Report and this one as well, the ongoing problem does not appear to be an IC/ID situation. The problem is most likely a result of a structural deficiency in the pipe that is harboring existing bacteria and promoting re-growth. As mentioned before, the City has CCTV'd the line on numerous occasions and detected a large sag in the pipe that collects sediment and debris. This is an ideal location for bacteria to survive and replicate, as evident in the bacteria levels being much greater at the end of the pipe than at the upstream catch basin. The City can continue to clean the pipe (which is budgeted for every year) but that has proven to only be a temporary fix and after a few months the bacteria levels are back up to normal levels. The City is now dedicated to developing a long-term permanent solution, which include:

- Repairing sag in the outfall pipe
- Blocking off connections from adjacent residential complexes and making them drain to street so that discharges can be sampled
- Installing permanent BMP such as a low flow diverter
- Conducting further tests to determine if source of bacteria can be identified.

All of these options are described in greater detail in Chapter 13 of this Report.

All standard IC/ID follow-up actions have been exhausted by City staff with no remedy for the ongoing problem. Increased inspections, investigations, monitoring and education have all taken place with no solution to this mystery. Therefore, City staff has redirected their efforts into finding a long term structural fix to the pipe which will hopefully lead to the conclusion of this problem.

8.9 New Activities and Improvements in FY 07/08

The City will analyze its 2007 DWMP in FY 07/08, review the results in detail and integrate the findings into program activities. City staff will evaluate the results to determine areas within the city (residential and commercial etc.) that need additional education to improve the water quality in the region. The City will use the results from the previous DWMP to design the 2007 DWMP and attempt to conclude the special investigation (see Chapter 13). The ongoing problem at Seascape Sur, which was detected again in this reporting period's Coastal Monitoring and Dry-Weather Monitoring Programs, will be discussed in greater detail in Chapter 13 (Special Investigations).

Additionally, City staff will continue enforcing the Grease Trap Ordinance on both new and existing restaurants. Staff will inspect the grease traps/interceptors during annual storm water inspections to ensure that proper maintenance is being conducted and records kept on-site.

8.10 Summary

As evidenced by the Copermittee WWMP, the City's DWMP, the City's "team approach" in responding to complaints, and the improvements made citywide in procedures and investigative processes, the City is proficient and effective at detecting and eliminating IC/IDs, and working to change the human behavior that

has caused negative impacts on water quality.

Recognizing that human behavior is the basis of many non-point source pollution problems, the City quickly acts on reports from residents, City staff, and other agencies to follow up on problems as soon as they are reported. The City altered the storm water hotline to link directly to the new Environmental Specialist's voice mail box so that calls can be consistently monitored and acted upon. The City has effectively utilized the administrative fine process which has proven to be a very efficient and timely procedure in issuing citations, which will reduce the potential for pollution into the City's MS4.

Some of the City's key accomplishments for this component include:

- Continued to promptly investigate complaints and reports of IC/IDs.
- Participated in the 2006 San Diego County WWMP.
- Operated a storm water hotline and email account 24/7/365 to report IC/IDs.
- Continued implementing the Coastal Monitoring Program testing outfall pipes once per month for IC/IDs
- Continued implementation of the Grease Trap Ordinance that requires all new, remodeled and existing restaurants to install a grease trap/ interceptor.
- Implemented the Contact/Complaint Excel database to track daily reports of storm water contacts/complaints
- Continued to investigate the continued bacteria problem at the Seascape Sur outfall, refocusing efforts to develop a long term structural fix to the pipe

CHAPTER 9
Education Component

CHAPTER 9: EDUCATION COMPONENT

In accordance with Permit Section F.4, this section of the report describes the City's efforts to implement a community education program, as described in the City's JURMP.

In each Annual Report to the RWQCB, this section will include a description of the City's efforts during the reporting period and possibly post-reporting period if the activity is deemed essential to understanding the City's efforts at reducing urban runoff or Permit compliance. In addition, this section of the report will include the City's planned educational efforts for the following fiscal year.

During this reporting period, the City continued the comprehensive Education Component of the JURMP (Section 9) that was developed and implemented during the last four reporting periods. The activities were expected to increase knowledge among the residents, business owners, and those who do business (such as contractors) within the City. The City developed the program based on the requirements of the Permit and continued implementation during this reporting period.

During this reporting period, the cities of Carlsbad, Del Mar, Oceanside, Escondido, Vista, San Marcos, Encinitas and Solana Beach continued the North County Education Group that was formed to develop strategies and programs to provide consistent messages to the communities of San Diego North County. This basis for this group is to have a more effective educational program than would be if the cities offered divergent messages. The group consists of storm water program managers, assistants and staff members who all bring individual talents, experience and interests to the program.

As a collaborative, the group is able to obtain lower cost for educational tools (such as brochures, flyers, handouts, small tokens [pens, keys, etc.]), which provides a financial benefit to the agencies and thus, the community.

The North County Education Group has continued meeting through this reporting period, in which the City has been an active participant (for a summary of meeting dates, jurisdictions in attendance, and topics discussed, please reference the Carlsbad WURMP Annual Report).

The group has been able to assist each other in developing a consistent

message incorporating the interests and concerns of each agency. When brochures and handouts have been created, flexibility among the agencies was required.

The collective decision-making process has also generated cooperative working relationships among the agencies, which was extremely beneficial when the development of the Watershed Urban Runoff Management Program(s) began and in working together to complete various storm-water-related tasks. The community also benefits from the consistent “one message” approach rather than six or seven different rules and regulations.

9.1 Pollution Prevention through Education – Jurisdictional Activities

The City’s storm water program is comprehensive. Not only are there many components to administer, there are many different programs going on simultaneously throughout the County. The City participates in jurisdictional, watershed and regional activities. Each of these has separate and distinct educational components. The watershed activities have been recently defined and are in the early stages of implementation; since this is a jurisdictional report, there will not be much discussion about those in this Annual Report (For more detailed information on WURMP related activities, please see the WURMP Annual Reports for Carlsbad and San Dieguito). The regional activities have been primarily described in the Copermittee *Unified Urban Runoff Management Program Annual Report for Fiscal Year 2006-07,* which has been submitted by the County and incorporated herein by reference. However, some of the activities will be summarized in this section of the report (see Regional Activities).

9.1.1 Staff Training

One of the most important aspects of the City’s educational program is to educate its staff members. This turns out to be a relatively easy task for this City in that there are only about 70 full time staff members. All staff members are required to attend an all-hands citywide staff meeting each month. Staff determined that the best opportunity for training would be at the monthly staff meetings.

The City’s Environmental Specialist prepared several different training sessions. These include:

- Delivered presentations at City Council meetings regarding several

different aspects of the storm water program. Council meetings are televised throughout the City and meeting minutes and action agendas posted online and available at the City Clerk Department.

- Delivered Sewer Overflow Response Plan training to the Public Works Staff to emphasize proper detection, prevention, clean-up and reporting practicing to reduce number of sewage spills that enter the City's MS4 System.

- Distributing handouts describing general BMPs.

The City believes that all current staff are adequately aware of the storm water issues, and all new staff will be trained as appropriate upon arrival. However, due to the constantly evolving storm water field, the City will continue the periodic educational trainings at future City all-hands staff meetings and department specific trainings as appropriate.

9.1.2 Annual Beach Cleanup Days

Based on the results of the baseline survey; workshops, brochures, flyers, and articles were developed to promote understanding about storm drain pollution.

The City of Solana Beach, in cooperation with I Love a Clean San Diego County, Inc. coordinates an annual "Beach Cleanup Day". These events are volunteer beach clean ups. As noted in this report, in September 2006, the City hosted its annual clean-up day and 118 volunteers collected 245 pounds of trash 80 pounds of recyclable glass and plastic materials that might have otherwise ended up in the landfill or worse, local waterways.

9.1.3 Storm Drain Tile Marker Installation

The City inventoried all of its storm drains (inlets and catch basins) and has the locations in GIS format. The inventory list includes addresses, cross streets and a GIS bit-map. Stenciled tiles are affixed to each storm drain inlet or catch basin location, which reads, *"No Dumping! This drains to the ocean."* The City now requires all new or re-development projects that install a storm drain curb inlet or catch basin to include the stenciled tile. An extra supply of tile markers is kept at the City's Public Works Yard for all City projects as well as for private contractors to install on their projects to provide a consistent message throughout the City.

9.1.4 Local Community Events

The City of Solana Beach hosts an annual block party called Fiesta de Sol. Each year at the block party the City has a booth promoting to the participants no dumping or littering and to keep our beaches clean. The City also coordinates with Solana Center with their booth promoting proper disposal of HHW and recycling (oil included) in the City. The City passes out "*Only Rain in the Drain*" brochures, community surveys, and displays the watershed poster, "We All Live in a Watershed…" Staff discusses with residents the importance of protecting the water resources and educated them on the new storm water regulations. This reporting year's Fiesta Del Sol occurred on June 2 and 3, 2007. There were approximately 50,000 visitors during this year's event, and City staff distributed storm water brochures and informational flyers to those who visited the City's booth.

The City also partnered with a local community group to put on the second annual Beach Blanket Movie Night on 8/26/2006 (Appendix S). This was the second year this community event was held and was once again a huge success. The City worked closely with the event organizers and provided recycling containers, environmental educational material pertaining to storm water issues, and used oil recycling information. The event was very well attended and a huge success, and will continue to occur annually. This is a great way to promote environmental awareness at a free event to the community.

9.1.5 School Programs

The Solana Center is a local organization that writes articles for the City Newsletter (*Shorelines*) and presents educational programs in the City schools regarding storm drain pollution using the watershed model (Enviroscape) and fun handouts and items for the kids. Solana Center is paid through the City's solid waste contract, as well as a HHW grant, to provide educational opportunities to the community. City staff is in regular contact with the Solana Center and is confident that their program(s) is educational and informative for the children. The presentations are provided free to the local schools, and the information provided is invaluable.

The following table shows what school/community education has taken place during this reporting period:

School / Adult Community Education

Date of Event(s)	Event Title	Estimated Audience	Specific Audience	Location	Jurisdiction
July 10-14, 2006	Fantastic Rain Forest	21	Grade 1-Jr High	La Colonia Community Center (Field Trips Included)	Solana Beach
July 24-28, 2006	Ecology and Lagoon Exploration	21	Grade 1-Jr High	La Colonia Community Center (Field Trips Included)	Solana Beach

The Summer Camp Program is for children entering 1st grade to junior high. This camp is filled with games and crafts that enlighten children's awareness of the environment and include special field trips to immerse the children in the local environment and teach environmental stewardship. For more information on the classes, please see Appendix T.

9.1.6 Workshops

As discussed in previous Annual Reports, the City made a decision to discontinue local workshops due to non-interest from the community. The City is very small and does not contain many businesses. Therefore, the City has found that education is more efficient and effective if done on a more personal level. Staff often interacts with the public out in the field, where they can educate them at the time a violation is witnessed. Additionally, Staff educates the businesses during the annual inspection process, where we have their undivided attention. This has proven to be a very effective tool in educating the public, along with the quarterly newsletter articles and periodic mail-outs. Additionally, the City is very involved in the watershed groups and during this reporting period there was a conscientious effort to standardize the public education to bring a more consistent message throughout the region. It was decided that collaboration on regional workshops focusing on watershed specific activities and issues would be a much more efficient use of the limited resources in various cities. If staff could develop larger workshops to target specific audiences, it was decided that this, than it would be much more effective in targeting specific pollutant sources. We figured we could get more "bang for our buck" than individual workshops held in single jurisdictions that attracted one or two participants from the community.

The City also believed that participating in the regional program (at an even higher level than watershed) would be another efficient, effective approach to community educational workshops. If, in the future, the City notices an increased desire in the community to resume the workshops, the will be immediately resumed. In the meantime, the City will continue to participate in the Watershed

and Regional Outreach Programs, helping to promote a consistent message throughout the region.

9.1.7 Educational Brochures

The City has participated with the North County Educational Group to develop many effective educational materials. The handouts and brochures are included in the Carlsbad WURMP Annual Report.

- "*Only Rain in the Drain*!" describes the importance of protecting the valuable water resources and the problems that can be caused by storm water pollution. It also provides a list of BMPs to help prevent pollution. The brochure also provides valuable resource numbers: *a direct number for each jurisdiction* is provided, as well as the County's Storm water hotline. The brochure is available at City Hall, the City Fire Department and Marine Safety, each staff member was provided a brochure and brochures were personally distributed to local businesses. The City's Public Works Crew and Code Enforcement Officers deliver these every day to the community when small violations are observed. Since these staff members are out in the community everyday, this has proven to be an effective means of public education. Larger infractions are reported to the Engineering Department or Code Enforcement Department for follow-up.
- The door-hanger *"Help!"* provides a method for staff members to indicate to residents that pollutants were found near their home. The brochure is in English and Spanish, which is helpful to residents. It is typically hung on a resident's door, provides a place for business cards and under the cards, (should they become misplaced) the brochure lists a contact number for *each jurisdiction*. The back of the brochure provides BMPs for vehicle maintenance, car washing, hazardous materials handling, recycling, litter, and sidewalk/driveway debris.
- To assist the public in directing their calls for complaints and service, the City operated a 24-hour storm water hotline telephone recording (858) 720-4424. The number is connected directly to the Environmental Specialist's voice mail (so it can still remain anonymous, if necessary), so that violations can be investigated immediately and the proper action taken *while the violation is occurring*. The City informs the public about the hotline number at City Council meetings, on flyers and handouts, and on business cards and on brochures.

9.1.8 City Newsletter (Shorelines)

Chapter 2 contains all the information regarding the *Shorelines* newsletter and gives a brief description of the articles included during this reporting period. The articles are also included in Appendices E, F, G and H.

9.1.9 Web Site

The City continues to utilize all the benefits of recent technological breakthroughs to educate the community about the various environmental programs, including the storm water program. On the City's Web site (www.ci.solana-beach.ca.us), there is a page "Environmental Services" that is dedicated to the environmental programs in the City, including storm water management.

As mentioned in last years Report, the complete overhaul of the City's website has been finalized. The website is much more user friendly and staff has the ability to make instantaneous changes to individual web pages as necessary. This allows City staff to update the storm water page as things develop and documents/forms become available. This is much more efficient and effective than the previous design as requests to the IT department do not have to be made and processed, greatly reducing waiting time. Additionally, important forms can be accessed online by the public reducing the need to come to City Hall to pick up documents and forms.

In local articles in the North County Times, the City's *Shorelines* Newsletter, all brochures and handouts and on all business cards, the City's Web site is listed. Although the educational success of the Web site it not measurable at this time, staff is certain that the community has opportunity to learn about the various requirements of the Permit.

9.1.10 Business Community

The City has initiated several methods to educate the business community about storm water pollution prevention.

First, the City prepared a letter explaining BMPs, storm water regulations, and business community responsibilities. The letter has been sent to each high-priority business in the City, along with the appropriate business-type BMPs. During inspections, Staff checks to see that the BMP list and/or the BMP poster are posted in a highly visible area. If not, then Staff will reissue the list and require it to be posted at all times. Businesses are subject to enforcement if the

list is not posted during re-inspection.

Second, the City conducts a two-tiered inspection program (see Commercial Component, Section 4.4.3, for more details). Through the Advisory Inspections, which have already taken place prior to this reporting period, staff members educated the business owners about the requirements of the Permit and the City's various storm water programs. Given the City's close proximity to the Pacific Ocean and sensitive lagoons on either side, staff is able to show a direct link between commercial activities and impact on water quality. Next, Staff conducted Enforcement Inspections, to ensure that the businesses are using the proper Best Management Practices to protect the City's waterways. These inspections were much more thorough and increased enforcement actions, including fines, if necessary. During this reporting period, approximately *all* businesses that were inspected were inspected under the Enforcement Inspection protocol. Although some businesses had minor issues (trash lids not closed, parking lot not swept, etc.), there were no major infractions to report and no fines were issued.

Finally, the staff members have visited various businesses and left brochures, including door hangers, when pollutants have been found. In addition, staff members, including Code Enforcement Officers target educational messages (letters, visits, etc.,) to businesses when pollution is found in their area. Staff has been proactive in their approach to educating the business community.

9.1.11 Additional Signage at Seascape Sur Outfall

The City was notified by the Marine Safety Department that people have been washing their hands in the discharge from the Seascape Sur Outfall. Since this outfall has had historically high levels of bacteria, the City wanted to prevent this from happening for public health/safety reasons. The outfall already had a warning sign attached to it; however, the City Engineer ordered another warning sign be placed directly in front of the outfall sticking out of the sand. This will hopefully prevent people from doing this again, and it appears to be working so far, as there have been no more reports from the Marine Safety Department.

9.1.12 Special Events Permit

As reported in previous Annual Reports, the City adopted a Special Events Permit that is required for group events (Triathlons, Block Parties, Birthday Parties, etc.) of over 25 people on public property. A storm water section is included in the Permit, with requirements regarding the event and adhering to all

storm water regulations. This has proven to be a great educational tool, as most applicants tend to ask questions about this. It is a great tool to educate the public about storm water regulations. For an example of the Special Events Permit Conditions of Approval see Appendix U.

9.2 Pollution Prevention through Education – Regional Activities

The regional activities of the Copermittees of Order 2001-01 are for the most part, described in the Regional Unified Annual Report. However, for purposes of completeness, some of the activities that the City has participated in are described in this section of the report.

9.2.1 Regional Monitoring

As noted in Chapter 8, the City participated with the Copermittees of Order 2001-01 in conducting a region-wide wet-weather monitoring program. Although no mass loading stations were located within the City, one of the testing sites (San Dieguito Lagoon) is a receiving water body from the City's drainage.

The 2006-07 program is described in detail in the Regional Unified Annual Report and in the report issued by the consultant, MEC Analytical. MEC's report will be submitted with the Unified URMP, and any data collected will be reported and discussed in that report.

9.2.2 Model Programs

One of the most important regional educational components is the ability the Copermittees have developed to help educate each other. This has been accomplished through routine meetings, sharing of project assignments, and most significantly, the development of model guidelines for the JURMP, SUSMP, and WURMP(s). Not only have the model guidelines produced a fairly consistent message to educate the community, the model guidelines have established collaborative working relationships among municipal, county, and state agencies, which is remarkable.

9.2.3 Linking to Regional Resources

The City posts links to the regional Web sites (Project Clean Water and Think Blue). In addition, the City posts information on reporting storm water violations to the County's Regional Storm water Hotline on various educational materials. Linking the community together provides continuity, extension of resources, and

economies of scale for the community and the agencies, and contributes to a greater understanding that we are all one-part of impact on water quality. It's important to educate the community that water-quality program should not and do not stop at jurisdictional (or watershed) boundaries.

Through the www.projectcleanwater.org Web site, San Diego County has been able to link many community members to various storm-water/urban-runoff-related programs of interest. In addition, the website contains meeting information (dates, times, agendas) that are open to the public if interested.

9.3 Pollution Prevention through Education – Watershed Activities

In accordance with Order No. 2001-01, Section J, each municipality is required to participate in the development and implementation of a Watershed Urban Runoff Management Program (WURMP) for each hydrological unit in which the City's jurisdictional boundaries lie. The northern portion (~10%) of the City resides within the Carlsbad Hydrological Unit and the rest of the City resides within the San Dieguito River Hydrological Unit. As such, the City is required to participate in the development and implementation of two WURMPs addressing the runoff concerns of each watershed.

During this reporting period, the City actively participated in the development and implementation of the Carlsbad and San Dieguito WURMPs.

In short, each WURMP contains the following 1) a time schedule for developing a comprehensive map of the entire Watershed including all land uses, the storm drain systems, and inventories of all commercial, construction, industrial, municipal and residential areas, 2) a plan to ascertain the types of pollutants that exist in the water bodies throughout the watershed and a prioritization schedule to eliminate the pollutants; 3) a program to educate the entire community about issues related to urban runoff; 4) methods to provide the community opportunities to participate in the program; 5) plans to collaborate with Copermittee agencies to strategize, review and analyze information; and 6) an effective program effectiveness strategy and methods to conduct annual evaluations.

The City has been actively involved in the implementation of both WURMPs, and has brought materials developed in each WURMP to the residents of Solana Beach. The Carlsbad WURMP workgroup has been extremely effective in implementing almost all aspects of the WURMP, and are way ahead of the schedule developed for the WURMPs. The following list is a brief description of

all the notable accomplishments of the Carlsbad WURMP workgroup during this reporting period:

- Developed materials for public distribution providing a consistent message to all residents in the North County Watershed.

- Pursued funding for projects involving multi-agency participation that assist us in raising watershed and storm water pollution prevention awareness.

- Maintained inter-jurisdictional collaboration focused on creation and implementation of cost effective watershed awareness and storm water pollution prevention education projects.

- Distribution of an informational door hanger on storm water pollution prevention for residents.

- Storm water “click message” pens.

- Put Toxic Waste in its Place booklet.

- Pet Waste Bacterial Load Reduction Survey and pet waste bag dispenser distribution to target high priority pollutant – bacteria.

- Integrated Pest Management Landscaping and Gardening Workshops.

- SUSMP development workshop.

- Revised education/awareness surveys.

The San Dieguito WURMP has also been very effective in implementing the required activities established in the WURMP. The following is the four-pronged education and outreach approach developed during the reporting period:

- Incorporate core watershed principles into existing educational programs.

- Promote watershed stewardship in communities.

- Develop educational strategies to target priority pollutants within the watershed.

- Achieve milestones as determined through annual assessments.

For more information on these particular activities, please refer to the City's individual WURMPs Annual Reports.

9.3.1 Change in Direction for WURMPs…

The Carlsbad and San Dieguito Watershed URMP Copermittees focused their efforts on the high priority water quality issues in the watershed during the 2004-05 reporting period. The Copermittees received two enforcement letters from the RWQCB, 13267 Directive (October 8, 2004) and the Watershed URMP NOVs (June 2005), for not implementing watershed activities adequately. These letters have focused the Watershed URMP program; forcing the Copermittees to re-evaluate and expand their watershed activities. The RWQCB's 13267 Directive provided a list of potential watershed activities. Based on this list, the Copermittees revised their definition of a Watershed Activity and expanded the list of activities implemented within the watershed.

For more information on these particular activities, please refer to the City's individual WURMPs Annual Reports.

9.4 New Activities and Improvements for FY 07/08

The City will continue to educate the community through participation in the North County Education Group, the Regional Education Group, and using brochures, flyers, the *Shorelines*, and community/regional events. The City will also use the results from its DWMP to inform residents in areas that the data showed elevated levels of constituents of concern or materials that degrade the quality of water. The City plans to develop additional educational brochures that will be industry specific. The City also anticipates working more with the San Dieguito Watershed to develop educational materials specifically for that watershed. The City does currently use all educational materials developed by the Carlsbad Watershed throughout the City (not just the section actually in the Carlsbad Watershed), however, there are a few slight differences in the watersheds that will require specific materials. For example, the COCs for the San Dieguito Watershed are slightly different than in Carlsbad, therefore the materials should reflect this.

As a result of the 13267 Directive Letter discussed above, the cities have changed their approach to watershed issues and plan on taking a more direct approach in implementing activities that address specific pollutants of concern and their respective sources within the watershed. Following the direction of the

RWQCB, the watersheds have changed their approach slightly to integrate more pollutant based activities in an attempt to reduce COCs in the watershed and improve water quality. This appears to be the direction the RWQCB wants to go and the Copermittee's are eager to work with the RWQCB to improve the water quality throughout the region.

As discussed later in this Report (Fiscal Analysis Component), the City developed a NPDES Solid Waste Fee (Fee) that was voted and approved by the community of Solana Beach. As part of this Fee development, extensive outreach was conducted to educate the community on the benefits of this program and the necessity of a funding source to implement a successful program. City staff conducted many presentations and workshops for the community that educated them on pollution issues. Although these activities were conducted post-reporting period, it is worth noting in this Report. More information on these outreach and education activities will be given in next year's Annual Report.

A new activity that occurred after this reporting period but is worth mentioning is the development of a City operated cable access television channel that will be utilized by City staff to inform the community about upcoming events and educate the community on various topics. City staff will take this opportunity to place educational material on storm water issues/regulations to be broadcast through the television community-wide. The channel will run 24 hours a day, 7 days a week and is expected to become a significant public outreach and educational tool. This will be discussed in more detail in next year's Annual Report.

As mentioned in previous sections of this Annual Report, the new Storm Water Permit was adopted during this reporting period. This will most likely have strong implications and ramifications to the watershed activities listed above. It is anticipated that minimum activity levels will be established and more acutely described. Activities will be required to address high priority pollutants, and more directly, their sources within the watershed. This will require working closer and more collaboratively with neighboring jurisdictions, which the City is willing and enthusiastic about. The development of these programs will be the main focus during FY 07/08, with the implementation to follow in FY 08/09. This will be a very important year as the programs that are developed will be the guiding document for the next five year cycle of the Permit.

9.5 Summary

The City has been successful at implementing a jurisdictional program, collaborating to implement a regional program, and developing a watershed-focused educational program. The City is certain that with its strong messages, meaningful content and integrated program, the community will become more knowledgeable about pollution prevention methods. The City eagerly anticipates working collaboratively with the RWQCB in developing and implementing the educational component of the new Permit, which will guide the next five years of the program.

The City generally relies on educational material developed by the watershed and regional groups, as it has been agreed upon that a consistent message should be implemented whenever possible. However, much like the differences in the watersheds throughout San Diego County, there are slight differences in how individual cities implement and enforce the Permit. Therefore, it will always be necessary to develop some jurisdictionally specific educational materials for the benefit of the community.

CHAPTER 10
Public Participation Component

CHAPTER 10: PUBLIC PARTICIPATION COMPONENT

In accordance with Permit Section F.6, this section of the report describes the City's efforts to involve the public in the City's storm water program(s) by providing opportunities in which the public can participate. In each Annual Report to the RWQCB, this section will include modifications to the City's plans to provide opportunities in which the public can participate. In addition, this section of the Annual Report will describe the City's efforts during the reporting period. Also, a summary of activities conducted post-reporting period may be included if the activity is deemed essential to understanding the City's efforts at reducing urban runoff or Permit compliance.

Prior to the implementation of the JURMP (February 2002), the City did not have a specific "public participation program." However, many members of the community have taken an active role in environmental issues over the years, which is most likely due to the City's proximity to the Environmentally Sensitive Areas (ESA) such as the ocean and lagoons. As a result, the City was the first city in San Diego County to have curbside recycling (due in large part to the efforts of Solana Recyclers). The City has also been proactive in its approach to urban runoff and pollutant mitigation and reduction, by implementing a strict Municipal Code regarding Storm Water Management (adopted in 1993) and Grading and Excavation regulations to prevent erosion during construction.

As a result of Order 2001-01 (Permit), the City was required to design a specific program to ensure that the public had ample opportunities to learn about controlling urban runoff and assist the City in "spreading-the-word."

The Public Participation Component is closely related to the Educational Component. However, while the educational program describes activities the City engaged to educate the public, public participation will describe activities the Public engaged in (or were provided an opportunity to do so).

During this reporting period, the City continued the comprehensive Public Participation Component for the JURMP (Section 10) developed during the previous reporting periods. The program included activities that complemented the educational program with a goal of providing opportunities to ensure that residents, business owners, and those who do business (such as contractors) within the City, have an opportunity to learn about the negative impacts of urban runoff, understand the City's regulations relating to protecting the environment,

and participate in the development of storm water program involving the community. The City developed the program based on the requirements of the Permit and continued implementation during this reporting period.

Chapter Content

It is important that the reader understand that much of the public participation program is integrated into other program components and as such, much of the information within this chapter has been presented elsewhere in this report. However, to provide consistency in reporting, to ensure Permit compliance, and to present stand-alone chapters in this report, this section will include all opportunities for public participation, even if those same events were described in other chapters. However, for purposes of reducing redundancy, some events may be summarized in this chapter with a reference to other chapters for details.

10.1 Community Events

10.1.1 Fiesta Del Sol

The City of Solana Beach hosts an annual block party called Fiesta de Sol. Each year at the block party the City has a booth promoting no dumping or littering and keeping our beaches clean. The event was held on June 2 and 3, 2007. The City also passes out "*Only Rain in the Drain*" brochures and talks with residents about the importance of protecting the water resources. Solana Center also hosts a booth through the City of Solana Beach and promotes environmental stewardship, including used oil recycling and HHW information. Approximately 50,000 people attended the event this year and City staff handed out storm water brochures to those that visited the City booth.

10.1.2 Beach Clean Up Opportunities

During this reporting period, Coastkeepers and the nonprofit group I Love A Clean San Diego (ILACSD) hosted the 22nd Annual California Coastal Cleanup Day in September 2006. The City hosts two locations, one at Fletcher Cove to clean the beach, and another at San Elijo Lagoon to clean up the lagoon.

10.1.3 Adopt-A-Beach Program

The City works collaboratively with I Love A Clean San Diego in the Adopt-A-Beach Program. The Program consisted of local businesses sponsoring a beach and agreeing to clean up the beach at least 3 times a year (1 time for schools).

The City thought this was a great idea and extremely beneficial to the community, so approved our beaches being included in the program. So, four beaches (Tide Beach Park, Fletcher Cove, Del Mar Shores and Seascape Sur are all "adopted" and are cleaned at least three times a year. The signs are updated each year with new "adoptees" and City staff installs the new placards on the signs. This has been a very positive experience, as the City's beaches are each cleaned three times a year, resulting in at least 12 beach cleanups per year.

10.1.4 Beach Blanket Movie Night

As mentioned in the previous Chapter, the City co-sponsors, with a local community group, a free community event called the Beach Blanket Movie Night. This event consists of placing a large movie screen at Fletcher Cove and showing environmentally themed movies for the community to enjoy. City staff took this opportunity to distribute storm water educational materials and promote recycling efforts throughout the City. Additionally, Solana Center attends and has educational material for the community as well. This was a very well attended and received event and will continue in the years to come.

10.2 Community Workshops

As discussed in previous years' Annual Reports, the City has discontinued the "community workshops," due to lack of interest within the community. City staff attempted to promote interest within the community in a variety of ways, however the workshops hosted prior to this reporting period were not well attended. City staff decided to postpone the workshops until more interest is shown by the community. However, watershed and regional workshops are still being conducted and Solana Beach will continue to be actively involved and volunteer locations within the City to host some of the workshops.

10.3 City Council Meetings and Workshops

The Solana Beach City Council meetings are televised, which provides an excellent opportunity for the public to participate in local government. In addition, the City's Agenda is published *online* (available on its Web site), which provides the public an opportunity to readily access the upcoming Council reports.

Another development discussed in last year's Annual Report is the implementation of scrolling messages during televised City Council Meetings.

Staff has taken advantage of this new tool to place storm water messages and notifications for upcoming presentations, events, etc. This has proved very valuable and will continue to be utilized by City staff.

10.4 Copermittee Meetings

Most Copermittee meetings are open to the public to provide them an opportunity to participate in the process of developing the regional and local programs. Most Copermittee meetings are announced on the Project Clean Water Web site (projectcleanwater.org) and the City's Web site also links to the regional sites.

10.5 Collaborative Community Partnerships

The City has developed collaborative partnerships with various local organizations, which provide the public an opportunity to participate in improving water quality and/or the City's storm water program(s).

The City works closely with the Solana Center, which provides instruction to local school children on the harmful effects of pollution, the positive impacts of pollution prevention and the need to keep pollution out of the City's storm drains. Solana Center also provides the following services for the City:

Referral Phone Calls:

Solana Center staff provided recycling telephone referral services for residents on the Cities of Carlsbad, Del Mar and Solana Beach. Solana Center staff spent time educating the community about CRV updates, composting information, and how they easily incorporate recycling activities into their daily lifestyle. Community phone inquiries included:

- The locations of local recycling centers and hours of operation.
- Redemption values of materials.
- Basic information of what materials can be or cannot be recycled in curbside recycling programs.
- General recycling information for commercial businesses.
- Services on commercial recycling carts.

- RotLine – Answering community questions regarding composting an vermicomposting.

Less Toxic Yard and Garden Workshops:

Solana Center staff conducts presentations throughout the community on alternative gardening tips that reduce the use of pesticides and herbicides. These workshops also promote the benefits of composting, further reducing the amount of trash generated and shipped to landfills as well as reducing the need for harmful chemicals/fertilizers.

Community / Recycling Events

Event Dates	Name of Event(s)	Attendance at Event(s)	Description and Summary of Event(s)
June 2 and 3, 2007	Fiesta Del Sol	50,000	Annual event for the City of Solana Beach. Recycling services were coordinated in conjunction with Coast Waste Management and EDCO Disposal Inc
August 26, 2006	Beach Blanket Movie Night	~1,000	Annual event put on by a partnership between the City and local community group to provide a free night of environmentally themed movies. Educational materials were distributed at event.

School / Adult Community Education

Date of Event(s)	Event Title	Estimated Audience	Specific Audience	Location	Topic
July 10-14, 2006	Fantastic Rain Forrest	21	1st Grade - Jr High	La Colonia Community Center (Field Trips Included)	See Appendix T
July 24-28, 2006	Ecology and Lagoon Exploration	21	1st Grade - Jr High	La Colonia Community Center (Field Trips Included)	See Appendix T
7/20/2006	School presentation	20	Montessori School (Elementary)	Fletcher Cove Community Center	Identifying a Watershed, pollutio and erosion. Polluti Prevention
4/23/2007	School presentation	75	Montessori School (Elementary)	Santa Fe Montessori School	Identifying a Watershed, pollutio and erosion. Polluti Prevention
4/24/2007	School presentation	50	Montessori School (Elementary)	Santa Fe Montessori School	Identifying a Watershed, pollutio and erosion. Polluti Prevention

Community Workshops

Date of Event(s)	Event Title	Estimated Audience	Specific Audience	Location	Jurisdiction
September 6, 2006	Landscape Design Basics	25	Business/ Residential	Fletcher Cove Community Center	Solana Beach
September 13, 2006	Plants for Southern California	25	Business/ Residential	Fletcher Cove Community Center	Solana Beach
September 20, 2006	Landscape Sprinkler Systems	25	Business/ Residential	Fletcher Cove Community Center	Solana Beach
September 27, 2006	Landscape Watering and Fertilizing	25	Business/ Residential	Fletcher Cove Community Center	Solana Beach
October 5, 2006	Design, Plants, Sprinklers, Watering and Fertilizing	25	Business/ Residential	Fletcher Cove Community Center	Solana Beach
November 8, 2006	Weather Based Irrigation Controller Workshop	25	Business/ Residential	Fletcher Cove Community Center	Solana Beach
January 27, 2007	Design, Plants, Sprinklers, Watering and Fertilizing	25	Business/ Residential	Fletcher Cove Community Center	Solana Beach
February 6, 2007 (In Spanish)	Irrigation Principles & Adjustments & Repair	25	Business/ Residential	Fletcher Cove Community Center	Solana Beach
February 13, 2007 (In Spanish)	Irrigation System Troubleshooting	25	Business/ Residential	Fletcher Cove Community Center	Solana Beach
February 20, 2007 (In Spanish)	Controlling Programming	25	Business/ Residential	Fletcher Cove Community Center	Solana Beach
March 10, 2007	Design, Plants, Sprinklers, Watering and Fertilizing	25	Business/ Residential	Fletcher Cove Community Center	Solana Beach
March 27, 2007 (In Spanish)	Irrigation Scheduling	25	Business/ Residential	Fletcher Cove Community Center	Solana Beach

The above workshops are conducted by the City's private water company Santa Fe Irrigation District (SFID). However, the City provides the space to conduct the workshops and promotes the workshops at City Hall and with the landscaping contractors known throughout the community. The City also requires the municipal landscaping company to attend the workshops for educational purposes. This shows another great collaborative success between the City and its private water company. There is a great relationship between the two entities which extends beyond these workshops. The City and SFID work together to combat residential over-watering and ensure daily tasks and repair work are conducted in compliance with the Permit. In addition, pre-construction meetings for CIP projects include SFID and storm water issues are discussed. The City and SFID are committed to working together and maintaining this great working relationship since most of the work conducted by SFID (trenching, pipe laying, water testing) are all done within the City limits.

Down 2 E.A.R.T.H. Newsletter:

Solana Center produces an annual newsletter entitled Down 2 E.A.R.T.H. It has a Circulation 41,000 and is mailed directly to residents in the Cities of Del Mar, Encinitas and Solana Beach. The newsletter provides large outreach to residents about the need to recycle, curbside recycling referral phone numbers, used motor oil and filter recycling and household hazardous waste collection information.

Articles for the City of Solana Beach's newsletter:

Solana Center writes regular articles for the City of Solana Beach on a wide range of topics, including E-waste, recycling, composting and buying recycled. The topic is coordinated between the City's Environmental Specialist and the Executive Director of the Solana Center. The articles are included in the Appendices and described in more detail in other sections of this Report.

10.6 Other Opportunities

10.6.1 City Storm water Hotline

The City operates a storm water hotline, (858-720-4424) which is dependant on public participation to report suspected violations of IC/IDs and to inquire about workshop information or other storm water-related needs. The hotline provides 24/7/365 access to the public so that they can report potential violations and/or call for information as soon as they are thinking about it, rather than having to wait for normal business hours. The hotline is sent directly to the Environmental

Specialist's voice mail (it can still be anonymous) to ensure quicker and more efficient response to the public inquiries, as well as providing an outlet for the public to discuss issues directly with City staff.

10.6.2 Web Site

In this day of high-technology, the City uses its Web site (www.ci.solana-beach.ca.us) to provide opportunities for the public to get involved, learn about the various storm water programs, or send email messages to the Environmental Specialist (stormwater@cosb.org). The City's JURMP, SUSMP, and WURMP reports have been posted and requests for comments have been solicited. The City also provides links to www.projectcleanwater.org, the City of San Diego's Think Blue Campaign, the San Diego Regional Water Quality Control Board, the San Elijo Lagoon Conservancy and others.

10.6.3 Local Media

As described in detail in Chapter 9 (please refer to that chapter for more information), the City utilized the local media to inform and educate the public. Although this is not a public-participation activity, the information provided in the articles describes the ways in which the public can get involved, if they so choose. The City has a great working relationship with the local newspapers (Solana Beach Sun and Coast News) and has many articles published with environmental themes, including storm water related issues.

The City also published several articles in the *Shorelines* Newsletter (also described in Chapter 9) inviting the public to get involved, providing details on how they can participate in protecting the region's water resources.

10.7 New Activities and Improvements for FY 07/08

The City will continue to implement the elements of the public participation component as described in the City JURMP. The focus will be on expanding the collaborative partnerships to include more frequent opportunities for public involvement (clean up days, sampling days, etc.). Staff will continue to look for more opportunities to work with neighboring cities to host pollution prevention community events through its watershed programs (Large HHW event). Additionally, the City is working with the other Copermittee's in possibly putting together more large scale community educational events.

With the adoption of the new Permit, there is an added emphasis on developing

a Regional Educational Program. This will be a main focus for the Copermittees during FY 07/08, and will be expected to implement a comprehensive regional program that will provide a consistent message to the entire region. As most of the new programs are geared towards improved watershed programs, this is one key area that was identified as a Regional program.

10.8 Summary

The City has been successful at implementing numerous methods to encourage public participation. The City makes every effort to encourage the public to participate in improving water quality, recognizing that it's up to all of us.

Key opportunities for public participation included the following:

- Regional Copermittee Outreach Events
- Fiesta Del Sol
- Coastal Clean Up Day
- Regional Workshops
- City Council Meetings
- Copermittee meetings
- Collaborative community partnerships (SFID)
- Contacts through the City's Storm water hotline, City Web site
- Beach Blanket Movie Night

CHAPTER 11
Assessment of JURMP Effectiveness Component

CHAPTER 11: ASSESSMENT OF JURMP EFFECTIVENESS

In accordance with Section F.7.a of the Permit, each Copermittee is required to develop a long-term strategy for assessing the effectiveness of the various components of the its Jurisdictional and Watershed Urban Runoff Management Programs (URMPs).

During this reporting period, the City has continued implementation of all components of the Permit. This section will assess the effectiveness of the JURMP, and discuss all strengths and weaknesses of the City's program.

11.1 "A Framework for Assessing the Effectiveness of Jurisdictional Urban Runoff Management Programs

During FY 03/04, the Copermittees developed an assessment document titled, "A Framework for Assessing the Effectiveness of Jurisdictional Urban Runoff Management Programs." This document was prepared after discussions with the RWQCB in which the Board stated that the Copermittees needed a better method to assess the effectiveness of the JURMP. This document was approved by the Board and will be used to assess all future programs, or until another method is agreed upon. The document addresses six levels of assessment:

1. Compliance with Activity-Based Permit Requirements
2. Changes in Knowledge/Awareness
3. Behavioral Changes
4. Load Reductions
5. Changes in Discharge Quality
6. Changes in Receiving Water Quality

The levels of assessment have been combined into three rather than six categories for this reporting period because it is easier to assess the programs when they are combined into these three categories. Level 1 includes modified assessment tables from the JURMP. Level 2 and 3 are combined and discuss the program strengths (accomplishments and outcomes) for each component. Level 4, Load Reductions, is still being assessed as to the proper way to address

this (possibly TMDLs) and so is only briefly discussed, and Level 5 and 6 are combined to attempt presenting a water quality assessment.

The strategy uses both quantitative and qualitative measures of program effectiveness.

In addition, during the development of the WURMPs, the cities worked tirelessly to develop a meaningful method to assess *that* program for its impact on water quality – not just whether or not the program components were implemented, but more importantly, the ability to find a way to measure the link between activities and improved water quality, if it exists.

The WURMP program effectiveness strategy incorporated all of the elements of a meaningful method to assess impact, incorporated public comments, collaborative writing, thinking and designing, and in the end, is a good start at learning how to meaningfully determine the value of the storm water program activities. The City anticipates that over time, the results of a well-thought-out meaningful assessment will provide the region important information from which program activities can be designed and modified, rather than implementing program activities and hoping the activities have the expected impact. The individual WURMP program assessments can be found in the submitted WURMP Annual Reports.

11.2 Level 1: Compliance with Activity-Based Permit Requirements

A table that summarizes the activities tracked by City staff, which demonstrates compliance with the requirements of the Permit, can be found in Appendix Y, Additionally, narratives explaining the City's efforts regarding compliance can be found in the individual components of this Annual Report.

11.3 Levels 2&3: Changes in Knowledge/Awareness and Behavioral Changes

This section is broken up into each component of the JURMP and presents a summary of the changes in knowledge/awareness and behavioral changes. Each section discusses the accomplishments for the component and discusses future improvements.

The assessment forms (worksheets) developed by the Copermittees were created to establish a consistent method of tracking program actions and

accomplishments between agencies. The City's JURMP included the expectation that the forms would be utilized and as a result, the City will report the information as requested in the following sub-sections. However, some of the information is best reported in a narrative format, while some is best presented in tabular. All relevant information will be reported. For complete discussion of each program component, please refer to its corresponding Chapter of this Report.

Municipal Component

Program Strengths: During this reporting period, City staff again inspected *all the City's catch basins* and cleaned every one that appeared to have trash or sediment accumulated in the basins. Public Works staff removed approximately 7 cubic yards of material from its storm drains. The City also manages an active Beach Cleaning Schedule and maintains several different permanent BMPs throughout the City (the most significant structural BMPs being the biofilter located at La Colonia Community Center, the Low-Flow Diverter at Fletcher Cove and the CDS Unit at the north end of North Cedros).

For a discussion regarding the qualitative accomplishments of the City's Municipal Component (major accomplishments, educational and outreach activities, new activities or improvements to be implemented next year) see Chapter 2 of this report.

Table 11-1

Municipal Inspections

Activity	Quantity	Units	Comments
Number of high priority municipal facilities (*buildings*)	1	n/a	Inspected high priority facility (PW Yard) weekly at Engineering Safety Meeting held at Public Works Yard. Annual inspection conducted on 6/26/07 and facility also inspected prior to rainy season. See Chapter 2 of this Report, and Section Two of the City's JURMP.
Number of high priority municipal facilities (*parking lots*)	6	n/a	Visually Inspected weekly by PW staff. Cleaned monthly by street sweeper. See Chapter 2 of this Report, Section Two of the City's JURMP.
Number of high priority municipal facilities (*other*)	3	n/a	One park, all city streets and roads, and the MS4.

Number of high priority municipal facilities targeted for inspection (buildings and parking lots)	10	n/a	See above.
Number of high priority municipal facilities inspected	10	n/a	The Public Works Yard and all parking lots.
Number of medium and low priority municipal facilities inspected	5	n/a	Fire Department, Marine Safety Center, Fletcher Cove Community Center, City Hall and La Colonia Community Center inspected annually. All inspections occurred on 6/26/07.
Quantity of material removed from MS4 and beach	7	Cubic Yards	This is the amount of material the City collected from its annual cleaning of the MS4 and the beach.
Quantity of debris removed that could have enter MS4 (i.e. street sweeping, litter removal)	188	Cubic yards	As stated in this Report, the City had some significant issues with the street sweeping company, and documentation was one key area. There was a two month period (July-August 2006) where no information was available due to previous contractor not abiding by contract requirements. The City has since replaced its contractor and has a new company onboard that has resumed providing this information in a timely and correct manner.

The City's Public Works Crew is immensely knowledgeable when it comes to storm water issues. Since the crew is only five people, it is very easy to educate them on an ongoing basis. They are all very aware and conscientious of the storm water regulations and are eager to report any violations in the field to the appropriate staff. The Public Works Crew also hands out educational material to the community whenever the opportunity presents itself, and they are more than willing (and encouraged by their supervisors) to stop and talk to the community regarding these issues. The Public Works Crew is a vital part of the Storm Water Team, because they are always out in the field, and they have become the eyes and ears of the program. They have weekly meetings with the City Engineer, City Inspector and Environmental Specialist at the Public Works Yard where they discuss, among other things, the storm water regulations and they visually inspect the Yard.

The amount of cooperation between the various City departments has proven to be very successful, with each department willing to implement the storm water regulations into their program.

As reported in last years Annual Report, one of the improvement areas for this component would be to conduct more department specific educational presentations. This will continue to be a high priority activity and an area to improve upon. This has proven to be very successful and is highly encouraged by the Department Directors. It is anticipated with the development and implementation of the new Permit that more education of City staff will be required. This will most likely occur with more department specific presentations to detail any changes or additions to department specific activities required in the Permit. Most new programs included in the new Permit will not be required to be implemented until after this reporting period to allow for proper development, the department specific trainings will most likely occur in FY 08/09. The Environmental Specialist will analyze the new requirements and develop appropriate presentations to City staff, and will report on these in next year's Annual Report.

Additionally, as a result of the RWQCBs response letter to FY 03/04 Annual Report, the City now calculates and tracks the total amount of material collected by their street sweeping activities. The City contracts out the street sweeping to a private company, but after some discussions with both the RWQCB staff and the contractor, a solution was worked out. The amount of loads is now documented weekly by the street sweeper, and is verified by the City's Public Works Crew. This information is reported in this Annual Report and will be documented in the years to follow to see if a trend can be verified to assess the effectiveness of the program. Additionally, as reported in last year's Annual Report, City staff ensured that the new street sweeping contract contained language that mandates that this be done on a continuous basis. So far, the activity has been very successful as data that is quantifiable is now collected and will be useful in load reduction calculations in the future (as enough data is collected).

Improvement Areas: City staff is confident that all aspects of the Municipal Component are being adequately addressed, although they realize that things could always be improved. Some improvement areas may be additional educational sessions with City staff, to reinforce the importance of the Permit and how it affects their everyday activities (especially with the adoption of the new Permit). Increased inspections on Municipal facilities may be conducted to ensure compliance at all times. And lastly, a more detailed look at the "problem"

catch basins, if any, which may require cleaning every year. If any of these catch basins exist, then a more aggressive litter/trash campaign may be conducted to nearby residences or businesses in hopes of a load reduction in the catch basin. Additionally, the Environmental Specialist will commit to ensuring all new employees are educated as soon as they start employment. This will help them in adjusting their daily activities immediately to comply with the requirements of the Permit.

Industrial Component

Program Strengths: Since the City has only one industrial site (down from two originally reported in JURMP), it had been decided that a strong pro-active approach to compliance would be adopted. The one site (Baker Iron Works) has been incorporated into the routine inspection schedule of the commercial sites dictated in the Permit, thereby allowing the City to ensure that the site is up to code on all storm water issues. This is an increased activity over the requirements of the Permit as inspection of this industrial site is only required bi-annually (it meets all the requirements of the Permit for bi-annual inspection). Since the one site was elevated to a high priority site, the City has taken an active approach in ensuring that the site will be in compliance at all times.

The City has developed a strong working relationship with the owners of Baker Iron Works. City staff have visited the site multiple times and worked cooperatively with them to come into compliance. The owners have responded well to the City's educational efforts and compliance requests. The City has successfully worked with Baker Iron Works to help them come into compliance by instituting several BMPs throughout the property. Although there are no indications from any of the Dry Weather Programs throughout the years that this site has contributed to pollutants to the City's MS4, the mere fact that there is a possibility of this occurring in the future prompted the City to request that a few BMPs be installed onsite. A couple of very successful accomplishments occurred that are worth noting.

1. The first accomplishment was the sealing up of a small storm drain located on the property that drained directly away from the property and into street.

2. The second BMP installed was the daily dry sweeping of the property to ensure that no sediment/gravel got into the street by automobile traffic.

3. The third BMP integrated into their normal routine was the use of a magnet on the grounds outside where some work is conducted using steel. The magnet is used to sweep the entire yard and collect miscellaneous scrap metals that may have collected on the ground. This activity is conducted on an as needed basis, but no less than once per week.

4. The fourth, and most important, BMP was the installation of the storm drain sump/infiltration pit at the northwest corner of the property that was designed to catch all low flow dry-weather runoff from the property and filter it before it left the property. These BMPs have been successfully implemented by the owners and are currently in place and functioning.

An improvement area listed in previous annual reports involves ensuring that Baker Iron Works is complying with all requirements of the State Industrial General Permit, even though this is not a requirement of the storm water Permit. However, Baker Iron Works asked for the City's assistance in compliance and so City staff has worked with Baker Iron Works to implement the necessary elements for compliance. This has further helped the relationship grow between the City and its industrial partner, furthering the great working relationship.

As mentioned in last year's Annual Report, a devastating fire broke out in the office of Baker Iron Works. Most documents were destroyed, making it very difficult to send in all necessary paperwork to the State under the General Industrial Storm Water (GISW) Permit. Baker Iron Works staff worked with staff from the State regarding this issue and everything was worked out between them. Additionally, the employee training manual was destroyed, however this year's inspection confirmed that another one was developed and is available onsite.

City staff also worked with Baker Iron Works to come into compliance under the GISW. Baker employees requested help with the monitoring requirements so City staff trained them in the proper sampling techniques and offered options on where to take the samples for analysis. This just proves the healthy working relationship between City staff and Baker Iron Works.

Improvement Areas: For the next reporting period, City staff will revisit Baker Iron Works to conduct additional inspections and reevaluate their current practices. City staff believes that this industrial site is working well within the regulations of the Permit and is satisfied with the current situation. City staff will look to continue the open communication with Baker Iron Works and conduct further inspections

to ensure that all new employees are aware of and compliant with the storm water regulations. Also, City staff will ensure that Baker Iron Works is aware of any new regulations coming down from the State (new Permit) and work with them to ensure compliance.

Commercial Component

Program Strengths: During this reporting period, The City decided to disseminate between high, medium, and low sites, in order to focus on the high priority commercial facilities. The City decided it would be more effective to concentrate on the high priority sites to ensure compliance, as they would be most likely be the highest contributor of priority pollutants. As mentioned in previous reports, all the commercial sites were scheduled to be inspected on an annual basis, which is above and beyond what the Permit requires. However, the City decided to be more aggressive with the thoroughness of inspections at high priority facilities, since all commercial facilities have been inspected at least once during the life of this Permit.

During this reporting period, all of the high priority facilities were inspected (excluding restaurants). This includes all automotive repair, fueling, and washing facilities, equipment rental yards, golf courses and facilities that store heavy equipment, supplies, and machinery. There were fewer inspections this reporting period than in the last couple of years because the City decided to focus more time and effort on the high priority commercial businesses that have a higher potential to discharge pollutants than the smaller, exclusively indoor facilities such as restaurants and retail establishments. Since all commercial facilities have been inspected at least once (a majority of facilities have been inspected multiple times) during this Permit cycle, the City shifted its focus on the larger, more risky facilities. City staff decided to focus more on detailed inspections of the facilities listed above as well as restaurants that have a history of problems, if any. So, inspections occurred at 100% of all golf courses, automotive repair shops, gas stations, and equipment rental yards located around environmentally sensitive areas. These inspections were very successful and all facilities were in compliance, and no follow-up activities were required. This activity is more in line with the priorities established by the watersheds and regionally in switching priorities to high priority pollutants and their sources. By aggressively monitoring and enforcing high priority sources (facilities), it is anticipated that sources will be abated,

Another program strength is the implementation of the City's grease

management ordinance. The City is happy to report that a grease management ordinance was passed by City Council on September 7, 2004. Staff introduced the proposal to City Council on February 17, 2004, and got the approval to move forward with the education of local restaurants and the public about the pending ordinance. A condition of the resolution once the proposal passed was to give restaurants 18 months to install a grease trap/interceptor, or receive an approved waiver from the City. Therefore, all restaurants in the City (even existing restaurants) must have a functioning grease trap/interceptor by March 2006. This is a huge accomplishment by City staff as it is well documented that most major sewer spills are the result of grease related problems. Inspection of the grease traps and maintenance will be accomplished in conjunction with the storm water inspections.

Improvement Areas: In previous annual reports, one improvement that was mentioned was the inspection of 100% of all commercial facilities in one reporting period. All commercial facilities have been inspected, however not in the same reporting period. Staff decided to focus more efforts on those commercial facilities that have a higher potential to discharge pollutants of concern into the watershed. As mentioned before, this approach is more aligned with the watershed and regional approach of targeting high priority pollutants, and more specifically, their respective sources. The City will most likely need to adjust commercial facility activities with the adoption of the new Permit, but this will be addressed when the permit is implemented.

Residential Component

Program Strengths: The City provides a wide range of programs for its residents to allow for convenient implementation of pollution prevention activities. Among the many programs the City provides are:

- Curbside recycling (first in the County to provide this service)
- Greenwaste collection
- Aggressive Household Hazardous Waste collection program (described in detail in Residential Component)
- Community Education Program (described in Residential Component)
- The development and maintenance of the City's website regarding the

Storm Water Program

The City Council meetings are also televised to all the residents of Solana Beach. Many times storm water issues are discussed during these meetings. Other positive aspects of the program are the direct mailings of education materials and the articles placed in the community newsletter, "*Shorelines*." Tallying the amount of phone calls to the City's Storm Water Hotline does not appear to be a good assessment of the City's program. The City, because of its relative small size, prefers to conduct business on a more personal level. This has proven to be a much more effective way to work with the public. Therefore, although the hotline is still publicized, City staff distributes their direct telephone numbers to the public when dealing with storm water issues. This allows direct, immediate contact with a Staff member, which ensures immediate, effective response to storm water issues.

As stated in last year's Annual Report, the Environmental Specialist documents contacts (phone call, visit to City Hall, etc.) with the public regarding storm water issues to help assess the effectiveness of the program over time. The only calls documented are ones that required staff action on some level. The community of Solana Beach is very unique in that the residents are actively involved. Staff receives numerous phone calls every day that must be addressed immediately. Therefore, it would be unreasonable to document every contact made by the public, only the ones that pertain to storm water and where action is needed.

The table is substantial, so a brief summarization of the data is below. The complete table listing the caller, date, problem/issue, mode of contact (email, phone, counter, etc), and City action, is available for review at City Hall upon you request.

- There were 47 contacts made from the public that required follow-up activities
- There were 25 phone contacts
- There were 4 direct contacts from the community
- There were 11 emails received from the public
- There were 2 calls from the City's hotline number

- There were 5 contacts made through the radio system that instantly connects the Environmental Specialist to the Public Works Crew and Code Enforcement Department

Another area of improvement mentioned in previous annual reports was to develop additional educational materials for the residential community. This activity is constantly being addressed by the North County Storm Water Program (NCSWP) discussed previously in Chapter 8. The City feels that it is much more effective and efficient to address these issues collaboratively with the cities in the NCSWP. This allows for a consistent message to be disseminated to a large population of people throughout the North County, as well as resulting in a significant cost savings for the City.

Additionally, as discussed previously in this report, a major program component of the new Permit is to establish a Regional Educational Program in collaboration with all other Copermittees. This regional program will hopefully provide a more consistent educational message for the entire County, so that conflicting messages will not be disseminated throughout the region. This should drastically improve the educational outreach materials developed regionally; however watershed specific materials will still need to be developed based on high priority COCs and their sources within the watershed.

Improvement Areas: For the next reporting period, City staff will evaluate this component and make any necessary alterations to the program. The City will continue to develop educational materials for the residential community. All educational activities and materials that were produced by the NCSWP are described in detail in the Carlsbad WURMP Annual Report as well as summarized in Chapter 8 of this report.

Land-Use Planning for New Development Component

Program Strengths: The City continued its implementation of the local Standard Urban Storm Water Mitigation Plan (SUSMP) program. The City worked on implementing the SUSMP into all plan check processes. Although there will not be many projects within the City subject to this new requirement (the City is 90% built-out), the appropriate departments are still very aware of the requirements.

The Planning Department is actively involved in the City's Storm Water Program, and often notifies the Environmental Specialist when a proposed project may have storm water implications, including possible SUSMP projects. Although, as

mentioned above, the City is almost completely built-out, the Planning Department has, as a result of this Permit, developed a list of possible proposed projects that may require a SUSMP. These projects have not been approved, but Planning Department staff have surveyed the City and put this list together to warn other staff as these projects may be proposed soon. This gives staff a "heads up" before the projects are submitted that they will probably be subject to the SUSMP requirements and so the process can begin when, if ever, these projects are proposed.

Another extremely important activity that was implemented during this reporting period was the new addition to the Building Permit approval sheet to include an *Environmental* review section for the Environmental Specialist. Since the City does not have its own Building Department located within the City, (it shares its building department with the City of Encinitas located in Encinitas' City Hall) it has been difficult in the past to effectively communicate on building projects recently approved. Therefore, the Planning Department agreed to revise the routing sheet to include a new section titled *Environmental* so that storm water issues will be included in all plan reviews. This has been extremely effective especially for smaller single family home remodels and additions that would otherwise go undetected under the previous system. This also allows for a mechanism to require inspection of all proposed structural post construction BMPs before final approval of the project. This is an extremely effective development as now Staff has an opportunity to ensure that all post construction BMPs are installed according to plan, before they are covered up in the construction process, which occur a majority of the time.

The City has also participated with the North County Storm Water Program (NCSWP) to develop a SUSMP Tracking Table that helps identify any SUSMP projects that have the potential to impact a neighboring jurisdiction. This table contains information such as address, project type, post-BMPs, maintenance requirements, etc., that will help jurisdictions notify other jurisdictions of projects that may impact their cities. This is just another example of the beneficial collaborative working arrangements between the City and its neighboring jurisdictions.

Another success during this reporting period was the development of educational materials to distribute to prospective applicants prior to submitting their plans. Staff addressed this issue by putting together a "SUSMP Binder" at the Engineering/Planning Department counter that holds the adopted SUSMP as well as a couple "information sheets" (implemented 10/1/2004) that give a basic

description of the SUSMP and its requirements that prospective applicants can look at if they have questions. Additionally, City staff is available to discuss any issues or questions that they may have. Additionally, the City worked with the other cities in North County Storm Water Program to develop a construction brochure that is distributed to all prospective and actual permit applicants. This is discussed in more detail in the Construction section of this Report.

Improvement Areas: The City will continue to educate prospective applicants regarding the SUSMP if their respective projects will be subject to the new regulations. The City is very confident that its Land Use Planning component is very effective; however, it will continue to be modified in the future when necessary.

Construction Component

Program Strengths: The City Inspector and Environmental Specialist are responsible for conducting construction site inspections. The City Inspector is responsible for all public projects, whereas the Environmental Specialist deals with all private projects. However, they often team up and visit all sites together, which have proven to be very successful as they both bring in special expertise to the inspection process.

All construction sites were inspected for storm water issues on a frequency much higher than described in the City's JURMP. Since there are relatively few construction sites in the City, staff can visit the sites very frequently. Additionally, since the City only has one "City Inspector" for the whole City, he is responsible for monitoring all construction sites for all various issues. Therefore, he spends his whole day out in the field, and upon visits to construction sites for any issue (storm water related or not), he is able to monitor the BMPs on a daily basis. If the City Inspector notices a problem related to storm water, he notifies the Environmental Specialist immediately. The Environmental Specialist then investigates further, taking any necessary corrective or enforcement actions. This program has worked very well due to the already established relationship between the contractors and the City staff. Because of this pre-established relationship, the transition into storm water compliance was virtually seamless. The Inspector keeps a daily log of all his activities, and storm water related issues are included. The City also mailed out a wet-season reminder to all active construction sites reminding them of their obligations under the Permit. Therefore, the City is assured that all contractors are aware of the regulations, making enforcement much easier for the City.

The City's "Four-Tiered Approach," discussed previously in Chapter 7, has been a major improvement in the Construction Component. This approach has allowed the City to keep a much better handle on the construction contractors and their sites, as each building permit application is now reviewed by the Environmental Specialist and comments placed where appropriate. Additionally, for CIP projects, the applicant/contractor is required to have a Pre-Construction Meeting with City staff in which storm water issues are discussed. At these meetings, contractors are required to sign a Pre-Construction Inspection Checklist, are given a sample copy of the Site Inspection Checklist, and they are required to fill out a Wet-Weather Triggered Action Plan. All of these measures are taken to ensure that all contractors are aware of the storm water regulations, and it helps the enforcement aspect of the Permit as staff can be assured that all contractors have been educated and cannot claim ignorance of storm water issues. Appropriate enforcement actions (corrective, stop work, fines, etc.) can be enforced without fear of being challenged by violator.

Another activity that has proven very successful in regards to construction activities was the distribution of a colorful, informative BMP Construction Brochure. This brochure was developed by the NCSWP and delivers a consistent message for all North County Cities. The brochure is a tri-fold that gives background information on the storm water program and regulations and on the reverse side is a large diagram of a common construction site with the general BMPs shown and described. This brochure has been a huge success with the construction/developers world as they can post this brochure at their site to remind their employees of proper BMPs. These brochures are distributed along with the BMP Guides that accompany all permit applications.

The City believes that any opportunity to educate the community should be taken advantage of. So, during this reporting period, 521 BMP Guides and BMP Brochures were distributed to the public, as compared to 509 during FY 05/06 and 416 during FY 04/05, further verifying the City's commitment to education.

An area of improvement discussed in last year's Annual Report was the development and tracking of SUSMP long-term BMP maintenance agreements. The City is happy to report that this task has been completed and the City now has implemented a new Long Term BMP Maintenance Agreement that requires the applicant to submit a recorded document from the County of San Diego which includes the maintenance activities required and gives the City the legal authority to inspect the BMP to ensure compliance. This is an extremely helpful tool in ensuring that the post construction BMP is not only installed, but is being

properly maintained to remain effective.

The City's primary Engineer who reviews grading plans and post construction BMP requirements was an active participant in the Carlsbad Watershed SUSMP workshop developed to assist not only the developers in the region, but to promote consistency among fellow plan reviewers in the respective jurisdictions. The Carlsbad Watershed Copermittees felt it prudent to collaborate amongst each other to try and develop a consistent review process that each city could implement to make it easier for developers to design projects that would be approved throughout the watershed. This is discussed in more detail in the Carlsbad WURMP, but it is worth mentioning here to illustrate the City's willingness to participate in watershed activities for the betterment of the region. Although not many projects in Solana Beach fall into SUSMP requirements, the City still felt it necessary to participate in this activity to develop a consistent message for all developers in the region.

Improvement Areas: During the next reporting period, the City is committed to improving and modifying the construction program if any deficiencies are detected. The City is confident in its improvement during this reporting period, as the Four-Tiered Approach has continued to be highly successful, The City is also committed to developing more educational materials to distribute to the public, and contractors in particular. The Construction BMP Brochure has been a major success, and the contractors/developers are constantly looking to us for more information and guidance.

It is anticipated with the adoption of the new Permit, additional construction activities and programs will need to be developed and implemented. The City will continue to work with the Copermittees to develop these programs for implementation in the coming years. The significant activities included in the new Permit are the development and implementation of the Hydromodification Plan and the update to the SUSMP model. These are major tasks that the City will be active participants, and will be discussed in greater detail in next year's Annual Report.

Illicit Discharge Detection and Elimination Component

Program Strengths: The City continued to implement its IC/ID program by responding to complaints and investigating potential violations promptly and thoroughly. The City now serves the community much more effectively and efficiently by bypassing the storm water hotline and connecting the

Environmental Specialist directly to the community. The program has proven to be very successful as the community of Solana Beach is very intimate and prefers to do business face-to-face and see immediate results. The City has a very customer service focused atmosphere, and the residents demand instant and effective action on relevant issues. This has, in turn, been very beneficial to the storm water program because many times, in order to effectively deal with a violation or IC/ID, it has to be investigated immediately. This has led to many violations and violators being discovered while it is occurring, rather than long afterwards which leads to a lengthy and complex IC/ID investigation that often yields no results.

The Dry Weather Program was conducted by the City staff. The program was modeled after the initial report conducted by MEC Analytical, and the complete report is included in this report. In summary, there was one location that had the potential to be an IC/ID situation. This location has been a problem area in the City for a couple of years and the solution has proven elusive and is still being investigated.

An improvement area discussed in last year's Annual Report was stepping up the effort in solving this historic bacteria problem. The City commits a large sum of money in every annual budget to completely flush out the problem pipe with the hopes of eliminating any residual bacteria in the pipe. The City continues to work with the neighboring condominium complexes to attack the over-watering issues that may be contributing to the problem. City staff works very well in communicating possible IC/ID situations around the outfall, as the Marine Safety Department has a lifeguard station located directly in front of the outfall (during summer months). Whenever there is a noticeable increase in flow or odor, the lifeguards are instructed to contact the Environmental Specialist to investigate. This has led to a couple of violations at the residential complexes from individual contractors performing work, and necessary enforcement has been taken. This will continue to occur until a remedy is found for the problem outfall. More information on this problem area can be found in Chapter 13 of this Report.

Improvement Areas: During the next reporting period, the City is committed to eliminating the historical bacteriological problem at Seascape Sur. More aggressive actions may have to be taken to determine the ultimate source of the problem. The IC/ID investigations discussed in previous annual reports have turned out to be inconclusive; so the City may have to look at alternate solutions, such as a permanent BMP structure installation or the possibility of blocking off the connections to the storm drain and rerouting the site drainage of the

neighboring condominiums to the street before entering the catch basin. These solutions would be very expensive, and since the receiving water is not being affected yet, the City will continue to pursue the elimination of the bacteria at its source. Additionally, the City will continue to gather and analyze additional data from the wet weather and dry weather programs and compare the datasets to determine potential IC/ID problems.

Education Component

Program Strength: The City feels very strongly that the current education program being implemented by City staff has been very effective. The amount, and quality, of educational materials developed by the City and through collaboration with the other Copermittees, has proven to be very successful. The complete educational program is discussed thoroughly in the Educational Component of this report.

Improvement Areas: The City is very satisfied with its current educational program. The North County Storm Water Group has gone above and beyond the requirements of the WURMP's educational component, and has delivered many quality items to the resident's of Solana Beach. The only area of improvement for the City would be to resume the community workshops when the demand is great enough from within the community. Additionally, the City will work more diligently on promoting the free classroom presentations provided by the Solana Center. The City, through its local contacts, will be more aggressive in contacting the schools to set these valuable presentations up. This is an area that has been somewhat underutilized, and is a focus point for improvement in the future.

Public Participation Component

Program Strengths: The residents of Solana Beach have multiple opportunities to interact with City staff through the hotline, website, and direct interaction. All City staff are available to discuss any issues with the community if they come into City Hall, and most all literature distributed currently has the Environmental Specialist's direct telephone number listed on it. The City staff prides itself on dealing with the community on a personal basis, and as a result has established many key relationships with members of the community. The City continued to host the annual Coastal Clean-Up Day that allowed the community to get involved as well as distributing educational brochures at the annual community event, Fiesta Del Sol. Some additional opportunities include:

- *Numerous Copermittee meetings*
- *Adopt-A-Beach Program*
- *Fiesta Del Sol*
- *Shorelines Articles*
- *Down 2 E.A.R.T.H. Newsletter,*
- *Opportunities to work with local Partnerships/Collaboratives*
- *City Hotline*
- *City Web site*
- *Community Beach Blanket Movie Night*

Improvement Areas: The City realizes its responsibility to get the community involved in the storm water program. The City has given the residents ample opportunity to get involved in implementing the program, however the City is committed to resuming the community workshops if the demand is great enough. City staff is very visible throughout the community on a daily basis and routinely has discussions with residents regarding storm water issues. The feedback given to City staff has been overwhelmingly positive, and the City looks forward to continuing this personal relationship with the community.

11.4 Level 4: Load Reductions

Level 4 load reduction is a key assessment measure for the storm water program. Ultimately, the goal of the storm water management programs are to reduce pollutant loads and by doing so, improve the discharge and receiving water quality. However, load reductions are very difficult to quantify, and the Copermittees as a whole are struggling to develop methods to achieve this task. This being said, the City will continue to analyze any data received that may be able to show a load reduction with the hope that it will somehow be linked to improvements in discharge and receiving water quality.

As a result of the Regional Water Quality Control Board's comments on the City's FY 02/03 Annual Report, the City has adapted its street sweeping program. The City now requires the private street sweeper to document all load information on a weekly basis. This includes an estimated amount of debris collected. This information was collected initially in FY 05/06 and continued into this reporting period as well. The total amount of street sweeping debris collected in FY 05/06 was 299.1 and it was reduced in FY 06/07 to 188. This shows a definite reduction in loads, however it should be cautioned that the City went through a difficult transition between contracted street sweeping companies and

the estimated loads were not fully complete. The City is confident that the new street sweeping company is performing well above expectations and so the analysis in next year's Annual Report will be much more statistically valid. That being said, the load reduction show in the data that we do have bodes well for the load reduction assessment. The decrease in debris being collected from the streets indicates that people may be handling their landscaping and green waste disposal much better with increased education.

This may be an effective way to calculate load reductions, which would be a good assessment of the program's effectiveness. Although, most of the debris collected by the street sweeper in the City of Solana Beach is organics (leaves, grasses, etc.), so therefore, this may not be a good indicator of load reductions. However, the information will be collected and analyzed and any trend will be documented for future use.

Another possible load reduction calculation could be documenting the amount of material collected and removed from the various BMPs throughout the City. These BMPs include:

- Annual inspection and cleaning of MS4 system
- Maintenance of CDS Unit(s)
- Maintenance of detention basin adjacent to San Elijo Lagoon
- Load reduction calculation for the Low Flow Diverter at Fletcher Cove and the filtration basket located upstream from Seascape Sur Outfall
- Load reduction calculation for the Biofilter maintained at La Colonia Community Center
- Maintenance records of permanent treatment BMPs required as part of SUSMP projects (privately owned)

All of these activities may not be feasible, however they all warrant further consideration. It has been generally agreed upon the Copermittees are not capable at this point to perform complete load reduction calculations and assessments, but we are committed to working towards this goal. The Copermittees have decided that this Level (4) should be attacked at a regional level, and not jurisdictionally. A major push coming up that should force us in this

direction are the impending TMDLs that will be developed and implemented shortly by the RWQCBs

11.5 Levels 5&6: Changes in Discharge and Receiving Water Quality

The City has been collecting and analyzing monitoring data received through the dry-weather and coastal monitoring programs. The City will continue to analyze the data to better understand the collective water quality picture in the City. The data will be assessed to determine the potential water quality problems within the City. Data collected by the City will be analyzed independently as well as collectively with the regional monitoring programs. Although it is generally accepted that it will take many years to develop a trend in water quality, the City will nonetheless analyze its data on a continuous basis to see if anything develops. There are no glaring deficiencies in the water quality in the City, but the situation at Seascape Sur will continue to be monitored to ensure that the storm drain does not have an impact on the quality of the receiving water (Pacific Ocean).

The Regional Monitoring Program currently conducts trend analyses for the Wet Weather Monitoring Program. The goal of the WWMP is to collect data and analyze the data to determine if there are in fact improvements in the receiving water quality throughout the region. The City participates in this workgroup and will continue to assist the Copermittees in determining if we have obtained levels 5 and 6 of the assessment strategy.

11.5.1. Dry Weather Monitoring Data

2006 Summary

The 2006 Dry Weather Monitoring Program found only one storm water conveyance line with an indication of illegal discharges to the City's storm water system (Seascape Sur). The majority of other sites visited were damp or dry. With the exception of the Seascape Sur area, sites that had water present did not have parameter concentrations high enough and follow-up investigations were inconclusive (dry upstream catch basins) to cause great concern.

The City will continue with its efforts to educate the Beachwalk business complex about the City's pollution prevention programs and continue its efforts to eliminate the discharge at Seascape Sur. Commercial educational programs should continue and include both the proprietors and their employees.

Residential programs should include building owners and residents. An informed public will provide support for new and already existing prevention programs.

11.5.2 Coastal Water Quality

The Pacific Ocean is the ultimate receiving water for the City although there are other intermediate receiving waters, such as the San Elijo Lagoon and the San Dieguito Lagoon. To measure the quality of the coastal receiving waters and assess the JURMP effectiveness, the City has monitored its one coastal storm drain outfall (Seascape Sur). The City used to monitor another outfall at Fletcher Cove; however, a low-flow diverter was installed in 1998 to divert dry-weather flows into the sewer system. This was done because of historically high levels of bacteria detected in that area.

Coastal and Lagoon Storm Drain Outfalls

The coastal outfall monitoring program reporting period is a little different than the reporting period for this report. The coastal monitoring program reporting period runs from November through October. All cities with flowing coastal storm drains met regularly (Coastal Monitoring Workgroup) to develop and implement this program to promote regional consistency.

The Coastal Monitoring Workgroup developed an adaptive monitoring approach. This approach was developed to theoretically allow the individual cities to adapt their program to concentrate their limited resources on problematic locations and ease up on consistently non-problematic areas. The City had *no receiving water exceedances* for bacteria during this reporting period, which was consistent with the results of last reporting period. So, it appears that the increased educational and oversight of the vendors at the Fiesta Del Sol was successful as there were no exceedances after the event for the third year in a row, as there had been in the previous two years. City staff made this a priority during this reporting period to meet again with the event organizers and discuss BMPs with them to relay to the individual vendors and provided them with more educational materials. In addition, City staff monitored the Food Court during the event to ensure all vendors were abiding by the storm water regulations. This was mentioned in previous annual reports as an improvement area because of the consistent exceedances after the Fiesta Del Sol that had occurred in the past.

The storm drain at Seascape Sur had multiple exceedances for total coliform, fecal coliform and enterococcus. This is a storm drain that has a history of high

bacteria counts and is currently the focus of an IC/ID investigation. The program is being implemented by City staff, and the complete results are presented in the Coastal Monitoring Annual Report.

The adaptive monitoring program also incorporated lagoon outfalls. City staff monitored eight lagoon outfalls, none of which had any samples taken. Although these outfalls were not required to be monitored because they either had no flowing water or were inaccessible due to sensitive habitat or dangerous conditions, City staff made the decision to monitor them anyway (when possible), to gather a complete picture of what was occurring at the City's outfalls.

Beach Posting Data

The County Department of Environmental Health has monitored beach water quality for bacteria since the 1950's. This sampling is used to assess the health of the beaches. When bacteria levels exceed State standards, the County posts the beaches with signs warning and advises the public not to enter the water. In 2000, there was a significant change in protocol as a result of the passage of AB411, which required additional testing, incorporating testing for enterococcus, and required the beach be posted when only one sample exceeded the standard.

During this reporting period, there were ***no beach closures***.

CHAPTER 12
Fiscal Analysis Component

CHAPTER 12: FISCAL ANALYSIS

In accordance with Permit Section F.8, this section of the report describes the resources that the City utilizes to finance the various storm water programs. The Fiscal Analysis Component of the JURMP (Section Twelve) has not been modified.

In each Annual Report to the RWQCB, this section will report on any changes in the revenue sources that finance the City's storm water programs, a *general* description of the expenditures during the reporting period, the budget adopted for the following reporting period and any changes known at the time of the writing of the report (to keep the document as current as possible).

12.1 Revenue Sources

The City finances its Storm Water Management Department via revenues from an NPDES solid waste fee. The City recently went through a long, arduous process to establish a long-term funding source to ensure the program would be sufficiently financed. This is an area that the Copermittees have struggled with and the City is very proud of the fact that it has secured a voter approved fee to ensure the long term future of the program. The City believes it is the only Proposition 218 voter approved fee in the State, and that further shows the commitment level of the community to preserve and protect the local environment. The following is a brief history and timeline of significant events that led to the vote and approval of the City's NPDES Solid Waste Fee:

- June 15, 2004- Council Authorization of Consultant to Develop NPDES Fee Report
- May 3, 2005- City-Wide Mail Out Announcing Community Workshop and Background for the NPDES Solid Waste Fee
- May 11, 2005- Introduction of NPDES Solid Waste Fee-City Council Meeting
- May 11, 2005- Scroll Information About Community Workshop on Television Broadcast During City Council Meeting
- May 19, 2005- Community Workshop
- June 15, 2005- First Reading of NPDES Solid Waste Fee Ordinance- City Council Meeting
- June 22, 2005- Second Reading (Adoption) of Ordinance- City Council Meeting
- September 1, 2005- Included Insert in both WM and EDCO Bills That Explained Extra NPDES Solid Waste Fee

- December 12, 2006- Staff Report to request Public Hearing to present updated NPDES Fee Study and rate structure – City Council Meeting
- January 2007- Proposition 218 notifications for Public Hearing sent out City-wide to all property owners – City-wide mail-out
- February 28, 2007- Public Hearing to consider adoption of updated NPDES Fee Study Report (protest hearing) and introduce Ordinance 362 implementing new rate structure– City Council Meeting
- July 11, 2007- Staff Report to set Public Hearing on September 26, 2007 to announce results of Mail-In Ballot Election

For more information on the City's NPDES Solid Waste Fee, please see the City's website at www.ci.solana-beach.ca.us.

FY 2006/2007 Expenditures

The storm water budget for the FY 06/07 Storm Water Department and other departments that support the storm water program are shown on Table 12-1. In addition to the budget below, the City also incurs significant costs associated with tasks that supplement pollution control such as routine street cleaning (trash pick up) performed by the public works department, cleaning of the parks and community centers, and beach clean ups.

Table 12-1

FY 06/07 Storm Water Budget

Expenditure	**Amount**
Salaries[2]	$150,100
Cleaning of Storm Drain System	$ 24,000
Permit Fees (County of S.D., RWQCB. SWRCB)	$ 20,000
Public Education, Investigations	$ 1,000
HHW Program	$ 15,200
Lab Testing	$ 14,000
Preparation and Consultant Fees for Watershed URMPs	$ 5,500
Maintenance of Steven's Creek Channel	$ 20,000
Training(Travel, Conferences, Meetings)	$ 1,700

[2] *Salaries for City personnel that handle storm water responsibilities were divided between various departments, depending on the amount of staff time allocated to that department. Salaries include anticipated overtime and benefits.*

Small Tools	$ 800
Misc. Items	$ 12,000
Seascape Storm Drain Cleaning	$ 15,300
Total	**$ 279,600**

12.2 FY 2007/2008 Proposed Budget

Table 12-3 presents the City's Proposed Budget for the FY 07/08 Storm Water Management Department.

Table 12-2
FY 07/08 Storm Water Management Proposed Budget

Line Item	Budgeted
Salaries	$ 157,500
Storm Drain Cleaning	$ 25,000
Permit Fees Paid to County & RWQCB	$ 15,000
Lab Testing	$ 15,000
Investigations, brochures, public education	$ 3,000
Steven's Creek Cleaning	$ 15,000
HHW Program	$ 16,200
Watershed URMP Shared Costs	$ 6,000
State Water Control Board Fees	$ 7,000
Training (Travel, Conferences, Meetings)	$ 1,700
Misc. Items (Including small tools)	$ 13,000
Seascape Storm Drain Cleaning	$ 16,300
Total	**$ 290,700**

The City is committed to allocating enough resources to effectively implement the components of the Permit. During the NPDES Solid Waste Fee Study analysis, a complete assessment of the program was conducted to determine how much money is being spent performing the duties of the Permit. This was the basis for the NPDES Fee, and the City is committed to reassessing the Program on a continuous basis to ensure the NPDES Fee is collecting enough money to offset the costs of the Program. The City must take special care to ensure the NPDES Fee is not collecting more than the costs to run the Program, so this reassessment is necessary for this reason as well.

The City will periodically assess the costs of the Program and make necessary adjustments to the NPDES Fee to ensure the City is recovering the costs of implementation. This will ensure a long term funding source which is paramount to a successful program. The City anticipates a significant increase in costs to develop and implement the new programs adopted with the new Permit, and will reassess the NPDES Fee in future years to reflect the increases in the Program.

CHAPTER 13
Special Investigations

CHAPTER 13: SPECIAL INVESTIGATIONS

In accordance with Permit Section F.5., this section of each Annual Report will expand on the City's efforts to prevent and eliminate illegal connections and illicit discharges (IC/ID) into and from the City's MS4 as discussed in Chapter 8. The City's IC/ID program is designed to identify, prohibit, and eliminate discharges that are a significant source of pollutants with the goal of protecting receiving water quality. This section of each Annual Report will provide the results of any special investigations conducted during the reporting period. However, the City also responded to many other complaints of possible IC/IDs, which resulted in rapid compliance, but did not warrant or require a comprehensive special investigation.

"The Mystery of the Bacteria at Seascape Sur…Still Going…"

13.1 Introduction

As reported in FY 2002/2003 Annual Report, there has been as ongoing, historical problem occurring at one particular location in the City. The location, Seascape Sur, has had historically high levels of bacteria, often times exceeding limits at the storm drain and occasionally in the receiving water (*no exceedances during this reporting period*). Previous annual reports go into deep detail regarding the history of this problem and the City's efforts to remedy it. Since the history is important in describing the situation, this report will include much of what was written last year. Any added information that was discovered during this reporting period will be included in this report. Next years report will include the City's additional efforts that were undertaken during the FY 07/08.

Prior to and during this reporting period, the City began a concerted effort to determine what was causing the elevated levels of bacteria at Seascape Sur outfall (based on results from the Dry Weather and Coastal Monitoring Programs). The problem was thought to be resolved early on, but then monitoring results in subsequent years indicated the problem had either returned or persisted. In 2000, the City Engineering/Public Works Department was fairly certain that the problem had finally been corrected; particularly when the 2001 DWMP indicated the bacteria elevated levels had *decreased* (although they were still elevated above the normal range).

However, preliminary results from the 2002 DWMP revealed that the bacterial

levels had risen from the previous year to a troublesome level (see 2002 DWMP, available at City Hall upon request). As a result, the City "went back to the drawing board," and with the help of MEC Analytical (consultant for the 2002 DWMP), began an upstream investigation that continued through the end of calendar year 2002.

13.2 Background

The City began its DWMP in 1993, with no significant problems reported until 1996 when elevated bacteria levels were noted at the Fletcher Cove Outfall. Subsequently, the City constructed a low flow diverter (in 1998), which corrected the problem by diverting dry weather flow to the City's sanitary sewer system.

Between 1997 and 1999 results from the DWMP revealed some minor issues that were readily resolved, but nothing significant at Seascape Sur or Fletcher Cove Outfalls.

However, results from the 2000 DWMP identified two locations with high levels of coliform bacteria, which was of significant concern because both locations flowed directly to the beach via the Seascape Sur Outfall and were in fact, just a short distance from the outfall. The City conducted an extensive investigation and eventually found an old leaking sewer lateral that was buried under the ground near the site of the catch basins used for testing. The lateral was dug up, examined, and staff determined that cementing over the pipe would be the best method to ensure it was completely sealed off (investigation confirmed that the pipe was no longer in use). Because the leaking lateral was located quite close to the curb inlet, City staff, plumbing contractors and the consultant were fairly certain that the pipe was the cause of the elevated bacteria counts.

To confirm that the pipe was the cause of the suspected pollution, the City contracted with Kinnetic Labs to provide additional testing, which showed reduced counts during several follow-up tests. At that point, staff was optimistic that their efforts had been successful.

The 2001 DWMP included ten sites for testing. To ensure the problem from the previous year had been corrected, the program included the same two sites that had elevated bacteria counts in 2000. Surprisingly, the site had elevated bacteria levels, but because they were much lower than the previous year, staff believed that the problem might be residual bacteria. As a result, the City ordered that the line between the curb-inlet and the outfall be televised in 2002 (the report for the

2001 program was delivered to the City in January 2002). The televising of the lines was scheduled during the routine cleaning of the storm drains later that year. Due to various issues, the televising of the lines did not take place prior to the implementation of the 2002 DWMP, which was under the regulations of the new Permit.

The City requested proposals from consultants to design and conduct the 2002 DWMP. The contract was awarded to MEC Analytical in late spring, early summer 2002. The City requested that the same two monitoring sites from 2000 and 2001 be included in the program, regardless of the new sampling procedures required of the Permit. The City included those sites to ensure continual monitoring of the area.

13.3 The 2002 Investigation

Samples for the 2002 program were collected on August 6th and 7th, 2002 throughout the City by MEC Analytical (MEC). Shortly thereafter, MEC contacted the City and informed the Storm Water Coordinator that significantly high levels of bacteria had been found at the locations of the year 2000 and 2001. As shown on Table 13-1, the amounts were troublesome.

Table 13-1

DWMP Initial Results (Sampled August 6-7, 2002)

Site	Site Location	Total Coliform	Fecal Coliform	*Enterococcus*
1	West Side of Sierra Ave	700,000	30,000	24,000
2	Manhole between sites 1 and 2.	900,000	50,000	28,000
3	Seascape Sur Outfall (downstream from sites 1 and 2)	800,000	21,000	35,000

Results are reported in MPN/100 mL.

Based on the above results, it appeared that the problem, whatever the cause, was more pronounced at Site 2, the manhole, than at either Site 1 or 3. Therefore, the City immediately requested that the conveyance system be televised. At the same, the City authorized MEC to conduct an upstream investigation, accompanied by City staff. MEC indicated to staff that the elevated levels of bacteria, combined with the results from previous years, were a sign that an illegal sanitary wastewater connection may be the cause of the problem.

However, subsequent inspection by City staff (including public works crews that inspected various locations of the line) did not reveal any expected accompanying waste solids. A somewhat consistent drip was noticed, which was traced back to nearby condo complex that was discharging their pool (the process was discontinued and the complex changed their procedures to drain into the sewer system). Other causes of the slow drip appeared to be over-watering of the many condominium complexes on Sierra Avenue.

Staff sent letters to all HOAs on Sierra Avenue that drain to the Seascape Sur outfall to eliminate the slow drip. Staff received calls from some of the HOAs in response to the letters and discussed the issue in more detail and received positive responses.

The results of the televised line were viewed by the City Engineer, which revealed a dip in the line approximately at the location of the manhole (with the elevated bacteria) and two possible illegal connections just west of the curb inlet. However, additional investigation indicated that the connections were not a problem, but staff thought that the dip in line could be harboring residual bacteria, and possibly re-growth.

13.3.1 More Testing

In an attempt to pinpoint the source of the contamination, MEC and City staff began the upstream investigation on August 19, 2002. Samples were collected from Site 1, and at a curb inlet catch basin on the *eastside* of Sierra Avenue, directly upstream from Site 3 (named Site IE).

Staff was surprised when the results of the second round of sampling revealed *higher levels of total coliform (2,400,000), fecal coliform (50,000) and Enterococcus (500,000)* at Site 1E, than the previous results from Sites 1 and 3. Further, the results were surprising given that the dip in the line at Site 2 was thought to be the source of the contamination. *The results seemed to indicate that the source of the bacteria was coming upstream from Site 1E.*

13.3.2 Traveling Further Upstream

The curb-inlet catch basin on the east side of Sierra Ave (Site IE) receives street runoff and runoff from the Beachwalk Business Complex (Beachwalk). Beachwalk is a collection of various businesses located at 437 South Highway 101 in Solana Beach. Beachwalk businesses, at that time, included several restaurants (Pacific Coast Grill, California Pizza Kitchen, Rubios), several small

food facilities (ColdStone Creamery, Solana Beach Coffee Company, VitaFit, etc.,) several professional offices, a bike shop and others. Beachwalk was constructed approximately 13 years ago and at the time of construction, an on-site storm drain system, that collects on-site runoff from the property, was lawfully connected to the City's MS4.

Based on the results of the second round of testing, City staff thought that the source of the contamination must somehow come (or significantly contribute) from Beachwalk. Upon speaking with the Management Group that oversees the property, staff made several visits to look for possible non-point source explanations and speak with business owners to discuss BMPs (see Timeline below for more details).

On August 27th, 2002, City staff went to Beachwalk and personally delivered educational brochures to *all of the businesses,* educating business owners about storm water regulations and BMPs. To ensure that all the businesses were addressed, door hangers were left at the businesses that were not open at the time of the visit and additional property visits were scheduled. City staff also spoke with the person responsible for maintenance of the property and provided detailed information about pollution prevention, storm water regulations, and BMPs and how to report violations. Many of the business owners were extremely helpful and all were cooperative. Some business owners went out of their way to show staff potential problem areas, discuss BMPs and provide access to private restroom facilities (staff were looking for overflow problems and unusual construction or evidence of recent repairs).

Staff conducted another visit on September 3rd, 2002 in response to a call from one of the business owner's that staff had contacted on August 27th, 2002. City staff confirmed that foul smelling odors were coming from catch basins on-site. Further inspection revealed excess watering occurring on the patio of the Pacific Coast Grill restaurant. A manager at the restaurant was contacted and educated regarding BMPs and the new storm water regulations. During this visits, staff determined that samples were needed at various storm drains throughout the complex to try and pinpoint and eliminate the problem. City staff identified several locations that should be tested and requested permission to collect the samples from the property owners.[3]

[3] *Although the City's Municipal Code does provide sufficient legal authority to order testing of the sites, rapid remedies are more likely to occur through solving problems in collaborative manner. For that*

On September 4th, 2002, City staff accompanied MEC to conduct additional testing and investigation. The process confirmed staff's suspicion that the bacteria levels were coming from Beachwalk. Various samples were collected at locations throughout the complex. An outdoor floor drain just outside the kitchen of Pacific Coast Grill appeared to have dark brown, stagnate water in it. On-site ammonia tests were also consistent with elevated bacterial numbers (60 mg/L). A sample (Site 32) was then collected for further lab analysis. Sites IE and 3 were also sampled again for additional information. As shown on Table 13-2, Site 32 confirmed that the contamination was coming from Beachwalk and most likely, the source was near or in, the floor drain outside Pacific Coast Grill Restaurant.

Table 13-2
Upstream Testing Results

Site	Site Location	Total Coliform	Fecal Coliform	*Enterococcus*
32	Beachwalk floor drain	>16,000,000	300,000	>241,960
1E	East Side of Sierra Ave	3,000,000	50,000	3,550
3	West Side of Sierra Ave	800,000	70,000	24,950

Results are reported in MPN/100 mL.

13.3.3 Just When We Thought the Problem was Solved…

After the lab results came back and confirmed what was suspected, the property owners were notified of the severity of the situation and were eager to remedy the problem and work with the City to find a solution.

The property owners worked together with the City's Public Works Supervisor and a local plumber experienced in storm drain cleaning to correct the problem. The east side catch basin was temporarily sealed, the pipe was flushed and a specially equipped trucked was placed at the catch basin to vacuum out the resulting sludge for proper disposal. As soon as the procedure was complete, on September 18th, 2002, City staff collected additional samples from all three sites (32, 1E and 3), *expecting the results to show a decrease in bacteria levels*. The residual water in the pipes was clear of the brown, stagnate water, which also contributed to the hope that the problem was *surely* resolved. However, while results from Site 32 indicated *reduced bacterial levels*, downstream sample *again* indicated *high bacteria levels*! (the sample on the west side of the street).

reason, City staff requested permission from the property owners to conduct some testing and received immediate access and cooperation.

13.3.4 Brainstorming

At first, these results seemed a bit perplexing (maybe it was the dip in the line?, etc.), but then, while staff continued to brainstorm ideas to solve the problem, some engineers thought was that the flushing of the system might have loosen some bacteria, which escaped collection by the Vactor truck. The City decided to wait a few weeks to see if the problem was alleviated after the system had time to completely flush out.

In the meantime City staff met with the property owners and 1) reviewed old construction plans for the property to look for potential areas of cross contamination; 2) discussed possible options that may help alleviate the situation, including training and education of business owners, television activities that might occur near the catch basin; and 3) it was decided that a temporary cap would be placed on the floor drain of Site 32 to secure it from contamination for 30 days (the cap could be removed during rain to prevent flooding).

After 30 days (and two rain events), staff requested that the plumbing contractor remove the temporary cap to allow further testing, which was agreed to.

13.3.5 Not again!

Surprisingly, results from this last round of testing indicated that there was still a significant problem on the property. An immediate meeting was scheduled with the property owners, who were informed of the test results and that the City now required them to remedy the problem through televising the lines, locating the illegal connection and reconstruction, or face serious fines by the RWQCB and the City. The property owners were concerned, responsive, cooperative and resolute in their attempts to do just that.

In addition, the City agreed to purchase a storm drain inlet filter to be placed in the catch basin just downstream from the complex, leading to the ocean outfall. It was installed the first week of December, and is maintained by the City's Public Works Staff. Although it does not filter the water passing through from Beachwalk, it does help alleviate the problem by filtering out the water coming from the street. The City hopes that this will help reduce the high bacteria numbers found in the catch basin.

13.3.6 Action Taken By Property Owners During FY 03/04 Annual Reporting Period

By the end of December 2002, Beachwalk property owners had done the following to remedy the problem.

While attempting to televise the lines, a significant amount of sludge built up in the pipe prevented the camera from penetrating the pipes (which is likely the source of the problem, City staff also reviewed the small amount of footage that was performed in the pipes)

- An extensive flushing out of the entire system was conducted, which took quite some time to accomplish amidst the rain events in December and the amount of material in the pipes.

- The lines were televised and detected a large dip in the pipe where sediment and sludge were building up, possibly providing a breeding haven for re-growth of bacteria.

- No illegal connections or sanitary waste connections were detected. There were a few pipes connected to the outfall pipe coming from the adjacent condos, however these lines were proven to be outdoor area drains. Beachwalk property owners and condo associations are completely aware of the responsibility to rectify the situation.

The City decided that they must increase their efforts to rectify this continuous problem to ensure the integrity of the receiving waters at Seascape Sur. The bacteria levels were still consistently high, often exceeding standard limits for the outfall, but, fortunately, not yet affecting the receiving waters. Growing increasingly frustrated, City staff decided that an increased effort, and the high costs that come with it, were necessary to finding the cause, and solution, to the problem at Seascape Sur.

On March 4, 2004, City staff televised the Seascape Sur storm drain line for maintenance purposes. The video showed a significant amount of sediment accumulated at the end of the pipe coming from the Beachwalk Business Complex. Staff met with the Beachwalk property management and mandated that they clean the sediment from the line. The Beachwalk management complied to our request and immediately cleaned the pipe, and City staff supervised to ensure all Best Management Practices were used and abided by at

all times.

Laboratory results were still coming back consistently high, so the City decided to take on the cost of completely cleaning the storm drain pipe with the hopes that it would remove any residual bacteria that may be contributing to the problem. The problem the City faced was that this had never been done before, and the dimensions of the pipe made it very difficult to develop a plan of attack. The pipe starts at the curb inlet on Sierra Avenue, then travels completely underground and slopes downward until it empties out onto the beach. The distance from the street to the outfall is approximately 550 feet and dips to 30 feet below the surface, so access is very difficult. The City was able to gain access from the neighboring condominium complex to place a vactor truck to ensure that no excess water would escape containment and empty onto the beach. The project took 5 entire days to complete (ending on Friday, May 5, 2004), with City staff working with its private contractor, and cost approximately $10,000. The City removed 4 cubic yards of sediment from the pipe, and used over 5,000 gallons of water. The City was confident that the next lab results would come back spotless.

13.3.7 What Happens Next…?

On the following Monday (May 10, 2004), City staff received a phone call from the County of San Diego Department of Environmental Health advising them that samples they took in the receiving water adjacent to the Seascape Sur outfall had failed AB 911 standards. The exact opposite had happened from what staff was expecting. It appeared that all the effort and money spent to clean the pipe had actually made it worse. However, Staff immediately began an IC/ID investigation and discovered that an adjacent condominium complex had a sewer spill that weekend and raw sewage had entered into the Seascape Sur storm drain. City staff was relieved that they found the cause of the high bacteria, but highly disappointed that all of their work, time, and money had been wasted by a small sewer backup, and it was back to square one.

Because the sewage was traced back to a private lateral, the City was determined to put the pressure on the condominium complex to clean the pipe again. Staff met with the HOA representative and a deal was worked out to have the pipe cleaned again, at the HOA's expense. Additionally, the City took this opportunity to once again educate the HOA and wrote an article regarding the proper handling and disposal of grease for the HOA's monthly newsletter The City then set the HOA up with a plan of attack and supervised the process, but the effort was stepped up a bit. Staff worked with the Regional Water Quality

Control Board to allow the City to use a small concentration of bleach mixed with the water to make sure that the pipe was completely sterilized at the end. This cleaning was done on September 24, 2004.

13.3.8 Where We Were in FY 04/05

The results of the cleaning performed on September 24, 2004 proved it to be very successful. The bacteria levels were reduced significantly and the City hoped that the sterilization would be a permanent fix. However, the results in the resulting few months showed that the bacteria was slowly increasing back to its historical levels, further frustrating City staff. This may be due to City staff's worst fear that the dip in the pipe could be harboring and resulting in re-growth of bacteria that may enter by way of decomposing organic debris and/or illegal dumping.

Since this did not permanently solve the problem, the City continued to explore other options. In March 2005, the City was discussing the situation with its contract lab, Weston Solutions, and jumped at the opportunity to participate in a pilot study aimed at refining a new lab analysis that would potentially categorize the generic coliform and enterococcus bacteria indicators as deriving from human or animal origins. This would be an extremely significant discovery because the City could further identify where the bacteria was coming from, human (IC/ID) or from animals (dogs, possums, raccoons, etc.), to help direct what steps to take in the future. The City could further refine its source identification and, in theory, stop wasting limited resources on sources that don't exist.

The pilot program is completed; however, the results did not come back revealing anything substantial. Only one sample came back positive for human bacteria (and this was somewhat inconclusive), and samples collected after this positive result all came back negative. Therefore, the City can conclude with relative certainty that the source of the bacterial contamination is not human. This one positive result may be caused by a single illegal dumping occurrence or by laboratory error. The resulting negative results show that there is not a continuous inflow of sewage, as would result if there were an illegal connection. Although the pilot program is complete, one early, important conclusion would be that the bacteria is not coming from human origins, which would allow the City to eliminate this from source identification and focus its efforts on non-human origins.

13.4 Timeline of Significant Actions

August 27, 2002- City staff distributed storm water brochures to all the businesses located in the Beachwalk complex. Staff toured the mall, visually inspected on site catch basins, outdoor floor drains, restroom facilities, and inspected several restaurants and discussed pollution prevention BMPs.

September 4, 2002- Based on feedback from the testing, staff spoke with the managers of Pacific Coast Grill, reviewed the storm water regulations, spoke about prohibited activities and distributed storm water brochures.

September 4, 2002- City staff and an employee from MEC conducted upstream investigation. A small outdoor floor drain contained brown, stagnate water with a very pungent odor. The drain cover was removed and the material was sampled. MEC called a few days later and reported that the results were consistent with the numbers for raw sewage for total and fecal coliform and *Enterococcus*.

September 18, 2002 - The Beachwalk storm drains were flushed out using clean, fresh water and the sludge was vacuumed out into a Vactor truck at Site 3. Results from follow-up samples indicated that a problem still existed.

October 24, 2002- Additional samples were taken to see if the problem had been eliminated. Results from the lab showed that the problem had not been solved. City staff continued to meet with property owners to pinpoint the source.

November 2002- The City installed a specialized catch basin filter unit that is designed to catch all debris (trash, organics, etc.) from the street before it reached the MS4 system. It also has specialized bio-filter rolls to filter out the hydrocarbons.

November 13, 2002- a semi-permanent cap was placed on the floor drain that seemed to be the source of the bacteria. A follow-up sample was scheduled for 30 days.

December 13, 2002- Samples were taken after the cap was removed and preliminary results indicate that the problem has not been resolved. More extensive investigation was ordered.

December 14-31, 2002- All property drains were cleaned and televised.

January through June- Increased monitoring and sampling through Coastal Monitoring Program to try and determine if the steps taken previously had successfully remedied the problem. An intensive educational program to the HOA's and the Business Complex was also implemented to assure compliance under the Permit.

March 4, 2004- Mandated and required the Beachwalk Business Complex to clean out storm drain system that leads to the City's Seascape Sur storm drain due to accumulation of debris (sediment, trash, etc.).

May 5, 2004- Completed cleaning of entire Seascape Sur storm drain line from Sierra Avenue to the beach outfall. A sewer spill occurred that following weekend from a private lateral connected to the Seascape line.

May 20, 2004- Wrote two articles for *Seascape Sur News,* the monthly newsletter distributed to the Seascape Sur condos, educating the residents on activities that may reduce bacteria that could be a possible source into the problem at Seascape Sur outfall. The first article was titled, "Sewer Clean-Outs," and it describes the proper way to dispose of grease (not down sink) to prevent sewer blockages and spills. The second article was titled, "Walk Dogs Off The Property and Clean Up After Them," which is pretty self-explanatory.

September 24, 2004- Completed cleaning again with the addition of bleach to counteract the sewer spill that occurred on May 5, 2004. Access issues during the summer months prevented the cleaning from occurring earlier.

November 2004- Samples showed a dramatic decrease in bacterial indicators, proving the cleaning was successful. However, future results showed the bacteria increasing back to historically high numbers.

March 1, 2005- Started participating in contract lab's pilot program to differentiate bacteria into human and animal origins.

May 30, 2007 – Conducted a thorough investigation with our lab (Weston) to detect any possible sources of the ongoing pollution (see below). Results of the investigation revealed that bacteria levels were in fact higher at the outfall than the catch basin; further reinforcing what City staff believes is a structural deficiency in the pipe that is leading to bacteria re-growth.

13.3.8 Where We Are Now (FY 05/06 & 06/07)

The City continues to struggle with this ongoing situation, and is running out of options to try and eliminate the high bacteria counts. The budget continues to include money for cleaning out the line once per year, but this is merely a temporary band-aid to the problem, whereas the City is looking for a permanent fix. The one positive to take from this is that the discharge is not affecting the water quality of the receiving water (Pacific Ocean) yet, but there is no guarantee that this will not change in the future. Here are some options the City is now looking at to hopefully solve this reoccurring situation:

- Repairing sag in the outfall pipe: This option is being actively researched as re-growth in the pipe is now the most suspected culprit. Our new Public Works Operation Manager is researching this option with other City staff. In addition, City staff is looking into other options such as re-lining the pipe or "pipe-blasting", which may help reduce the sag and improve flow through the pipe.

- Blocking off connections from adjacent residential complexes and making them drain to street so that discharge can be sampled: This option is seen as a last ditch effort, as it would be very expensive and politically charged. This would only be considered if outfall started affecting receiving water quality.

- Installing permanent BMP such as a low flow diverter: This option is also seen as a last ditch effort as it would be expensive and has not been fully researched to check the feasibility. City engineers would have to check the locations of the sewer main and the capacity to determine if this would be feasible. Funding may be available through grants for water quality, but again this option is a long term effort. City staff will continue to look into various funding options, one being the recent grant that allowed the City of Imperial Beach to install a low-flow diverter. Staff will monitor that project closely and may seek the same grant to place a diverter in this location.

- Conducting further tests to determine if source of bacteria can be pinpointed: This option is most feasible at this point. Our lab, Weston Solutions, has recently contacted the City again to be a part of another pilot program, this time with a study that will hopefully give us more results than the previous study. At this point, the City is open to any study that may assist us in finding the elusive source to the bacteria problem.

- The City's lab (Weston Solutions) did come out and visit the site once again on 5/30/07 with City staff to investigate the surrounding areas to see if they could detect anything that may be contributing. Weston has performed similar investigations in other cities with very positive results. They are as interested in finding the source as the City, as we have been partners now for years on this. The results were very interesting and reconfirmed the City's belief that there is substantial re-growth occurring in the pipe as the bacteria results were much lower in the catch basins than at the outfall. The results are as follows:

	East Side Catch Basin (MPN/100mL)	Outfall (MPN/100mL)
Total Coliform	700,000	16,000,000
Fecal Coliform	80	50,000
Enterococci	41	483

The City will continue cooperating with Weston and their professional staff to investigate this ongoing mystery until a resolution is found.

13.5 Future Activities

The City is committed to finding the solution of the bacteria problem at Seascape Sur. During last reporting period, the City was involved with its lab, MEC Analytical Systems, in investigating upstream to find potential sources of the bacteria (see above). Although this investigation did not give the City the results it had hoped for, it nonetheless was an attempt to solve the dilemma. As discussed above, the City is now looking at other structural options with its engineering staff to hopefully look at another angle in this seemingly unending battle. The investigations and studies have proven inconclusive and so now the City must investigate other more expensive options, more specifically fixing the structural deficiencies in the pipe.

The City has committed to setting money aside in its CIP budget to undertake some major projects to help solve the problem. As stated in the Fiscal Analysis Chapter, the FY 06/07 budget has $16,300 set aside specifically for the Seascape Sur storm drain cleaning. The City is committed to thoroughly cleaning

the pipe annually if need be, or until a long-term solution is found. The City is currently investigating other structural options and may find it better financially to undertake a large CIP project than continually spending $16,000 a year for a temporary fix. However, the location and depth of this particular pipe make it very difficult to work on, so it is taking some time to develop a sound engineering plan to fix the pipe or divert the flows. If this is the option the City ultimately takes, it will be very prudent to take the time to do it correctly, so the City is committed to taking the time to develop a plan to ensure its effectiveness.

Additionally, the City actively monitors the outfall pipe and all surrounding areas for any unusual occurrences, and the Marine Safety Department will continue to notify the Environmental Specialist whenever there seems to be unusual spikes or odors coming from the outfall pipe, as one of the lifeguard towers is located directly in front of the outfall (during summer months). Lastly, City staff will continue to work with the neighboring condo associations to educate the residents as well as perform inspections of upstream businesses.

13.6 Summary

The City has thoroughly utilized the results from its DWMPs during the last several years to identify and attempt to eliminate the source of bacteria that was exposed through testing and upstream investigations. With the efforts of City staff, and the cooperation of the Beachwalk property owners/managers and neighboring condominium complexes, the sources of these unknown and pesky bacteria has almost been solved. Unfortunately, with the structural deficiencies (the sag) in the pipe, it may only take a small amount of bacteria entering the pipe to remain in the sag and promulgate (re-growth). Fortunately, the elevated bacteria levels do not seem to be affecting the receiving waters (no exceedances the past two years) yet, but the City desires to stay ahead of the game and wants to take care of the situation before it becomes a problem. Therefore, the City is currently examining other options such as re-lining the pipe, "pipe-blasting" or installing a low-flow diverter. In the very near future, the City is confident it will close the book on the *Mystery of Seascape Sur Bacteria*.

CHAPTER 14
Conclusions and Recommendations

CHAPTER 14: CONCLUSION AND RECOMMENDATIONS

14.1 Conclusion

During the FY 2006/2007 reporting period, the City was able to successfully implement the many requirements of the Permit. Although the City has been required to have a storm water program under previous Orders issued by the RWQCB, this Permit greatly expanded the types of activities and documentation efforts required of the cities. This was the fifth and final year of implementation under Permit No. 2001-01, and looking back, the City is very satisfied with the progress of the program.

The City continued its "team approach" to implementing the JURMP by integrating the ever-evolving requirements of the Permit into specific tasks that each member would be responsible for implementing in their respective departments. The Environmental Specialist was responsible for bringing the group together and updating the respective departments on any changes that may affect their department's daily activities. Additionally, the Environmental Specialist was responsible for ensuring that all requirements of the Permit were being addressed and satisfied. This collaborative method allowed the City to more rapidly modify procedures and handle the increased workload quickly and efficiently.

The City's accomplishments during this final year of the JURMP implementation provide evidence of the City's pro-active approach to improving water quality. The requirements under Order 2001-01 expanded the previous Order (90-42) significantly and have altered many of the daily routines of staff at the City.

During the next reporting period, the City expects to build on the accomplishments of FY 06/07, and determine the most effective and meaningful program activities as to their impact on water quality (pollutant specific) collaboratively with the other Copermittees, and implement the approved program assessment strategy. Since the new Permit (Order No. 2007-0001) was adopted during the next reporting period (January 2007), the City anticipates working together with the RWQCB to implement the new regulations of the impending Permit. The City is confident that it accomplished the goals set out under Permit No. 2001-01 and is looking forward to continuing the successful programs of Permit 2001-01 and developing new and improved programs for Permit 2007-0001. This will be a very important year for the Copermittees as they

will have to evaluate and assess their programs and accomplishments over the last five years of the old Permit as well as develop and begin implementation of the newly adopted Permit 2007-0001. Although the adoption of the new Permit occurred post this reporting period, it is important to note that significant new programs were incorporated into the adopted Permit. These include but are not limited to:

- Hydromodification Plan
- SUSMP Model Update
- Low Impact Development (LID)
- Minimum inspection and street sweeping frequencies
- Post Construction BMP Inspections

The City eagerly anticipates working collaboratively with the other Copermittees in developing these significant programs for implementation in the next five year cycle. The City is confident that the Copermittees will continue to develop and implement these programs to meet the requirements and goals of the new Permit. The City understands that all parties' involved (Copermittees and RWQCB staff) are in this together to improve the discharge and receiving waters in the region and we will continue to support and work collaboratively with all parties to accomplish this goal.

*14.1.1 2006/*2007 *Accomplishments*

The following is a small list of notable accomplishments achieved during the 2006/2007 reporting period. All of these activities are described in more detail throughout this report. They are the following:

- Addition of two assessment questions on commercial facility inspection forms to help better assess the knowledge of the business community on storm water regulations. This was done in cooperation with all North County cities to develop a meaningful and consistent assessment of the north county region.
- Implementation of residential solid waste and recycling automated single stream commingled collection. This transition not only increased the City's

residential recycling rate by 22%, but also greatly reduced the amount of trash and debris in the City's MS4. The new program consisted of giving all residents new highly stable trash and recycling containers with attached lids so that they cannot be tipped over or picked through by animals. This was a problem with the old collection system because the cans most often did not have lids and could be knocked over easily, resulting in loose trash and debris that could enter the MS4.

- Modification of the Building Plan Check Form to include a new *Environmental* section that requires all plans to route through the Environmental Specialist for review. No permits can be issued without the Environmental Specialist signing of for approval. This is an obvious accomplishment since all plans will be reviewed for storm water issues.

- Developed and adopted a NPDES Solid Waste Fee to fund the programs necessary to comply with the Permit. The Fee funds pollution prevention activities and will provide a long term funding source which is paramount to a successful program.

- Cooperated with an extensive landscape and irrigation educational series for public and private landscapers. This cooperation between the City and its private water company Santa Fe Irrigation District proved very successful. The classes were given in both English and Spanish and taught the participants proper landscaping and irrigation practices. The City is dedicated to continuing its public/private cooperation's in the future.

14.2 Recommendations

Since the new Permit was adopted in January 2007, the majority of FY 2007/2008 will be dedicated to developing new programs and fine tuning existing programs to comply with the new requirements. The City is committed to working cooperatively with the other Copermittees to develop and implement the new required programs to provide a consistent and recognizable message for the region. However, the City still must develop jurisdictional specific programs to address the specific pollutants of concern and their respective sources. So, in an effort to implement a successful and meaningful program, the following are recommendations to improve the City's storm water program:

- *Resume the community workshops as soon as the demand is great enough.*

- *Continue to educate new and existing City staff to ensure compliance in the ever-changing storm water world.*
- *Complete the special investigation to uncover and eliminate the root cause of reoccurring problems upstream from Seascape Sur Outfall.*
- *Evaluate staffing needs and program responsibilities.*
- *Continue Implementation of SUSMP requirements and ensure all plans are in compliance.*
- *Develop the new JURMP program plan and implement measures to comply with Permit requirements*
- *Increase the education of residential sector which is a main focus of the new Permit. These programs will be addressed cooperatively at the regional level, but the City is committed to helping develop the materials and distribute to our residents.*
- *Continue to collect and analyze monitoring data to establish a long-term assessment of the City's water quality.*
- *Develop additional industry specific educational materials to distribute to the community.*
- *Develop and implement pollutant specific activities to address high priority COCs (Constituents of Concern).*

REFERENCES

City of Solana Beach. *"Adopted Budget for Fiscal Year 2002/2003."*

City of Solana Beach. *"Adopted Budget for Fiscal Year 2003/2004."*

City of Solana Beach. *"Environmental News."* Shorelines Newsletter. Vol.16. No.2. Fall/Winter 2003/2004.

City of Solana Beach. *"Environmental News"* Shorelines Newsletter. Vol.17.No.2. Spring/Summer 2004

MEC Analytical Systems, Inc. *"San Diego County Municipal Copermittees 2002-2003 Urban Runoff Monitoring Report."* September 2003.

APPENDICES

APPENDIX A: STREET SWEEPING MATERIALS FORM

Employee Name and Organization (below)

Date (above) use N/S below if not scheduled

1st 2nd 3rd 4th Tuesday	Time in: Time out:	Time in: Time out:	Equipment Number: Year, Make & Model

OBSTRUCTIONS (identify as vegetation, vehicle, etc. and provide description).

Reference previous date(s) reported (no entry above required):

End of day Volumn in Cubic Yards: _____
% (percentage) Sediment: _____
%(percentage) Organics: _____
Litter (describe-or-enter –0-) _____

Operator enter reason(s) for not following schedule or other comments: _____

C.O.S.B. Initial _____

Forward to R.W.Q.C.B. (C.O.S.B. Initial on Sending) City of Solana Beach 2004(adinf)

APPENDIX B: SMOKING BAN ORDINANCE

ORDINANCE NO. 316

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF SOLANA BEACH, CALIFORNIA, AMENDING SOLANA BEACH MUNICIPAL CODE SECTION 11.12.020 A TO INCLUDE TOBACCO LITTER AND ADDING SECTION 11.12.020 EE TO PROHIBIT SMOKING IN CITY PARKS AND BEACHES

THE CITY COUNCIL OF THE CITY OF SOLANA BEACH DOES HEREBY ORDAIN AS FOLLOWS:

SECTION 1. Findings and Purpose. The City Council of the City of Solana Beach hereby finds and declares that:

A. The City of Solana Beach is committed to keeping its beaches and parks clean, safe, healthy and pleasant for everyone.

B. Smoking is hazardous to health. Numerous studies have shown that second-hand smoke is a significant public health hazard. The U.S. Environmental Protection Agency has classified second-hand smoke as a group A carcinogen, the most dangerous class of carcinogen. Smoking in parks and beaches endangers children and others by exposing them to second-hand smoke. Moreover, children and youth who observe smoking and tobacco use in public beaches and parks may model the behavior.

C. The U.S. Centers For Disease Control and Prevention (CDC) estimates that second-hand smoke causes 3,000 lung cancer deaths per year among adult non-smokers in the U.S. The California Environmental Protection Agency has concluded that second-hand smoke causes coronary heart disease in non-smokers. Second-hand smoke is especially hazardous to particular groups, including those with chronic health problems, the elderly and children. The CDC has found that second-hand smoke causes children to suffer from lower respiratory tract illness, such as bronchitis and pneumonia, exacerbates childhood asthma, and increases the risk of acute chronic middle ear infection in children.

D. Additionally, discarding cigarettes and cigar butts and tobacco onto the ground in City parks and beaches is unsightly, unclean and particularly hazardous to small children who handle and sometimes ingest them. The City must collect tobacco litter in parks and beaches or it will be collected by stormwater and washed directly into our ocean waters in violation of the City's stormwater pollution prevention permit and to the detriment of ocean life and all ocean users.

E. The City Council therefore determines that banning smoking and the improper disposal of tobacco products in City parks is necessary to protect the health, safety and welfare of Solana Beach residents and visitors.

SECTION 2. Section 11.12.020 A. of the Solana Beach Municipal Code is hereby amended to read as follows:

A. To dump or deposit any trash, specifically including cigarette and cigar butts and tobacco, refuse, rubbish, litter, or other kind of waste materials, except in approved containers specifically placed and designated to receive such waste materials. No person shall dispose of any animal carcass in or on any beach or park.

SECTION 3. Section 11.12.020 EE of the Solana Beach Municipal Code is hereby added to read as follows:

EE. No person shall smoke within the boundaries of any public beach or park unless the City has designated a specific temporary or permanent signed smoking area.

SECTION 4. If any section, subsection, sentence, clause, or phrase of this Ordinance is for any reason held to be invalid or unconstitutional by a decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this Ordinance. The City Council hereby declares that it would have passed this Ordinance and each section, subsection, sentence, clause, or phrase not declared invalid or unconstitutional without regard to whether any portion of the ordinance would be subsequently declared invalid or unconstitutional.

SECTION 5. This ordinance shall become effective thirty (30) days following its adoption. Within fifteen (15) days after its adoption, the City Clerk shall publish this ordinance, or the title hereof as a summary, in a newspaper of general circulation within the City of Solana Beach as required by law.

INTRODUCED at a regular meeting of the City Council of the City of Solana Beach, California held on the 7th day of October, 2003, and thereafter

PASSED AND ADOPTED at a regular meeting of the City Council of the City of Solana Beach, California, held on the 21st day of October 21, 2003, by the following vote:

AYES: Councilmembers – Golich, Kellejian, Campbell, Sheres, Powell

NOES: Councilmembers – None

ABSENT: Councilmembers – None

ABSTAIN: Councilmembers – None

THOMAS S. GOLICH, Mayor

APPROVED AS TO FORM:

CELIA A. BREWER, City Attorney

ATTEST:

JAN UHLMAN, Acting City Clerk

STATE OF CALIFORNIA)
COUNTY OF SAN DIEGO) ss.
CITY OF SOLANA BEACH)

I, JAN UHLMAN, Acting City Clerk of the City of Solana Beach, California, DO HEREBY CERTIFY that the foregoing is the original of Ordinance No. 316 duly passed and adopted by the City Council of the City of Solana Beach, California, at a Regular meeting thereof held on the 21st day of October, 2003.

That, in compliance with the laws of the State of California, Ordinance No. 316 being:

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF SOLANA BEACH, CALIFORNIA, AMENDING SOLANA BEACH MUNICIPAL CODE SECTION 11.12.020 A TO INCLUDE TOBACCO LITTER AND ADDING SECTION 11.12.020 EE TO PROHIBIT SMOKING IN CITY PARKS AND BEACHES

A certified copy of the full text of Ordinance No. 316 along with the names of those City Councilmembers voting for and against said Ordinance was caused to be posted in the office of the City Clerk.

Executed the 23rd day of October, 2003.

(SEAL)

CITY OF SOLANA BEACH INCORPORATED JULY 1 1986 CALIFORNIA

JAN UHLMAN, Acting City Clerk

Published: North County Times: October 28, 2003

APPENDIX C: STORM WATER FACILITY INSPECTION FORM

City of Solana Beach - Urban Runoff Management Program
STORM WATER COMPLIANCE INSPECTION CHECKLIST
Page 1 of 2

Inspector: _____
Date / Time of Inspection: _____
Type of Inspection: Routine Follow-up Complaint Investigation

I. FACILITY INFORMATION

Facility Name		
Street Address		Zip Code
Facility Contact Person		Phone
Type of Business Commercial Industrial	JUMRP Prioritization level *(circle one)* High Medium Low	Standard Industrial Classification Code (SIC) if any

II. GENERAL SITE CONDITIONS

	S*	U*	N/A	Comments
General Observations				
Awareness of storm water related issues?				
Prior contact by a City employee for storm water?				
Employees trained in storm water pollution prevention practices?				
Common areas of yard reasonably clean and free of litter and debris?				
Are parking areas generally clean and swept as needed?				
Are storm drain inlets reasonably clean and free of debris?				
Is there evidence of discharges, spills, and or leaks in any areas?				
Trash storage areas				
Is area reasonably clean and uncluttered?				
Are trashcans and garbage bins kept covered?				
Fueling areas				
Is there a roof on fueling area?				
Is there a mechanism in place for spill overflow protection?				
Vehicle/equipment maintenance area				
Area reasonably clean and free of spills, leaks, or any other pollutant-causing materials?				
Dry clean up methods implemented? (sweeping vs hosing)				
Are there drip pans readily available for use?				
Spill containment and cleanup kits readily available?				
Storage areas covered and properly maintained?				
Are related activities contained within designated area?				
Hazardous materials/liquids stored above ground?				

* S = Satisfactory, U = Unsatisfactory

City of Solana Beach - **Urban** Runoff Management Program
STORM WATER COMPLIANCE INSPECTION CHECKLIST
Page 2 of 2

II. General Site Conditions (con't)	S*	U*	N/A	Comments
Materials loading and storage areas				
Area reasonably clean and free of litter and debris?				
Designated area covered overhead?				
Chemical handling areas				
Areas reasonably clean and organized?				
Is area indoors or properly covered?				
Spill containment cleanup kits readily available?				
If outdoors, is water from surrounding areas prevented from reaching chemical handling areas?				
Hazardous materials/liquids stored above ground?				
Dry clean up methods implemented?				

III. BUSINESS PRACTICES

	S	U	N/A	Comments
BMPs				
Implemented minimum BMPs for this type of facility?				
Employees trained in BMP practices?				
Posted list of BMPs to assist employees in remembering?				
Ensures employees comply with BMPs?				
Record keeping				
Any available records to indicate storm water training?				
Any available records to indicate storm water compliance?				
Reporting Violations				
Aware of City's storm water hotline?				
Aware of County reporting hotline?				

IV. STATE PERMITS

Is this facility required to have at State Water Pollution Prevention Plan (SWPPP)?	Yes	No
Is facility subject to CA Statewide General Industrial Permit?	Yes	No
If yes, has facility filed a Notice of Intent (NOI) to comply?	Yes	No
If no, does facility have No Exposure Certification (NEC)?	Yes	No

V. Additional Comments

- ASSESSMENT (CIRCLE APPROPRIATE LEVEL "5" IS HIGH LEVEL)
- LEVEL OF KNOWLEDGE REGARDING STORM WATER ISSUES: 1 2 3 4 5
- LEVEL OF CLEANLINESS, BMP IMPLEMENTATION, ORDERLINESS OF SITE: 1 2 3 4 5

APPENDIX D: CIVIL PENALTIES MATRIX

SOLANA BEACH

CIVIL PENALTIES MATRIX

The following factors will be considered in determining the amount of civil penalties from the Solana Beach Municipal Code 13.10.140 A. any person who violates any of the provisions of this chapter shall be liable for a civil penalty not to exceed $1,000 for **each day** such a violation exists and will be assessed: (1) The seriousness of the violation (2) the duration of the violation; (3) the frequency or recurrence of the violation; (4) the history of the violation; (5) the Responsible Party's conduct after issuance of the Notice and Order; (6) the good faith efforts of the Responsible Party to comply; (7) the impact of the violation upon the community.

*** Criminal Penalties.**

These factors are assigned to two categories, "**Environmental Significance**" and "**Compliance Significance**," in order to easily present them in a graphical form in the matrix chart.

Environmental Significance includes the following factor: Seriousness of the violation.

Compliance Significance includes the remaining factors: The duration of the violation, frequency or recurrence of the violation, the history of the violation, the Responsible Party's conduct after issuance of the Notice and Order; the good faith efforts of the Responsible Party to comply and the impact of the violation on the community.

	Environmental Significance		
Compliance Significance	Moderate	Major	Severe
Moderate	*NOV-$100	$100 - $200	$500

Major	$100- $200	$500	$1,000
Severe	$500-$1,000	$1,000	$1,000-Referral to Regulating Agency

* Notice of Violation

The list below gives examples of issues specific to storm water violations that could be considered under each of the factors.

- Increased Penalties will be factored as Notice of Violation to Moderate, Moderate to Major or Major to Severe.
- Decreased Penalties could be Severe to Major, Major to Moderate or Moderate to Notice of Violation.

Environmental Significance

Seriousness of the Violation

- Relatively inert discharges (e.g., soil, sediment, cement residue, stucco residue**,** etc.) **[Moderate Environmental Impact]**

- Moderate toxicity / moderate health threat discharges (e.g., cleaning products with no specific hazard, i.e. detergent, latex paint) **[Major Environmental Impact]**

- Significant toxicity / significant health threat discharges (e.g., sewage, hazardous materials/wastes, etc.) **[Severe Environmental Impact]**

SOLANA BEACH

CIVIL PENALTIES MATRIX

Compliance Significance

Duration of Violation

Extent of discharge as determined by volume, area covered, how long it continued **[Greater Discharge Can Lead to Increased Penalty]**

Number of days the discharge remained unabated in the conveyance system **[Unabated Discharge Can Lead to Increased Penalty]**

Impact on the Community

Results in damage, degradation, or obstruction of the storm water conveyance system **[Can lead to Increased Penalties]**

Results in actual degradation of aquatic habitat in receiving waters **[Can lead to Increased Penalties]**

Results in actual impact on wildlife including benthic communities **[Can lead to Increased Penalties]**

Results in algal bloom, discoloration or odor in receiving waters **[Can lead to Increased Penalties]**

Discharge of constituent of concern within a watershed that leads to a 303 (d) listed water body **[Can lead to Increased Penalties]**

Regulated industry (e.g., subject to OSHA chemical right-to-know requirements or subject to Hazardous Material / Hazardous Waste Permit) **[Can lead to Increased Penalties]**

Recurrence of Violation

No prior administrative enforcement penalty can be a factor for officer's discretion in lowering penalties.

Prior administrative penalties action can lead to increased penalties.

Prior administrative enforcement within the last year maybe a factor in determining higher penalties leading up to a **criminal citation**.

Intentional discharge will be a factor to increase penalties leading up to a criminal citation.

SOLANA BEACH

CIVIL PENALTIES MATRIX

History of Violation

Prior violations or warnings issued by other regulatory or City agencies (e.g., County Dept. of Health, County Dept. of Env. Health, RWQCB, FEWD, MWWD) **[Can lead to Increased Penalties]**

Prior warnings (letter or Notice of Violation) from Storm Water Pollution Prevention Program **[Can lead to Increased Penalties]**

Good Faith Efforts to Comply

Responsible Party failed to implement BMPs and should have known of requirement for BMPs (e.g., gasoline service station or construction industry) **[Can lead to Increased Penalties]**

Existing BMPs failed to prevent discharge (e.g., employee failed to comply with documented training and procedures or structural BMP failed to perform to design) **[Can lead to Reduced Penalties]**

Rapid and appropriate response to discharge **[Can lead to Reduced Penalties]**

The Solana Beach Municipal Code 13.10.140 A States the following:

> *13.10.140 Penalties for violation.*
>
> A. Civil Penalties. Any person who violates any of the provisions of this chapter shall be liable for a civil penalty not to exceed $1,000 for **each day such a violation exists**, and all pollution detection and mitigation costs (if applicable).
>
> B. Criminal Penalties. Any person who knowingly or intentionally violates any provision of this chapter shall be subject to liability for a misdemeanor, punishable by imprisonment for a period not to exceed one year, or a fine not to exceed $10,000 for each day such a violation exists, or both.
>
> C. Any monetary penalties collected by the city of Solana Beach pursuant to violations of this chapter shall be returned to the storm

water management program to be used for storm water pollution monitoring and management practices. (Ord. 184 § 1, 1993)

13.10.150 Continuing violation.

Unless otherwise provided, a person, firm, corporation or organization shall be deemed to have committed a separate offense for each and every day during any portion of which a violation of this chapter is committed, continued or permitted by the person, firm, corporation or organization and shall be punishable accordingly as herein provided. (Ord. 184 § 1, 1993)

13.10.160 Concealment.

Causing, permitting, aiding, abetting or concealing a violation of any provision of this chapter shall constitute a violation of such provision. (Ord. 184 § 1, 1993)

13.10.170 Acts potentially resulting in violation of Federal Clean Water Act and/or Porter-Cologne Act.

Any person who violates any provision of this chapter, any provision of any permit issued pursuant to this chapter, or who discharges waste or wastewater which causes pollution, or who violates any cease and desist order, prohibition, or effluent limitation, may also be in violation of the Federal Clean Water Act and/or Porter-Cologne Act and may be subject to the sanctions of those Acts including civil and criminal liability. Any enforcement action authorized under this chapter should also include notice to the violator of such potential liability. (Ord. 184 § 1, 1993)

13.10.180 Violations deemed a public nuisance.

A. In addition to the penalties hereinbefore provided, any condition caused or permitted to exist in violation of any of the provisions of this chapter is a threat to the public health, safety and welfare and is declared and deemed a public nuisance and to impact storm water quality, and such nuisance may be summarily abated and/or restored by any authorized enforcement official. Civil action to abate, enjoin or otherwise compel the cessation of such nuisance may be taken by the city attorney.

B. The cost of such abatement and restoration shall be borne by the owner of the property and the cost thereof shall be a lien upon and

against the property and such lien shall continue in existence until the same shall be paid. If the lien is not satisfied by the owner of the property within three months after the completion by the authorized enforcement official of the removal of the nuisance and the restoration of the property to its original condition, the property may be sold in satisfaction thereof in a like manner as other real property is sold under execution.

C. If any violation of this chapter constitutes a seasonal and recurrent nuisance, the city of Solana Beach shall so declare. Thereafter such seasonal and recurrent nuisance shall be abated every year without the necessity of any further hearing. (Ord. 184 § 1, 1993)

13.10.190 Civil actions.

In addition to any other remedies provided in this section, any violation of this chapter may be enforced by civil action brought by the city of Solana Beach. In any such action, the city of Solana Beach may seek, and the court shall grant, as appropriate, any or all of the following remedies:

A. Injunctive relief;

B. Assessment of the violator for the costs of any investigation, inspection, or monitoring survey which led to the establishment of the violation, and for the reasonable costs of preparing and bringing legal action under this subsection;

C. Costs incurred in removing, correcting, or terminating the adverse effects resulting from the violation;

D. Compensatory damages for loss or destruction to water quality, wildlife, fish and aquatic life. Assessments under this subsection shall be paid to the city of Solana Beach to be used for costs associated with monitoring and establishing storm water discharge pollution control systems and/or implementing or enforcing the provisions of this chapter. (Ord. 184 § 1, 1993)

APPENDIX E: SHORELINES NEWSLETTER WINTER 2006

Lomas Santa Fe and I-5 Modification



The Interchange Modification alternative approved by City Council in 1999 is getting closer to being constructed. Previously considered a City project, the modifications will be constructed by Caltrans under the direction of SANDAG as part of the initial I-5 widening improvements. The project will be constructed in two phases:

Phase I - Auxiliary lanes, Via de la Valle to Lomas Santa Fe Drive

An $11 Million project to add an auxiliary lane in each direction from Via de la Valle to Lomas Santa Fe is scheduled to start in February 2007. Auxiliary lanes reduce freeway congestion associated with motorists entering and exiting the freeway. The southbound auxiliary lane should be open by the end of June 2007 with the northbound lane opening a few months later. This project will include improvements to Ida Avenue and Genevieve such as curbs, sidewalks and storm drain improvements. In conjunction with the auxiliary lanes, Caltrans will be realigning the northbound on-ramps at Via de la Valle to merge with the new auxiliary lane, reducing the northbound I-5 bottleneck at Via de la Valle.

Phase 2 - Lomas Santa Fe Drive Interchange Modification and HOV extension

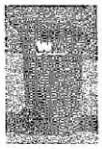
The Interchange Modification at Lomas Santa Fe Drive has been combined with another project that will extend the northbound and southbound carpool lanes an additional two miles from Via de la Valle to Manchester Avenue. The interchange modification will add two looping on-ramps, eliminating left turns to enter the freeway from Lomas Santa Fe Drive. The northbound off-ramp will be shifted east, permanently closing Marine View Drive north of San Andres and eliminating one signalized intersection. Traffic flows on Lomas Santa Fe Drive will be greatly improved.

Construction is anticipated to begin summer of 2007 with completion in mid-2009. Construction of Interchange related improvements fronting the Lomas Santa Fe Plaza ("Vons shopping center") will occur in early 2007. These include landscaped medians, an enlarged and signalized main entry, addition of right-in only entrance near Starbucks, Las Banderas Drive golf cart and pedestrian crossing and Marine View at San Andres improvements. For more information, please contact the Engineering Department at (858) 720-2470.

Solana Beach Welcomes:

AUTOMATED TRASH & RECYCLING

This summer, after a successful pilot project in Solana Beach, the City Council approved the Waste Management's automated residential collection program. This program will provide the same service as in the past, in a new, more efficient manner. The two large carts, gray and blue, will replace old trash cans and recycling crates. The gray cart will hold trash and the blue cart will hold the recycling, eliminating the requirement to segregate the various recyclable materials. One blue and one gray cart will be supplied by Waste Management at no cost to residents. This exciting new program is scheduled to begin in late November, 2006. Look for more information coming in your mail and on the city website. If you have questions, please call 1-800-386-7783 to speak with Waste Management customer service.





Holiday Tree Lighting

The Solana Beach Parks and Recreation Commission will be holding its annual Holiday Tree Lighting event on Friday, December 8th. Festivities start at 6:30 p.m. and will go on until the last child (3rd grade and under) has shared with Santa his special wish. The free event will be at the northwest corner of Lomas Santa Fe and Cedros Avenue (by the Train Station). The evening will feature festive holiday music and entertainment. Delicious refreshments, cookies, and cupcakes will be provided for all. The highlight of the evening will be the arrival of Santa at 7:15. You are also invited to bring an unwrapped children's gift that will be distributed to deserving children by St. Leo's Church. This Tree Lighting event is a wonderful tradition and this year's celebration promises to be a great kickoff to our holiday season.

Congressman Bilbray to Speak at VETERAN'S DAY CEREMONY



The City of Solana Beach and Veterans of Foreign Wars Post 5431 will jointly host a Veteran's Day ceremony at the La Colonia Community Center, located at 715 Valley Avenue in Solana Beach, on Saturday, November 11, 2006. The ceremony will take place from 11:00 a.m. until 12:00 noon.

During the ceremony, the Santa Fe Christian School Performing Band will play favorite patriotic songs and the Camp Pendleton Young Marines will conduct the presentation of colors. The ceremony will begin with words of welcome from Solana Beach City Council members. Randy Treadway, past Post Commander for VFW Post 5431, will address the attendees and introduce veterans and other special guests. United States Congressman, Brian P. Bilbray will be the featured speaker for the ceremony.



Mr. Bilbray, a native San Diegan, was elected to serve in the 109th Congress in June of 2006. He currently serves on the House Armed Services Committee, the Veteran's Affairs Committee, and the Committee on Government Reform.

Additionally, the Veteran's Memorial wall at the La Colonia Community Center will be available for viewing, and docents from the Civic and Historical Society will be on hand to conduct tours of the Historical Museum. Light refreshments will be served by Boy Scouts of America, Cub Pack 782. The event is free and always a memorable occasion.

The VFW and City of Solana Beach are proud to have Congressman Bilbray as the guest speaker and encourage everyone to attend.



Holiday Safety Tips

The Encinitas Sheriff's Station's Crime Prevention Unit works directly with residents, business owners, and schools to educate the community about crime prevention. The busy holiday season means added opportunities for crime to occur. Below are a few suggestions to help everyone stay safe during the holidays.

ADULTS

- Lock car doors and windows. Keep packages out of sight.
- NEVER drink and drive. Designate a driver, eat before consuming alcohol, and know your alcohol limit.
- Stay alert when shopping. The holidays are hectic and it only takes a second for a purse to be taken.
- Do not carry large amounts of cash.
- Keep the outside of your home well lit with all doors and windows locked. Place lights inside and out on staggered timers.
- Never place valuables or gifts under a tree that is visible through a window.
- Make sure your children understand that ANYONE they do not know is a stranger, and to never talk to strangers.

CHILDREN

- Children need to know their parent's names. Everyone has a "Mommy" or "Daddy." If lost, children should go to a store clerk to help locate the adult.
- Practice the "buddy system," never go to the restroom alone.
- Take a friend, do not go holiday shopping alone. Make sure you have parent permission.
- Do not take anything from strangers without a parent's permission.
- When home alone, keep all doors locked, and do not have unplanned visitors. Never tell anyone that you are home alone, have a phone to call a trusted adult for any concerns.
- If approached by a stranger, yell "NO STRANGER" and run away to a trusted adult.
- Have an "In Case of Emergency (ICE)" phone number programmed in cell phones. That way, in case of an accident, a first responder can find someone to call.

The Crime Prevention Unit performs Residential Security Consultations to homeowners who request them. Other services offered are Business Watch meetings, Neighborhood Watch meetings, school presentations, and crime prevention techniques for seniors. To take advantage of these services or to get more information, please contact Kyle Jones, Crime Prevention Specialist, at (760) 966-3588.

Pet Safe Holidays

Around the holidays our lives tend to become very hectic and this will have an impact on our pets. Here are several things you can do to make the holidays safe for our pets.



- Keep pets on their regular diet; do not share holiday food, poultry bones and chocolate are dangerous.
- Parties and large gatherings can frighten pets; if needed, place your pet in a quiet safe area during the event.
- Loud sounds and fireworks can frighten pets; they can panic and run away.
- **Please keep your pet indoors on New Years Eve!**

If your pet does get lost, check the neighborhood and visit area animal shelters as soon as possible. Solana Beach receives animal services from the County of San Diego Department of Animal Services located in Carlsbad. The shelter maintains a "Lost and Found" book that can assist you in finding your pet.



Microchip Clinics

Identify your pet with a collar and an identification tag with your address and phone number, as well as a current license tag. The Department of Animal Services offers a microchip clinic for your dog, cat, or rabbit every Thursday from 1:00 - 3:00 p.m. at the Carlsbad shelter. The cost is $20 and includes national registration. We ask that dogs be on a leash and cats or rabbits be in a carrier. County dog licenses are also available. Ask about our $50 coupon (DAS jurisdiction only) for those whose animal is unaltered.

Spay/Neuter Your Pets

The County of San Diego Department of Animal Services wants to remind the public to have their pets spayed and neutered. Animal shelters throughout the county, are filled with the offspring of unintended breeding. This is particularly true of cats. Every year, shelters fill with unwanted cats and kittens. By having your pet altered, you will prevent the birth of these unwanted animals. The County of San Diego Department of Animal Services shelter is located in Carlsbad at 2481 Palomar Airport Rd. **For more information about these programs call (760) 438-2312 or visit the website at: www.sddac.com.**



Holiday Tree Recycling/Collection Program

The City of Solana Beach, in partnership with Coast Waste Management, Inc. has a holiday tree recycling and collection program that allows residents to drop off their trees, free of charge, starting December 26, 2006 through January 14, 2007.

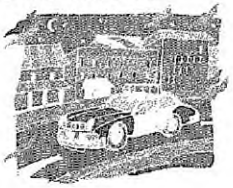
Holiday Tree RECYCLING

There will be two recycling locations for residents to drop off their trees. They are behind the Longs Drug Store on South Sierra Avenue and at the La Colonia Community Center at 715 Valley Avenue. Flocked trees are not accepted. Trees do not have to be cut down but all decorations and stands must be removed.

Holiday Tree CURB COLLECTION

All trees must be cut into 4-foot sections and placed out on the curb for pick-up during the scheduled trash day. All decorations and tree stands must be removed. Flocked trees will be collected by the trash drivers.

Sheriff's Volunteer Patrol Seeks Seniors to Serve



The Senior Volunteer Patrol working out of the Encinitas Sheriff's Department station is seeking men and women to participate in a unique volunteering experience. Volunteer teams conduct home vacation checks, operate the *You Are Not Alone* program (YANA) for the elderly living by themselves, assist Deputies with traffic control operations, and enforce Disabled Parking Regulations. The Volunteer Patrol provides these and other services in the cities of Encinitas and Solana Beach as well as surrounding unincorporated areas.

The Volunteer Patrol offers an opportunity to give back to the community by participating in an elite unit devoted to public service. Candidates must be age 50 and over, hold U.S. citizenship and in good health. They must attend a 2-week long training academy and agree to devote at least one daytime shift per week and attend an afternoon training session once a month. The Sheriff furnishes uniforms and badges, the white patrol cars and communications equipment. Interested parties should contact Volunteer Administrator Jim Hughes at the Encinitas Sheriff's Station: call (760) 966-3579 (please leave a message) or send an email with the title "Volunteer Information" (james.hughes@sdsheriff.org).

San Dieguito River Park



The San Dieguito River Valley Conservancy hosts monthly hikes and habitat restoration events at the western end of the River Park in the San Dieguito Lagoon and invites you to get involved! We need volunteers to help remove invasive non-native plants, repair erosion damage, and improve trails. Tools, training, and refreshments are provided and all ages and groups are welcome. Our next volunteer work party is scheduled for Sunday, Nov. 26, from 1:00–3:30 p.m. at Crest Canyon, off Racetrack View Drive in Del Mar.

Contact the Conservancy at (858) 755-6956 or SDRVC@san.rr.com for directions and more information about our upcoming events.
Visit us on the Web at www.sdrvc.org.
See you out in the River Park!

La Colonia Park Improvement Plan

Community Workshop – All Solana Beach residents are welcome and encouraged to provide their comments and suggestions on how to make La Colonia Park a safer, more attractive, and fun place to be. The La Colonia Park Master Plan Committee will also share some of their park improvement ideas.

Thursday, November 30, 6 to 8 p.m.
La Colonia Park, 715 Valley Avenue

Child Care and Refreshments Provided

For more information, please call (858) 793-2564

Solana Beach Community Senior Center

The Best Kept Secret in Town!



Perhaps the best gift you can give yourself this holiday season is at the Solana Beach Community Senior Center! Celebrating their 20th Anniversary, the Senior Center is for some a very regular, important part of life, for others perhaps, the best kept secret in town! The Solana Beach Community Senior Center is located at 120 Stevens Avenue, at the Solana Beach Presbyterian Church. The Senior Center is sponsored by SBPC and is opened to everyone in the community regardless of church affiliation (or city of residence).

The Solana Beach Community Senior Center has a variety of regularly scheduled activities including Fitness activities, Bridge, Canasta, Discussion Groups, Driving Classes, Computer Classes, Bible Study, Volunteer opportunities, Daytrips, and much more! The Senior Center does not receive any city, county, state or federal funds, it operates solely on memberships ($15 annually) and donations. It's a friendly environment with something for everyone!

Highlights of the special events coming soon include:

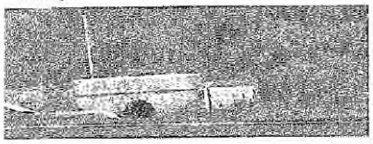
November 15	Presentation about our 2007 "Unpack Once" Trips
November 15	Thanksgiving Potluck Lunch
November 29	The Covenant Players Theater Group
December 2	Lamb's Players Theater Trip
December 20	Christmas Potluck Lunch
Coming in 2007	Getty Villas (Malibu) Trip

Why not give yourself a great gift this holiday season and check out the Solana Beach Community Senior Center! To receive more information or our printed newsletter, *The Foghorn*, please contact Cindy Wright at (858) 509-2580 ext. 1400.

APPENDIX F: SHORELINE NEWSLETTER SUMMER 2006 AND FALL 2006

The City's Aging Sewer System

is long overdue for upgrades. A few years ago a sewer master plan was prepared that evaluated the existing system and made recommendations for improvements and replacements. Three major facilities recommended to be replaced are the Solana Beach Force Main, the Eden Gardens Pump Station and Solana Beach Pump Station, which are all over 40 years old. These facilities were built by the County in the 1960's and the City took control of these facilities upon incorporation in 1986. Construction costs have been estimated at approximately $16 million for all three projects.



The City has completed some upgrades to the sewer system and installed 7800 lineal feet of new 24" diameter sewer trunk line at a cost of approximately $1 million in conjunction with the Lomas Santa Fe Grade Separation project. In 2000 the City constructed a siphon control facility on the San Elijo Lagoon at a cost of $1.7 million.

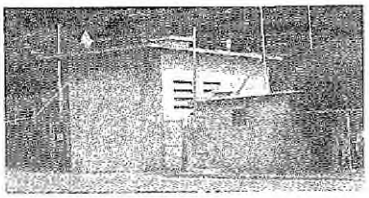
SOLANA BEACH FORCE MAIN is a pipe that carries 90% of the City's sewage underneath the San Elijo Lagoon from the Solana Beach Pump Station, located at the north end of the City, east of the railroad tracks, to the San Elijo Joint Powers Authority wastewater treatment facility on Manchester Avenue in Cardiff.

When sewage cannot flow downhill (by gravity) due to topography, then pump stations are used to lift sewer flows from a low point to a higher point through a force main which is a sewer line that flows under pressure (similar to water lines) instead of gravity.

The Solana Beach Force Main is an existing 12-inch diameter asbestos cement pipe installed in the mid-60's under the San Elijo Lagoon which has been identified as the top priority for replacement. Design of the new Force Main is currently 80% complete. State and Federal environmental approvals have been granted with a condition that restricts construction to a period between September and March, thus construction is anticipated to begin in the fall of 2006. The new 16" pipe will be installed using a trenchless Horizontal Directional Drilling (HDD) construction method. Construction cost is estimated to be about $6 million, of which one third of the funding has been identified through grant funds.

EDEN GARDENS PUMP STATION, located at the south end of the City on Valley Avenue near Via de la Valle, pumps approximately half of the City's sewage north to the Solana Beach Pump Station. The Eden Gardens Pump Station was originally constructed in 1960. A complete replacement of the facility has been designed, including architectural treatments, improved landscaping, street curbs and a sidewalk from the corner of Highland and Valley to the adjacent bus stop. A bus stop canopy and bench is also included. The project was recently advertised for bids and the low bid was about $4.6 million, an amount well over the budgeted cost. Due to funding shortfalls and the Force Main being the top priority, this project will be postponed until funding is available.

SOLANA BEACH PUMP STATION
Re-design of the Solana Beach Pump Station has not begun. The City's budget identifies initial funding for this project in fiscal year 2008/2009. The City is pursuing grant funds for design and construction of the Solana Beach Pump Station.



NEW Local Recycling Options for Alkaline Batteries and Electronic Waste



Effective February 9, 2006, a new California law took effect which prohibits the disposal of household "universal waste" items such as batteries, old cell phones and fluorescent tubes and bulbs in residential trash. Products such as these contain low levels of hazardous materials such as lead, mercury, cadmium and chromium which can potentially contaminate soil and groundwater if disposed in the trash and subsequently deposited into landfills.

The new universal waste regulations now join electronic waste and household hazardous waste to specify a range of consumer products that may not be disposed of in the regular trash. With the new regulations come new recycling options for Solana Beach residents:

- Del Mar and Solana Beach residents can bring household alkaline batteries (AA, AAA, C and D cells, and button batteries) to Waste Managements Del Mar Recycling Center at 2265 Jimmy Durante Boulevard. Batteries are accepted free on Tuesday - Saturday, between 8 a.m. and 4 p.m. (the center is closed for lunch from 1:00 - 1:40 p.m.).
- The Del Mar Recycling Center also accepts electronic waste including computers, monitors, television and cell phones. Monitors, televisions and laptop computers can be dropped off at no charge, a fee is charged on all other electronic waste at $.50 per pound. For more information on battery and electronic waste recycling, call Waste Management at (800) 386-7783.

For other household hazardous waste, such as unused paint, pesticides, used motor oil, car batteries, florescent tubes and mercury thermometers, residents of Del Mar and Solana Beach may dispose of these items for free on Saturdays only at the Poway and Vista household hazardous waste collection facilities. See the listing below for the location and hours of operation for these facilities.



Solana Beach residents may also receive collection of household hazardous waste, electronic and universal waste items at their home for a $10 co-payment. This service is free to senior citizens and homebound residents. For more information on home pick-up, please call (800) 444-4244.

Summer Stroke, July 4th Blues and Pet News



Summer Stroke: Every year hundreds of pets are placed in serious threat of death because people do not realize how hot and how quickly the inside of a car can get on a sunny day. Even when the outside temperature is relatively low, closed cars can become dangerously hot in a short time. Never leave your pet in a parked car, even for a short time. Cracked windows won't protect your pet from overheating or suffering from heat stroke during hot summer days. Leave your pet at home – it will be safer there.

Also keep in mind that sidewalks and roadways can become very hot and can even cause burns on the pads of their feet.

Fourth of July: Every year, around the Fourth of July, pets experience a period that can be very frightening to them. Fireworks can cause your dog or cat to panic and try to escape. The best advice is to PLEASE - Keep Your Pet Indoors on the Fourth of July. To help them feel safe and secure place them in a quiet and isolated room with covered windows, or the garage where there are no windows. Keeping a radio or television on to help dampen the sound of fireworks will provide familiar indoor sounds and may help soothe the animal if alone on this noisy holiday. Never take your pet to a fireworks display. If you know your pet is extremely sensitive to loud noises you may want to discuss this with your veterinarian who could provide other suggestions or prescribe anti-anxiety medication.

Pet News: Microchip ID (microchip pet identification) is available every Thursday from 1:00–3:00 p.m. for dogs, cats, and rabbits at least eight weeks of age (or older) at any County of San Diego Department of Animal Services (DAS) shelter. There is a one-time fee of $20 that includes national registration.

While you're there, ask about the free $50 Spay/Neuter coupon if your pet is unaltered (available for DAS service area residents only). For an additional cost, rabies vaccinations and dog licenses are also available. All dogs four months of age and older must be licensed.

Solana Beach receives animal sheltering services from the County of San Diego Department of Animal Services shelter located at 2481 Palomar Airport Road in Carlsbad. The shelter maintains a "Lost and Found" book for public use. The telephone number is 760-438-2312. Further information is available at the web site **www.sddac.com.**

San Elijo Reserve Receives National Wildlife Federation Certification

The San Elijo Lagoon Ecological Reserve has been certified by the National Wildlife Federation's (NWF) Backyard Wildlife Habitat program. The San Elijo Reserve was awarded this national recognition for its role in providing extensive and valuable natural wildlife habitat in the midst of a largely urban setting.

The San Elijo Reserve is the first wildlife preserve in California to have its entire land holdings certified by NWF, and is one of only a handful of preserves across the nation so honored. National Wildlife Federation's Backyard Wildlife Habitat program is an effort to educate property owners and communities on the need to plant and maintain landscapes with wildlife in mind.

A plaque, designating the honor, is on permanent display at the Manchester Nature Trailhead. The plaque was unveiled in a ceremony attended by representatives of the National Wildlife Federation, San Diego County Supervisor Pam Slater-Price, officials of the cities of Encinitas and Solana Beach, and representatives of the San Diego County Parks and Recreation Department.

"San Elijo Lagoon represents wonderful natural open space in our community," said Davi Huffman, a NWF Habitat Steward, in a press release about the award. "Visiting the Lagoon gives community members a chance to experience nature firsthand, and we hope they'll be motivated to try to create a bit of wildlife habitat in their own backyard."

For more information on the National Wildlife Federation Backyard Wildlife Habitat program visit **www.nwf.org/backyardwildlifehabitat**. Additional information on San Elijo Ecological Reserve can be found on its redesigned Web site at **www.sanelijo.org**.

Friends of the Solana Beach Library



Open House at the Library
on Saturday, July 1, 2006 at 1:00 pm
20th Anniversary of our City
5th year Anniversary of our Library

We are very fortunate that a group of devoted residents recognized the value a new and larger library would add to our community. They did the work and raised the money to make it become a reality. We now have a beautiful shared-use Library, making information accessible in multiple formats for people of all ages. It is indeed a wonderful feeling to walk into the Solana Beach Library and observe the many youngsters and adults making use of the Library.

On July 1, 2006, we will celebrate the 5th year anniversary and honor the group of citizens who played a central role in building our Library. All are invited to join us for the Open House and presentation of awards to our honorees.

Please Join Us for the Open House and Refreshments at 1:00 p.m.

City of Solana Beach
Department of Parks and Recreation
2006 Summer Camp Program Schedule

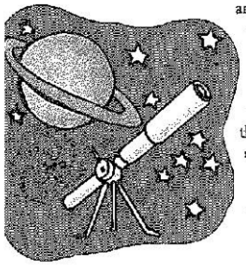
Summer Session: June 19 - August 11, 2006

ALL of the Summer Day Camps are for children ages 6-12 years.
(Kids entering 1st grade - Jr. High)

Awesome Astronomy

Session 1, June 26 - 30, 2006

This delightful camp will explore the fascinating world above our heads. Activities will include a variety of theme related games and craft projects as well as several projects that will enlighten children's awareness and knowledge of the Solar System and its affects on Earth. A field trip to the Ruben H. Fleet Space Theater and Science Center is part of this interesting summer camp. The camp meets Monday through Thursday from 9:00 a.m. to 2:00 p.m. at San Dieguito Park and on Friday at Fletcher Cove. The fee is $90.00 per child.



Fantastic Rain Forest

Session 2, July 10 - 14, 2006

The Fantastic Rain Forest Camp will be filled with activities to enlighten children's awareness of the wonderful world hidden in the Earth's Rain Forests. The program includes theme related crafts and games as well as a visit from the Park Ranger, a cook out, and a special field trip to the Natural History Museum in Balboa Park. The camp meets Monday through Thursday from 9:00 a.m. to 2:00 p.m. at San Dieguito Park and on Friday at Fletcher Cove. The fee is $90.00 per child.



Solana Beach Department of Parks and Recreation
Kids Summer 2006 Day Camp - REGISTRATION FORM

Register for:

____ Session I, Awesome Astronomy - June 26 - 30, 2006
____ Session II, Fantastic Rain Forest - July 10 - 14, 2006
____ Session III, Ecology & Lagoon Exploration - July 24 - 28, 2006
____ Session IV, Awesome Olympics - August 7 - 11, 2006
____ Special Session, Dance To the Stars - June 19 - 29, 2006

Child's Name _____ Grade in Fall _____ Age _____

Address _____

City _____ Zip _____

School child attends _____

Daytime Phone _____ Emergency Phone No. _____

Day Camps I-IV fee: $90.00
(Scholarships available for Solana Beach Students)

Circle T-shirt size:
Child: S M L
Adult: S M L XL

(Cancellation fee $20.00)

A detailed information sheet will be mailed to you with your confirmation.
For more information contact the Recreation Department at: 858-793-2564.

Release of Liability
I will not hold the instructors, sponsors, officials or members of the City of Solana Beach Department of Parks & Recreation responsible for any injury that any participant might incur while in the program.

Parent/or Guardian _____

Please mail or deliver with your payment to: City of Solana Beach, Dept. of Parks & Recreation
635 South Highway 101, Solana Beach, CA 92075

Ecology and Lagoon Exploration

Session 3, July 24 – 28, 2006

The Ecology and Lagoon Exploration Summer Day Camp will investigate the ocean, lagoon, and park environments of Solana Beach. This exciting camp will be filled with fantastic activities and crafts that heighten children's awareness of the ecological opportunities around us. Field trips to the Monarch Butterfly Ranch and San Elijo Lagoon Nature Reserve are part of the exploration planned. The camp meets Monday through Thursday from 9:00 a.m. to 2:00 p.m. at San Dieguito Park and on Friday at Fletcher Cove. The fee is $90.00 per child.



Awesome Olympics

Session 4, August 7 – 11, 2006

Our very own Summer Olympic Celebration will include Olympic style events that everyone can enjoy and be successful. Individual events as well as team competitions are planned. A terrific field trip to the Ray and Joan Kroc Community Center is planned, where campers can climb the rock tower and ice skate in the Olympic size rink. The camp meets Monday through Thursday from 9:00 a.m. to 2:00 p.m. at San Dieguito Park and on Friday at Fletcher Cove. The fee is $90.00 per child.



Dance to the Stars

Special Session, June 19-June 29, 2006

Monday through Thursday 2:00-4:30 p.m.

This class is intended to introduce 5th, 6th and 7th grade students to the basic elements of Ballroom Dancing from the 20th and 21st centuries. Students will gain an appreciation of the music of the times, as well as the manners and customs of a past era, along with the traditions of the present. The instructor, Marsi Weigand, teaches Dance and Physical Education at La Costa Canyon High School. The class meets Monday through Thursday from 2:00 - 4:30 p.m. at the La Colonia Community Center. The fee is $40.00 per student.

ARTS ALIVE BANNER AUCTION

Date: Thursday, July 20,2006

Location: Timmons Gallery
202 North Cedros Ave.
Solana Beach , CA

Time: 5:30 - 9:30 PM

Hosted by: Public Arts Advisory Commission

Polite Children Welcome

Wine Tasting/Live Music

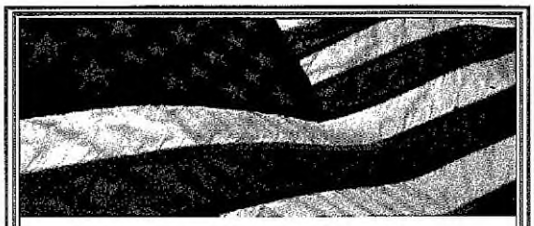
Cocktail Attire

Benefits Public Art in Solana Beach

Facts and Silent Bids: 858-523-0058

Special *Thanks* to Anne Clark and the Cedros Merchants





The City of Solana Beach
and
Veterans of Foreign Wars POST 5431
Host the

2006 Memorial Day Ceremony

On Monday, May 29, 2006, the City of Solana Beach and the Veterans of Foreign Wars Post 5431 will jointly host a Memorial Day Ceremony at the Veterans' Memorial at La Colonia Community Park, located at 715 Valley Avenue in Solana Beach. The ceremony will take place from 11:00 a.m. until 12 noon. Some highlights of the ceremony include the Young Marines Color Guard, the Santa Fe Christian School band providing patriotic songs, and special guest speaker, Captain Sandra A. Holmes, NC, Retired United States Navy, who will address the community. City dignitaries and representatives from all branches of the Armed Forces will also be present. Light refreshments will be served. For more information, please contact the Solana Beach Parks & Recreation Department at (858) 793-2564.

The 2006 Memorial Day Ceremony is an annual community special event and the public is encouraged to attend!

Clean Oceans and Waterways or Clean Cars?

Washing your car at home can be detrimental to the water quality of our wetlands and oceans. When rain water or water from your hose or bucket runs across dry ground, pavement or concrete, it flows right into the storm water conveyance system which leads directly to the ocean.

Runoff water often carries debris and contaminants (like oil, metals, landscape chemicals and pet waste) from your vehicle, driveway and street to its ultimate destination: the lagoons and ocean.

According to the latest research, water quality begins to deteriorate when more than ten percent of a coastal watershed is covered in impermeable surfaces. Urban runoff is considered the biggest contributor to coastal water pollution.

In an effort to reduce and eliminate the discharge of vehicle wash water to storm drains, the cities of Carlsbad, Del Mar, Encinitas and Solana Beach recommend the use of Best Management Practices (BMPs) when washing vehicles on private property. The washing of vehicles on public property is prohibited and a finable offense. BMPs include:

- ✔ never washing vehicles in the street (this is prohibited)
- ✔ diversion of washwater to landscaped areas
- ✔ don't let excess wash water leave your property and enter City sewers
- ✔ using a hose with a nozzle trigger to save water
- ✔ wringing washrags into buckets, not on the ground
- ✔ always emptying buckets into the sewer system by pouring into sinks or toilets, not down the driveway
- ✔ avoiding the use of chemical cleaners and degreasers
- ✔ a soap free wash is best for the environment; soaps contain phosphates which contributes to destruction of fish populations and habitats. The safest products for the environment are citrus or vegetable based products. Using biodegradable soap does not lessen the immediate environmental impact
- ✔ if you use mobile detailers make sure they abide by City ordinance and capture wash water and chemicals, or take your business elsewhere
- ✔ take your car to a commercial car wash, most reuse wash water before sending it to the water treatment facility



If you are planning to hold a fundraising carwash, first contact your city offices to learn what your local policies are.

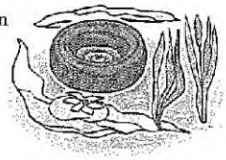
By making simple changes in our everyday routines we can wash our cars the environmentally responsible way by following these Best Management Practices and help prevent pollution from reaching our waters.



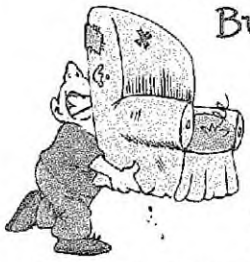
Solana Center
FREE Watershed Presentations!

FREE Watershed Education presentations are available through the Solana Center. These presentations are appropriate for children in grades 2 through 6 and are designed to enhance understanding of how pollution moves through our waterways. Educators utilize a hands-on, interactive Enviroscape model and eco-puppets to empower kids to protect our ecosystem!

To schedule a free presentation for your community group or classroom, please contact Laura at the Solana Center at 760-436-7986 x213, laura@solanacenter.org.



Solana Beach Annual Bulky Item Clean-Up Day



This year's Annual Bulky Item Clean-Up Day is scheduled for Saturday, October 7th, 2006 from 9am to 3pm in the La Colonia Community Center parking lot at the Valley Avenue entrance. Waste Management, WM, will provide roll-off containers for easy drop off items such as, furniture, scrap metal, mattresses and yard waste. (Hazardous Waste or E-Waste is not included in this collection event). Solana Beach residents may call WM between September 20th through October 2nd to receive free curbside pickup and disposal of up to three bulky items. Items need to be curbside by 7am on October 7th.

If you have any questions regarding the Annual Bulky Item Clean-Up Day or the free curbside pick-up, please contact Danny King at (858) 720-2477.

Annual Coastal Clean-up Day 2006



The City of Solana Beach is once again partnering with the California Coastal Commission, I Love A Clean San Diego (ILACSD), and San Diego Coastkeeper to clean up the beaches and lagoons that surround our beautiful City during the annual California Coastal Clean-Up Day to be held on Saturday, September 16, 2006. The City sponsors two locations, one at Fletcher Cove and the other in the San Elijo Lagoon at the North Rios Trailhead. Each site will be staffed and have all necessary materials available (trash bags, recycling bags, gloves, etc.) for participants to use. All you have to do is show up! Bring your family and enjoy a day by the water while helping to clean up our local waterways.



For more information, visit the official website at http://www.coastal.ca.gov/publiced/ccd/ccd.html or call Danny King at (858) 720-2477.

Solana Beach City Hall Gallery Schedule 2006

July 17 to August 31
Todd Gomes-Aviv
PAINTER

September 1 to October 12
Cynthia LiCalsi
PAINTER

October 16 to November 30
North County Photographic Society

Solana Beach Chamber of Commerce *Mark Your Calendar!*

Upcoming Sundowners: The first Wednesday of each month

Solana Beach CHAMBER OF COMMERCE

Wednesday, SEP. 6, 2006
5:00 – 7:00 pm
Beach Grass Cafe
159 S. Highway 101,
Solana Beach
858-509-0632

Wednesday, OCT. 4, 2006
5:00 – 7:00 pm
Brigantine
Villa de la Valle & Hwy. 101,
Solana Beach
858-481-1166

Wednesday, NOV. 1, 2006
5:00 – 7:00 pm
24-Hour Fitness
975 Lomas Santa Fe Drive,
Solana Beach
858-523-9060

Back to Bacharach and David

Music by Burt Bacharach and lyrics by Hal David

Conceived by Steve Gunderson and Kathy Najimy

Don't Miss Our Summer Musical Revue!

August 4 – 20, 2006

Featuring the lyrics and music of Burt Bacharach and Hal David, relive their hits from the sixties and seventies, including *Raindrops Keep Falling on My Head, The Look of Love, Walk on By,* and many more. This show features San Diego favorites Steve Gunderson and Melinda Gilb.

For tickets call 858.481.1055 or visit our web site northcoastrep.org

North Coast Repertory Theatre is located in Solana Beach just east of the 5 on Lomas Santa Fe Dr.



"Share the Dream" Soon a Reality

1966 - 2006 40th Anniversary The Positive Place For Kids

The Boys & Girls Clubs of San Dieguito, which is celebrating its 40th anniversary, is pleased to report the construction of the new Barbara Harper Branch and Pardee Aquatics Center are on schedule for completion in Spring 2007. The new pool is scheduled to open September 2006.

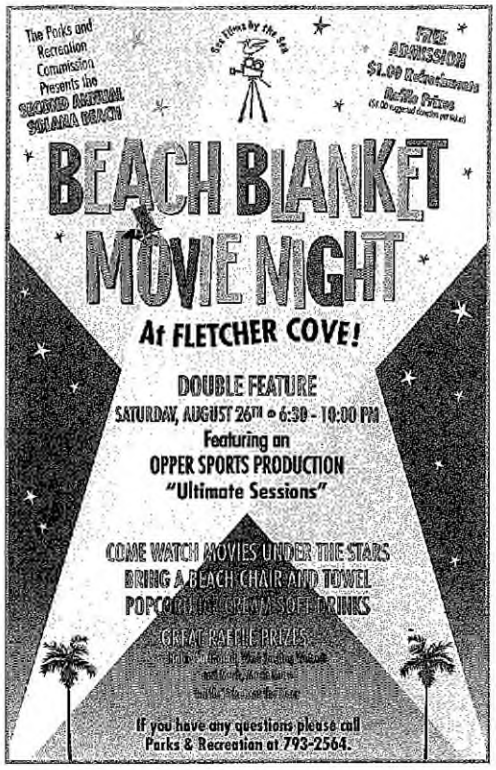
The "Share the Dream" campaign has made significant headway toward our new $8 million goal. As of Spring 2006, over 206 generous individuals, corporations and foundations have contributed a combined $5,965,575 to the Boys & Girls Clubs of San Dieguito "Share the Dream" Campaign. Thank you very much to all of you who have so charitably contributed! "The Boys & Girls Clubs of San Dieguito is looking forward to providing the community with a valuable resource," said Keith Padgett, BGCSDTO, President/CEO.

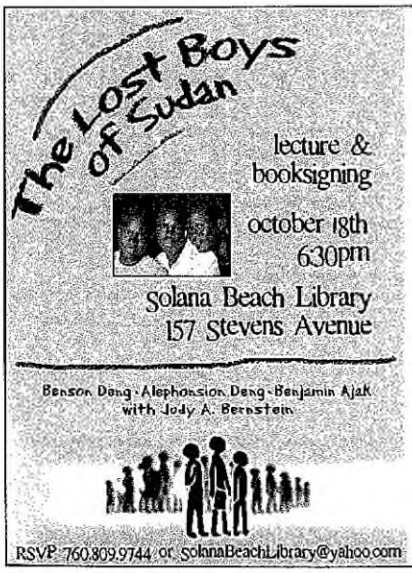
The expansion project includes a new clubhouse, new computer lab, new games room, new homework room, renovated gym, new workout facility, mentoring center, Center for Healthy Lifestyles, and the Doug & Marianne Pardee Aquatics Center with two pools. The new facilities will be available for the entire community.

Impact of Project:

YOUTH SERVED:	Prior - 831	Expansion - 1,000+
AQUATICS YOUTH SERVED:	Prior - 2,280	Expansion - 5,000+
ATHLETES SERVED:	Prior - 2,287	Expansion - 2,787

For more information on the "Share The Dream" campaign, please visit www.bgcsdto.org/sharethedream.htm





Library to Host *"Lost Boys of Sudan"*

The Solana Beach Library will present a cultural and educational event for teenagers and adults on Wednesday evening, October 18, from 6:30 - 8:00 pm. The authors of "They Poured Fire on Us From the Sky," a book by three African men who detail their childhood experiences in dealing with the atrocities of civil war in their native Sudan.

The authors, along with thousands of other boys, came to be known as "The Lost Boys of Sudan" during the 1990's when they were separated from their parents, expelled from their villages and left to manage on their own, some as young as 4 or 5 years old. Several Lost Boys, including the authors, were relocated to the San Diego area in 2000-2001.

The evening will be a multi-sensory experience with questions and answers with the authors, book signing, and viewing of the award winning documentary film "Lost Boys of Sudan."

For more information and to RSVP, please call Josephine at (760) 809-9744 or email to solanabeachlibrary@yahoo.com.

APPENDIX G: SHORELINES NEWSLETTER SPRING 2007

SAN ELIJO LAGOON CONSERVANCY
20 Years of Watershed Moments



In 2007, the San Elijo Lagoon Conservancy (SELC) observes its 20th anniversary as a citizen-supported, non-profit organization dedicated to protect, preserve, and enhance the natural resources of the San Elijo Ecological Reserve and its watershed.

This milestone will be celebrated under the theme "20 Years of Watershed Moments" with a number of exciting new and expanded member and public events.

For example, the City of Solana Beach Public Arts Advisory Commission has chosen the San Elijo Lagoon as the theme for the 2007 Arts Alive Banner program. In January, the unfurling of 53 lagoon-inspired banners along Lomas Santa Fe and Coast Highway will mark the kick off of the SELC anniversary year.

Another highlight of its 20th anniversary observance is a lecture series with Mira Costa College. The series consists of six lectures all with a lagoon theme. The public is invited to learn more about the history, ecology, and future of this valuable coastal habitat. All lectures take place on Friday evenings at 7:00 pm in Room 201 at the San Elijo Campus and admission is free. The spring lectures are:

"Lagoon Geology: Earth's History Revealed"
February 9 – Chris Metzler, Ph.D., Professor of Geology and Oceanography

"Environment and Cultural Impacts on Ancient Shell Fish Harvests"
March 16 – Betsy Pain, Associate Professor of Anthropology

"Bountiful Botany – a Six-Part Tale"
May 4 – Denise Stillinger, Associate Faculty and San Elijo Lagoon Conservancy Board

For information on the lectures contact Denise Stillinger:
dstillinger@miracosta.edu

Other activities include the dedication of the Nature Center Boardwalk and Lagoon Appreciation Day at the Manchester Nature Center on Saturday, May 12, 2007. For more information on these and other events visit:
www.sanelijo.org.

City of Solana Beach Seeks New Entry Sign
Request for Proposal (RFP)

The City of Solana Beach has distributed an RFP looking for an artist qualified to design and create an artistic sign announcing the entrance to the City. The entry sign will be placed at the City's eastern entrance on the northwest corner of Highland and Lomas Santa Fe Drive.

Once the proposals are received, they will be reviewed by the Public Arts Advisory Commission, who may select one or more of the designs for a thirty day public review process to gather community input on the sign proposals. The City Council will then consider the recommendations for final approval of the project.

The RFP is available on the City website at: www.ci.solana-beach.ca.us or you can contact Anita Edman, Community Services Coordinator, at 858-720-2454.

Special Opportunity to Experience Lagoon Wetlands



The San Dieguito River Valley stretches for 55 miles from the beach at Del Mar to the foothills of Volcan Mountain near Julian. Each area of the Coast-to-Crest Trail provides a different experience for visitors!

We invite you to explore your backyard!

The San Dieguito Lagoon Wetland Restoration Project is underway!

To celebrate the restoration efforts and the work in progress the Friends of the San Dieguito River Valley are offering free bus tours on these dates:
March 17, April 14, May 19, and June 16

The tour will take participants around 700 acres of public lands owned by the San Dieguito River Park and will make six stops. Tour Times are 9:00AM and 11:00AM and last approximately two hours. Seating is very limited and you must reserve in advance. Call (858) 674-2275 extension 14 for more information and to leave your name, phone number, and preferred schedule. Or email Barbara at Barbara@sdrp.org.

Location: San Dieguito Lagoon/Strawberry Stand Wetland Learning Center
Directions: Exit I-5 Via de la Valle and go east. Turn right on San Andres Drive and enter Park at gate. Off street parking is also available on San Andres Drive.

$1,000 REWARD

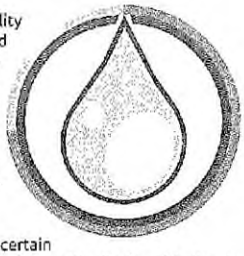
A $1,000 Reward is offered to the first person providing information leading to the identification of any person(s) vandalizing or knocking down story poles on or about December 7, 2006 on the vacant property at the north end of Highway 101 overlooking San Elijo Lagoon also known as the site of the proposed Gateway Project.



If you have information, call Maria with the City of Solana Beach at 858-720-2431 or Sgt. Mike McClain, with the Sheriff's Department at 760-966-3500.

APPENDIX H: SHORELINES NEWSLETTER SUMMER 2007

The City of Solana Beach Water Quality Program



The City of Solana Beach has an extensive water quality program aimed at ensuring a clean and healthy ocean and lagoons. The program consists of a variety of activities conducted to reduce and eliminate urban runoff before it enters the City's storm drain system. Once this runoff (and the pollutants contained in it) enters the storm drain system, it empties onto the beaches and into the lagoons untreated. The system is completely separate than the sewer system, which is connected to a wastewater treatment plant where the pollutants are removed before discharging into the ocean.

The City is under a state mandate (Permit) to comply with certain regulations that govern water quality and urban runoff. The City, along with all other 17 cities in San Diego County, the County of San Diego, the Port District and the Airport Authority, are all required to comply with the same Permit, and adhere to the same regulations. The following is a brief outline of the activities required under the Permit that City staff is currently responsible for.

1) New Construction and Redevelopment Activities: City staff reviews all building plans submitted to ensure additional runoff associated with the project will be mitigated onsite. This usually involves the of installation post-construction Best Management Practices (BMPs) including infiltration pits but can involve installation of structural devices that target infiltration and pollutant removal. Plans are also reviewed to ensure erosion and sediment control BMPs such as silt fences and sand bags are used during construction to prevent pollutants from leaving the site.

2)Municipal/Commercial/Industrial/ Construction Inspections: City staff inspects all municipal, commercial, and industrial sites within the City to ensure potential pollutants are safely stored and employees are conducting their activities in accordance with the water quality regulations. This includes the proper onsite storage of hazardous materials, pesticides, herbicides, etc., as well as ensuring employees are not using excessive amount of water to clean outside eating areas, trash dumpsters, cooking mats, etc. No water should be leaving these sites at any time, with a few minor exceptions. Additionally, staff checks the maintenance records of the restaurant grease trap/interceptors to ensure they are functioning properly to reduce grease build up in the sewer pipes and prevent sewer spills.

3) Education/Outreach: City staff routinely educates municipal/commercial/industrial employees about these regulations during inspections and special mail outs. The City has information for the community on its website and in community newsletters, and is available for presentations to schools regarding urban runoff. Information is available at City Events such as Fiesta Del Sol and a beach and lagoon cleanup is held every year in September.

4) Violation Investigations: The City has a "Storm Water Hotline" where violations can be anonymously reported if witnessed in the community. If you witness someone dumping anything into the City's storm drains, a restaurant washing down its parking lot, a construction site discharging anything into the street, etc., then please call this number and report it for City follow-up. The City relies on the community to be its "eyes and ears" whenever something like this occurs, and appropriate follow-up will occur. The number is (858) 720-2400 ext. 2512, and remember, it can be anonymous if desired.

5) Water Quality Monitoring: City staff currently monitors all storm drain outfalls that empty out into either the ocean or lagoons. These outfalls are all tested for bacteria indicators on a routine basis (at a minimum monthly). Once a year, a more comprehensive monitoring program is conducted at more than thirty sites throughout the City and tested for many more pollutants, including dissolved metals, oil and grease, ammonia, nutrients, detergents, and orthophosphates. This data helps assess the overall health of the local waters and also alerts the City if an illegal discharge or connection has occurred upstream. If any violations are identified, then an upstream investigation is conducted to locate the source of pollutants.

These are just a few activities conducted by City staff to stay in compliance with the Permit and ensure a clean and healthy environment. If you would like additional information on any of the items listed above, or would like to find out more about additional activities not listed above, please contact Danny King at (858) 720-2477.

City of Solana Beach PUBLIC MEETING SCHEDULE

The Budget & Finance Committee meets the third Thursday of each month at 6:00 p.m. in the City Hall Council Chambers.

The Parks & Recreation Commission meets every second Thursday at 4:00 p.m. at La Colonia Park, 715 Valley Avenue, Solana Beach. ***NOTE: NEW TIME***

The Public Arts Advisory Commission meets the second Tuesday of each month at 3:30 p.m. in the City Hall Council Chambers.

The Public Safety Commission meets the second Tuesday of each month at 6:30 p.m. in the City Council Chambers.

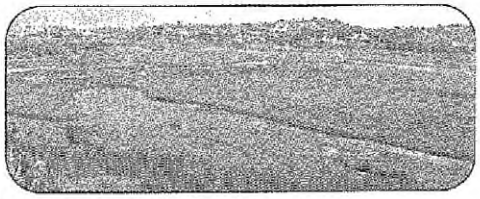
The View Assessment Committee meets the third Tuesday of each month at 6:00 p.m. in the City Council Chambers.

These times and days are the regular meeting schedule unless otherwise noted. Please check the City website for current information at: **www.ci.solana-beach.ca.us.**



Regular meetings of the Solana Beach City Council are held at 6:00 p.m. on the second and fourth Wednesdays of each month in the Council Chambers at City Hall, 635 S. Highway 101, Solana Beach, CA 92075. Meetings are broadcast live on Cox (Channel 19) and Time Warner (Channel 66). For more information, please contact the City Clerk's Office at (858) 720-2400.

Sewer Forcemain Replacement Project



The City has recently completed the 3.2 million dollar sewer pipeline replacement project underneath the San Elijo Lagoon. The project was immensely complex due to the location and sensitivity of the pipeline, which runs underneath the environmentally sensitive Lagoon. The City and contractor had to manage complex construction activities around tremendous environmental restrictions to complete the project within an allotted timeframe and not interfere with the breeding season of migratory birds within the Lagoon.

The existing forcemain was installed in 1965 and conveys sewage approximately 1.1 miles underneath the lagoon to the San Elijo Joint Powers Agency Water Reclamation Facility in Encinitas. The pipe was nearing its life expectancy and needed to be replaced to prevent sewer spills into the environmentally sensitive Lagoon. The project was funded and spearheaded by the City of Solana Beach. The City of Encinitas, the County of San Diego and the San Elijo Lagoon Conservancy provided their support to have necessary easements in the Lagoon. The City obtained over half of the 3.2 million dollars in grant funds from the Environmental Protection Agency. The City will continue to attempt to secure these grant funds to provide sewer infrastructure repair throughout the City.

Sewer spills can have catastrophic effects on the plants and animals that inhabit the Lagoon as well as those who recreate in the nearby ocean. Major fines can be issued to responsible parties if sewer spills occur, so the City has taken a very proactive approach in analyzing the current sewage infrastructure and rehabilitating the aging system. In the very near future, the City will be replacing the Eden Gardens Pump Station and the Solana Beach Pump Station. As mentioned above, the City takes a very proactive approach to rehabilitating the aging system to prevent sewer spills and the devastating effects that they can cause to human health, property and the environment.



City Streets *Make a Clean Sweep*

Sreet sweeping is scheduled on Tuesday of each week, excluding any 5th Tuesday of a month. The City is divided into four sections as follows:

1. Northwest section, north of Lomas Santa Fe, west of I-5.
2. Southwest section, south of Lomas Santa Fe, west of I-5.
3. Northeast section, north of Lomas Santa Fe, east of I-5.
4. Southeast section, south of Lomas Santa Fe, east of I-5.

The northwest section is swept on the first Tuesday of each month.

The southwest section is swept on the second Tuesday of each month.

The northeast section is swept on the third Tuesday of each month.

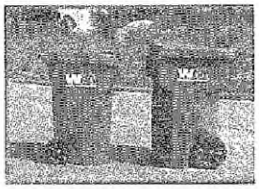
The southeast section is swept on the fourth Tuesday of each month.

South Sierra Avenue is swept twice each month. The west side is swept the first and third Tuesday of the month, and the east side is swept the second and fourth Tuesday of the month.

Sweeping includes median curbs on Highway 101 and Lomas Santa Fe Drive, north-south curbs and gutters and east-west curbs and gutters to be swept on the first and third Tuesday of each month.

Residential Automated Trash and Recycling Program Update

The new residential automated trash and recycling program has just completed its fourth month of implementation, and early indications point to a dramatic increase in recycling rates for the City. As you may recall, the City approved Waste Management's proposal to switch residential trash and recycling from manual to automated and new containers were distributed to all residents in November, 2006.



One of the main incentives for the City was to increase the recycling rates throughout the City to reduce the amount of materials entering our local landfills. This program has proven in other jurisdictions to have a major impact on this diversion, and early results have shown the same results here in Solana Beach. According to Waste Management, the recycling rates have increased 23% since the implementation of the new program. This has proven to be a very successful program so far, and the City commends you, the community, for making it happen. Please remember to recycle all you can, as the local landfills have a limited capacity and recycling has a dramatic effect on preserving our natural resources.

The Community Singalong Celebrates 20 Years

As our Solana Beach Community Sing-along reaches its 20th year in July, how many of you have attended one of these delightful evenings? "For some reason, many of our residents have the impression that they can't sing. Nonsense! For instance, at last years First Annual Solana Beach Holiday Singalong, folks didn't hesitate to sing out their favorites. Don't be shy," says Dr. Ed Siegel, founder and pianist for this free weekly event. This enjoyable family event is held each Thursday at the Fletcher Cove Community Center. Doors open at 7:30 p.m. Folks come and go until 9:00 p.m.





San Elijo Lagoon Lecture Series

All lectures take place on
Friday at 7 PM
MiraCosta College/San Elijo Campus
Admission is free

The San Elijo Lagoon Conservancy (SELC) lectures series with MiraCosta College has been wildly popular with standing-room attendance. Part of SELC's year-long 20th anniversary observance, the series continues this summer and offers the public the chance to learn more about the history, ecology, and future of the San Elijo Lagoon.

"Early Occupation of the San Elijo Lagoon Region"
June 22, 2007
Dennis Gallegos, Archaeologist & President, Gallegos & Associates

Two final lectures will be offered this fall. For more information on the series contact: Denise Stillinger, dstillinger@miracosta.edu

San Elijo Lagoon Conservancy is a citizen-supported, non-profit organization dedicated to protect, preserve, and enhance the natural resources of the San Elijo Ecological Reserve and its watershed. During its 2007 anniversary year, SELC is offering a number of public events under the theme "20 Years of Watershed Moments." For more information visit www.sanelijo.org.

North Coast Repertory Theatre's Summer Schedule! 2007

Baby
by Sybille Pearson
directed by Paula Kalustian

Three couples from three generations all want the same thing – procreation. Enjoy great songs, zest and humor in this light-hearted production. A big Broadway success!

Previews May 23 - 25
May 26 - June 24



The Theatre School at North Coast Rep Presents:

Student-Written, Student-Directed One Acts

June 4 - June 6

NORTH COAST REP

The Theatre School at North Coast Rep
2007 Summer Drama Fun Camp

Classes fill up quickly so reserve your space today! For ages 9-18. Call 858.481.1055 to reserve your space, or call Joe Powers at 858.481.2155 ext. 16 for more information.

July 9 - 13,
July 16 - 20,
July 23 - 27

Rashomon
by Fay and Michael Kanin
directed by David Ellenstein

Perspective is everything. Examine the story of an ancient Japanese fable from three angles. A dynamic world of imagination unfurls in this lively and inventive classic.

Previews July 11 - 13
July 14 - August 12



City of Solana Beach Department of Parks & Recreation

Kids Summer Day Camp - 2007
for ages 6 to 12



All Sessions will meet Monday through Friday from 8:30 a.m. to 2:00 p.m. at the new Fletcher Cove Park. The fee is $100.00 per child and includes beach activities, arts and crafts, t-shirt and a weekly field trip to an exciting destination. After-care is offered from 2:00 to 5:00 p.m. Our popular "Leader in Training" program is available for 13-17 year olds for only $40/week!

Explore the Borders (Mexico)
Session 1, June 18-22, 2007

¡Bienvenidos! Get ready for the most colorful kids camp the City of Solana Beach has put on yet! During this week we will explore the vivid culture of this fascinating and fun country as we create crafts such as paper lanterns and flowers. The week will end with a fiesta including a piñata and more!

Field trip: Cabrillo National Monument

Oceans Week
Session 2, June 25-29, 2007

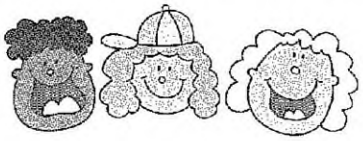
We live near the ocean and we may visit it often, but how much do we know about it? Come to camp to learn more about this beautiful treasure so close to us! We will have beach activities throughout the week.

Field trip: Birch Aquarium at Scripps

Happy and Healthy
Session 3, July 9-13, 2007

What better way to spend summer than getting exercise and having fun doing it? Throughout this week we will be learning about our incredible bodies and what we can do to keep them happy and healthy.

Field trip: Go Play Get Fit Youth Day at SDSU





Ecology & Our Environment
Session 4, July 16-20, 2007

Egrets, marshes, and eucalyptus, oh my! Ecology week, July 16 - 20, is your child's time to discover an often overlooked region of San Diego County. Through crafts and experiments, we will dive into a part of our own backyard, learning about wildlife habitats, and how we are all a part them.

Field trip: San Elijo Lagoon

Step Into Storybooks
Session 5, July 23-27, 2007

This camp is a great opportunity for your child to step into storybooks! During this week campers will be diving into classics, acting out skits, reading award-winning children's books and even writing one of their own.

Field trip: The Wave Water Park

Rainforest Exploration
Session 6, July 30-Aug 3, 2007

Attention lovers of adventure!! Feel like swinging through the trees this summer? Sign your child up for Rainforest Exploration Camp, July 30 - August 3. During this week we will learn about habitats, wildlife and the role they play in our lives.

Field trip: Balboa Park and Museums

San Diego Appreciation Week
Session 7, August 6-10, 2007

From beaches to theme parks, we have it all in San Diego. If you are interested in your child learning to appreciate our beautiful City and its history, in a kid friendly fashion, sign your son or daughter up now.

Field trip: San Diego Harbor Cruise and Seaport Village

APPENDIX I: SUSMP COUNTER HANDOUT

STORMWATER SUSMP

(Standard Urban Storm Water Mitigation Plan)

FOR

CONSTRUCTION and BUILDING ACTIVITIES

The municipal storm water National Pollutant Discharge Elimination System (NPDES) permit (Order No. 2001-01, NPDES No. CAS0108758) issued by the San Diego Regional Water Quality Control Board on February 21, 2001, requires the development and implementation of a program addressing urban runoff pollution issues in development planning for public and private projects.

All new development and significant redevelopment projects that fall into one the following "priority project" categories are subject to these SUSMP requirements. In the instance where a project feature, such as a parking lot, falls into a priority project category, the entire project footprint is subject to these SUSMP requirements. These categories include:

- Residential development of 10 units or more
- Commercial development greater than 100,000 square feet
- Automotive repair shops
- Restaurants
- Hillside development greater than 5,000 square feet
- Projects discharging to receiving waters within Environmentally Sensitive Areas
- Parking lots >5,000 square feet or with >15 parking spaces and potentially exposed to urban runoff
- Streets, roads, highways, and freeways which would create a new paved surface that is 5,000 square feet or greater

Limited Exclusion: Trenching and resurfacing work associated with utility projects are not considered priority projects. Parking lots, buildings, and other structures associated with utility projects are subject to SUSMP requirements if one or more of the criteria for the above categories are met.

It is the responsibility of the property owner/contractor to determine if the project falls under the SUSMP requirements. Failure to implement the necessary SUSMP requirements on priority projects is subject to enforcement by the City of Solana Beach as well as the Regional Water Quality Control Board. If you have any questions regarding the SUSMP and its requirements, please call Danny King at (858) 720-2477.

APPENDIX J: STORM WATER PLAN CHECK COMMENT FORM

CITY OF SOLANA BEACH
ENGINEERING DEPARTMENT
STORM WATER PLAN CHECK COMMENTS

Project: _____ Address: _____

☐ Construction phase **Erosion Control** shall be shown on the permitted plans, such as silt fences, gravel bags, desilting basins, slope protection and entrance controls. **Best management practices (BMP's)** shall be developed and implemented to manage storm water and non-storm water discharges from the site at all times during construction activities. Erosion prevention shall be emphasized to keep sediment on site during excavation and grading activities. Sediment controls such as mulch, jute netting and straw blankets shall be used as a supplement to erosion control for keeping sediment on site.

- **Submit Storm Water Management Plan** (attached)
- **Add the following note to plans**: "**EROSION CONTROL:** Best management practices shall be developed and implemented to manage storm water and non-storm water discharges from the site at all times during excavation and grading activities."

☐ The Applicant shall demonstrate that the **project does not increase storm water runoff** or peak discharge from their property. For example, add a storm water retention and infiltration feature such as a depressed landscape area or below ground drywell using course rock (1.5" to 2.5") or a pre-fabricated chamber. The amount of retention volume should be at least equal to 0.60 inches (0.05 feet) times the added impervious area. This should be designed to avoid runoff damage to downstream properties, such as not concentrating runoff where it was previously not concentrated. (For 5,000 SF or more of added impervious area, use County of San Diego Hydrology Manual)

☐ Storm Water and Non-Storm Water Runoff Control. Post-development measures that **reduce pollutant discharges from the site** shall be shown on the permit plans. For example, maximize permeable areas (landscaping, driveway grass strips, gravel paths, concrete pavers on sand) to allow runoff seepage into the ground and drain impermeable surfaces (roofs, hardscape, driveways) to permeable areas (i.e. planted areas) and other approved pollutant treatment BMP's.

- Is runoff from hardscape areas routed over natural treatment areas before draining off site?
- **Show on the plans** where hardscape and roofs drain to.
- **Show BMP's** on the plans (grassy swales, landscaping, infiltration pits, pervious pavements, gravel paths, etc.).
- The volume of treatment should be at least 0.60 inches (0.05 feet) times the added impervious area.

APPENDIX K: BUILDING PLAN CHECK COMMENT FORM

CITY OF SOLANA BEACH
C/O CITY OF ENCINITAS BUILDING DIVISION
505 S. Vulcan Avenue, Encinitas, CA 92024-3633
(760) 633-2730
APPLICATION TRACKING FORM

Plancheck No.: _____
Received by: _____
Date:

Site Address _____ Suite # _____
Site Business Name _____ APN _____
Project/Property Owner's Name _____
Contact Person _____ Phone # _____
Address _____ Fax # _____
Project Description _____ Sq. Ft. _____
Discretionary Permit Applicable? _____
Is/will the building equipped with fire sprinklers? ☐Yes ☐No Is the property on a septic system? ☐Yes ☐ No
Is there an existing swimming pool &/or spa on the property? ☐Yes ☐ No If "yes," see the Pool & Spa note below

THE FOLLOWING "CHECKED" ITEMS MUST HAVE WRITTEN APPROVAL PRIOR TO PERMIT ISSUANCE. APPROVALS FROM THE PLANNING, ENGINEERING, FIRE, HEALTH DEPARTMENTS, AND THE AIR POLLUTION CONTROL DISTRICT MAY ALSO BE REQUIRED PRIOR TO FRAME AND/OR FINAL INSPECTION AND OCCUPANCY (INDICATED ON "BLUE" CARD). IF YOU HAVE ANY QUESTIONS, PLEASE CONTACT THE INDIVIDUAL DEPARTMENT(S) AT THE NUMBERS SHOWN.

CITY DEPARTMENTS

☐ **PLANNING / ZONING**.....858-720-2440
- ☐ O.K. for Plancheck Only. By _____Date_____
- ☐ Fees Due. ☐ Park Fees ☐ Public Facilities Fees
- ☐ Fee Payment Required Prior to ☐ Permit Issuance ☐ Final Inspection
- ☐ Height Certificate Required prior to Requesting Frame Inspection.
- ☐ Approval Req'd prior to: ☐ Permit ☐ Frame Insp ☐ Final Insp
- ☐ Approval required prior to ☐ Frame ☐ Final Inspection
- ☐ O.K. to Issue Building Permits _____

☐ **ENGINEERING / SANITATION**.....858-720-2470
- ☐ O.K. for Plancheck Only. By _____Date _____
- ☐ Permits Req'd ☐ Dedication Req'd ☐ Fees Req'd.
- ☐ Approval required prior to ☐ Frame ☐ Final Inspection (Sewer, Plancheck, In Lieu)
- ☐ See attached form for Storm Water BMP'S
- ☐ O.K. to Issue Building Permits _____

☐ **ENVIRONMENTAL**.....858-720-2470
- ☐ O.K. for Plancheck Only By _____Date _____
- ☐ Storm Water Mgmt. Plan Required
- ☐ See attached form for Storm Water comments
- ☐ Post Construction BMP Inspection Required:
  - ☐ During Construction ☐ Prior to Final Inspection
- ☐ O.K. to Issue Building Permits _____

☐ **FIRE PREVENTION**..... .858-720-2410
- ☐ O.K. for Plancheck Only By _____Date _____
- Approval required prior to ☐ Frame ☐ Final Inspection
- ☐ O.K. to Issue _____

☐ **POOL & SPA SAFETY ENCLOSURE & SAFETY FEATURES**
Effective 1/1/07, AB 2977 requires all existing pools and spas shall comply with current State mandated enclosure & safety features.

X _____ _____
Signature of Applicant Date

G:/BldgForms/SolanaBeach/Tracking Sheet Eff 01/01/07

AGENCY APPROVALS

☐ **SCHOOL FEES**
(Obtain signature on the attached forms)
Solana Beach Elementary &
San Dieguito Union H.S. District.....760-753-6491

☐ **HEALTH DEPARTMENT**
- ☐ Health Regulated Business
- ☐ Hazardous Materials Management..... 619-338-2222
  1255 Imperial Avenue, San Diego 92138-5621
- ☐ Final Approval Required
- ☐ Septic Approval Required..... 760-471-0730
  151 Carmel St, San Marcos 92078

Approved by_____

☐ **AIR POLLUTION CONTROL DIST.** .....(858) 586-2600
(Obtain stamp and signature on APCD Questionnaire)
10124 Old Grove Rd., San Diego CA 92131

☐ **WATER AND SEWER**
(Obtain signatures on attached forms)
- ☐ Santa Fe Irrigation District 858-756-2424
- ☐ Solana Beach Sanitation District 858-720-2470

☐ **CALIFORNIA COASTAL COMMISSION**....619-767-2370
Call for an appointment

☐ **ASSESSOR'S COPY OF PLANS**
At permit issuance, provide a third copy of Title Sheet, Plot Plan & Floor Plan (per Senate Bill 493).

☐ **OWNER/BUILDER AFFIDAVIT AND/OR CONTRACTOR INFORMATION**

☐ **SDG&E WORK ORDER**..... (800) 411-SDGE
For new / relocated gas & electric meters

APPENDIX L: CONSTRUCTION BMP GUIDE

STORMWATER BEST MANAGEMENT PRACTICE (BMP) GUIDE
for CONSTRUCTION and BUILDING ACTIVITIES

STORMWATER POLLUTION

When rain flows over streets and other surfaces, it picks up pollutants and carries them into the stormwater conveyance ("storm drain") system. The storm drain system is designed to prevent flooding by transporting water away from urban areas. Unfortunately, this water and all the contaminants it contains eventually flow to our streams, lakes, and the ocean where we swim and fish. Once there, polluted runoff can harm wildlife and their habitats. In some cases, it can even cause beach closures or make our fish and shellfish unsafe to eat.

Construction activities can be a significant source of stormwater contamination. During the life of a project, many types of materials and wastes are routinely used or generated. If not properly managed, sediment and other pollutants (paint, concrete, drywall, fuels, solvents, etc.) can be washed or tracked offsite, eventually entering the storm drain system. It might not seem like your activities alone could be damaging to the environment; but the cumulative impact of all of the construction projects conducted throughout the City every year can seriously impact the health of our local waterbodies.



What are you adding?

For more information, or to report stormwater pollution, pick up the phone and dial (858) 720-2477 and speak to the Engineering Department.

PROJECTS 1 ACRE AND GREATER

If your project will disturb one acre of land or more, you must also obtain coverage under the Statewide General Construction Activity Stormwater Permit. This permit, issued by the California State Water Resources Control Board (SWRCB), will require you to prepare a Storm Water Pollution Prevention Plan (SWPPP), and to implement BMPs to reduce stormwater pollutants both during and after construction is completed. For information on obtaining coverage under the General Construction Permit, and other available resources, contact the SWRCB at (916) 341-5537

YOUR RESPONSIBILITIES

City of Solana Beach Stormwater Ordinance prohibits the discharge of pollutants to the storm drain system. Simply stated, only rain may legally enter the storm drain. As a construction site owner or operator, you are legally responsible for ensuring that sediment and other construction-related pollutants are properly managed. This means that pollutants from your site may not enter the storm drain system or any receiving water (such as creeks, streams, etc.) either directly or indirectly. You can also be held responsible for discharges or environmental damage caused by your employees or subcontractors.

Your grading and construction activities will be reviewed by City staff during plan check and site inspection to verify their compliance with the Stormwater Ordinance and related provisions of the City Grading Ordinance. Failure to comply with these regulations can result in civil and criminal penalties.

BEST MANAGEMENT PRACTICES (BMPs)

Best Management Practices (BMPs) are activities or practices designed to reduce or eliminate pollutants in stormwater. Proper selection and implementation of BMPs will help you to prevent stormwater pollution from your site. On the following pages, a number of BMPs that apply to erosion control and other construction activities are described. It is your responsibility to determine which of these (or other BMPs) are most appropriate for your project, and to implement them accordingly. The success of your efforts will ultimately depend on whether or not you have prevented pollutants from leaving the site.

Remember, knowledge is the most important tool on your site. Training your employees and subcontractors is the best way to ensure that your BMPs are implemented and maintained effectively.

EROSION CONTROL BMPs

EROSION CONTROL STRATEGY

Sediment is the most common pollutant washed from construction sites. It also transports numerous other contaminants such as paint, cement wash, asphalt, and automotive fluids. Sediment loss is best controlled by using a combination of BMPs to target each stage of the erosion process. This should include the following general steps

Step 1. Use advance planning and scheduling

Step 2. Stabilize slopes and exposed surfaces

Step 3. Divert or dissipate onsite flows.

Step 4. Capture sediment from runoff.

STEP 1: PLANNING AND SCHEDULING

Planning and scheduling should always be part of your erosion control strategy. Effective planning can greatly reduce the need for other costly and time-consuming solutions. It can also save you considerable money. Whenever possible, plan your project to utilize existing topography, drainage patterns, and vegetation. This will significantly reduce the potential for erosion both during and after construction.

Grading and clearing should be phased to reduce the amount and the duration of sediment exposure. If possible, schedule grading during the dry season (Mid-April through October), particularly avoiding December through February. Always be aware of forecasted weather conditions prior to any scheduled grading or clearing activities.

For weather forecasts, contact the National Weather Service at (858) 675-8700, or visit www.weather.com

STEP 2. STABILIZING SLOPES AND SURFACES

The City Grading Ordinance requires that slopes be stabilized as soon as they are created to increase their resistance to erosion. When permanent stabilization of slopes or other exposed surfaces is not yet feasible, temporary measures should always be used. A number of practical solutions can be used.

Preservation of Existing Vegetation.
Leaving existing vegetation (trees, vines, shrubs, grasses, etc.) in place can minimize the potential for erosion as well as the need for other costly controls

Seeding and Planting. Seeding grasses and planting trees or ground cover provides long-term stabilization of slopes and soils. Schedule landscaping to permanently cover exposed surfaces as soon as they are created.

Mulching. Mulches (such as wood chips, bark, straw, gravel, etc.) can be used to temporarily or permanently stabilize cleared or freshly seeded areas. Mulches should be inspected weekly and after rain for damage or deterioration.

Geotextiles and Mats. Geotextiles and mattings can be used for temporary or permanent soil stabilization, and are especially effective on steep slopes and channels. They should be inspected monthly and after significant rainfall.

Stabilization of Vehicle Traffic Areas. All areas of significant vehicle traffic (site entrances, access roads, parking lots, etc.) should be stabilized immediately after grading to prevent erosion and control dust. Site entrances and exits are especially important. Use gravel approaches to limit tracking of sediment offsite.

Remember, the effectiveness of BMPs you use will depend on their proper implementation and maintenance. Routine inspection and evaluation, especially before and after rainfall, should be part of your pollution control strategy.

Step 3: DIVERTING AND DISSIPATING FLOW

Effectively preventing sediment erosion generally requires a combination of surface stabilization and onsite flow control. Flow control methods reduce the ability of rainwater to erode sediments either by decreasing its velocity or by channeling it away from exposed surfaces. A number of practices are commonly used.

Earthen Dikes. Earthen dikes are berms or ridges of compacted soil (or other onsite materials) that divert flow away from slopes or other exposed areas. They are relatively inexpensive and can be constructed during initial grading operations.

Temporary Drains and Swales. Temporary drains and swales can be used to divert runoff around the site or disturbed areas.

Slope Drains. Slope drains are temporary pipes or lined channels that drain the top of a slope to a stable discharge point at the bottom.

When using flow diversion BMPs, remember that concentrated flows must be dissipated. Flow dissipation (check dams, rip rap, etc.) should always be used at drain or channel outlets to reduce runoff velocity and promote sedimentation. Care should also be taken not to disturb downstream properties.

Step 4: CAPTURING SEDIMENT FROM RUNOFF

Because sediment erosion can never be completely prevented, your control strategy should also include BMPs designed to recapture sediment from flows. The following methods are commonly used to promote sedimentation by filtering or trapping runoff.

Silt fences. Silt fences are a filter fabric attached to supporting poles, sometimes backed by wire. They are used in areas of sheet flow. Silt fences require frequent inspection, especially before and after rainfall.

Straw Bale Barriers. Straw bales can be used to create a temporary sediment trap in areas of sheet or rill flow. Bales are entrenched and placed end to end along a level contour. They should be inspected frequently since they tend to deteriorate.

Sand Bag Barriers. Stacking sand bags along a level contour can create a temporary sediment trap by ponding water upstream of a barrier. Sand bags are very versatile and can be used in a number of applications.

Brush and Rock Filters. Barriers constructed of brush or rock (3/4" to 3" diameter) can be used in areas of sheet or rill (channelized surfaces) flow to reduce velocity and trap sediment. They must be properly anchored, and should be inspected at least monthly and after each rainfall.

Sediment Traps and Basins. Traps and basins are excavated or constructed (berms, embankments, etc.) areas where runoff is trapped and sedimentation occurs. Traps are used for small drainage areas (less than 5 acres) and basins for larger ones. Both traps and basins should be constructed before clearing, grading, and grubbing begins, and located where they can be easily cleaned out.

Storm Drain Inlet and Creek Protection. Your erosion control strategy should always address the protection of onsite or down-gradient storm drain inlets and waterbodies. Discharges of pollutants to storm drains, or streams and other waterbodies, may result in violations of the City Stormwater and Grading Ordinances, the Federal Clean Water Act, and the California Fish and Game Code.

GENERAL CONSTRUCTION BMPs

In addition to sediment, many other types of pollutants are used or generated during building and construction.

Paint Wastes	Dement Wash	Drywall	Solvents	Adhesives
Glues	Trash	Cleared Vegetation	Wood	Asphalt
Demolition Wastes	Vehicle Fluids	Septic Wastes	Asbestos	Acids

Remember, discharging anything other than rain to the storm drain is against the law. All materials and wastes must be managed and disposed of properly. The BMP described below will help to prevent stormwater pollution from your construction activities.

MATERIALS and WASTE MANAGEMENT

- Use designated delivery, pickup, and storage areas away from drainage paths and waterways.
- Store only the materials you need onsite.
- Store materials (especially open bags) under a roof or inside a building. Cover and berm around storage areas. Cover materials stored outside with waterproof tarps.
- Keep an inventory of materials and regularly inspect storage areas.
- Store and dispose of wastes as required by Federal, State, and local regulations
- Use watertight dumpsters.
- Wash out concrete trucks offsite or in a designated area (e.g. a temporary pit where the concrete can set, be broken up, and then disposed of properly).

SPILL CONTROL

- Train employees on spill prevention and cleanup
- Make sure cleanup materials are easily accessible.
- Use secondary containment (drain pans, drop cloths, etc.) to catch spills and leaks
- Clean up spills immediately.
- Use as little water as possible ("dry" methods) for washing and spill cleanup.

VEHICLES AND EQUIPMENT

(Cleaning, Fueling, and Maintenance)

- Fuel, maintain, and wash vehicles offsite.
- If conducting activities onsite, use designated areas. Cover and berm work areas as necessary.
- Properly maintain vehicles and equipment to prevent leaks.

Additional Resources

City of Solana Beach Engineering Department
(858) 720-2477 www.ci.solana-beach.ca.us/

San Diego Regional Water Quality Control Board (SDRWQCB)
(858) 467-2952 www.swrcb.ca.gov/rwqcb9/

California State Water Resources Control Board (SWRCB)
(916) 341-5250 www.swrcb.ca.gov

U.S. Environmental Protection Agency (Region 9)
(415) 972-3510

APPENDIX M: CONSTRUCTION BMP BROCHURE

A Pollution Prevention Guide for the Construction Industry

North County Storm Water Program

Carlsbad • Del Mar • Encinitas • Oceanside
• San Marcos • Solana Beach • Vista

Only Rain in the Storm Drain

Water Quality Regulations for Construction Sites

Dear Contractor,

The North County Storm Water Program is a collective of jurisdictions in northern San Diego County working together to protect our watersheds. We believe that reducing pollution is critical to maintaining our communities' way of life.

It is our hope that this brochure will help you identify activities that are recognized to cause water pollution and implement appropriate Best Management Practices (BMPs) to minimize their impact. By providing you with these tools, we hope to make your job easier while keeping our waterways clean.

Each jurisdiction will be inspecting their construction sites to ensure the protection of water quality. We look forward to seeing the BMPs presented in this brochure implemented at your sites.

Together we have the ability to preserve and improve the quality of life in our communities.

Sincerely,

The North County Storm Water Program

Contact Phone Numbers:

City of Carlsbad
760-602-2789

City of Encinitas
760-633-2787

City of Oceanside
760-435-5900

City of San Marcos
760-744-1050

City of Del Mar
858-755-8313

City of Solana Beach
858-720-2470

City of Vista
760-726-1340

Construction Sites

In 1972, the Environmental Protection Agency developed regulations to control water pollution. As a result, the National Pollutant Discharge Elimination System (NPDES) Permit was created. NPDES permits are issued to municipalities as well as construction sites. In addition to complying with local regulations, which are governed by our municipal NPDES permit, you may be required to obtain a permit through the State of California under the State General Construction Permit (99-08-DWQ). All construction sites over one acre are required to obtain coverage under this permit.



Construction sites can contribute pollutants such as sediment, metals, and chemicals, to our local creeks, rivers, lakes, lagoons, and ocean. These pollutants make their way down our streets and into storm drains, eventually discharging to the nearest body of water.

All construction sites are required to implement Best Management Practices (BMP) to prevent storm water pollution. This brochure is intended to assist your construction site in understanding BMP requirements.

Each municipality has one or more persons dedicated to ensuring that all construction sites are in compliance with state and local storm water control regulations. Contact your local municipality for further information.

Right-of-Way Permitting

We understand that there are times when space on construction sites is limited. If at any point, you (as a contractor or subcontractor) need to use the public right-of-way in order to work or store materials, you must apply for a special permit. This permit allows you to use the City's right-of-way areas, and describes what is required to prevent illegal contaminants from entering local storm drains. For more information or to obtain a permit application contact your local jursidiction.



Inspection and Enforcement Program

Each jurisdiction has established an enforcement program to ensure that all businesses operate in compliance with all appropriate storm water laws and other City requirements. Contractors, site supervisors and property owners can be held responsible for violations, which may lead to a civil penalty of up to $10,000 per day and/or reimbursing the local jurisdiction for all expenses associated with clean up.



Best Management Practices

Construction materials such as paint, dirt and trash often find their way into our storm drains, polluting the environment and jeopardizing our creeks, rivers, lakes, lagoons, and ocean.

The NCSWP is working with contractors to implement what are known as Best Management Practices (BMPs) on all construction sites. That is, methods used to keep pollution out of our storm drains and off public property, such as sidewalks, streets, parkways and alleys. Carrying out and maintaining these BMPs on the construction site is critical to protecting our ocean and bay.





The following is a list of BMPs and pollution prevention measures that shall be implemented at all construction sites:

1. **Conduct daily site cleanings.**
2. **Develop spill response and containment procedures.**
3. **Educate employees and subcontractors about BMPs.**
4. **Develop an erosion control plan for wind and rain.**
5. **Regularly maintain all BMPs at project site.**

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The NCSWP is working with contractors to implement what are known as Best Management Practices (BMPs) on all construction sites. That is, methods used to keep pollution out of our storm drains and off public property, such as sidewalks, streets, parkways and alleys. Carrying out and maintaining these BMPs on the construction site is critical to protecting our ocean and bay.





The following is a list of BMPs and pollution prevention measures that shall be implemented at all construction sites:

1. **Conduct daily site cleanings.**
2. **Develop spill response and containment procedures.**
3. **Educate employees and subcontractors about BMPs.**
4. **Develop an erosion control plan for wind and rain.**
5. **Regularly maintain all BMPs at project site.**

APPENDIX N: PUBLIC PROJECT PRE-CON MEETING AGENDA

PRE CONSTRUCTION MEETING
DISTILLERY PARKING LOT IMPROVEMENTS
BID NO. 2006-12
September 7, 2006 – 11:00 am

Introductions

Contacts

1.	Contractor	MJC Construction Javier Jimenez (619) 472-5619 office
2.	City	City of Solana Beach 635 S. Hwy 101 City of Solana Beach, CA 92075 (858) 720-2470 (Engineering) (858) 755-1782 (Engineering fax) Hector Ezquerro – City Inspector (858) 720-2470 Dan Goldberg – Project Manager (858) 720-2474 Danny Hernandez – Acting Public Works Supervisor (858) 793-879(
	Utilities	Santa Fe Irrigation District – Dana Johnson (858) 756-2424
Project Status:		Notice to Proceed – TBD 30 Working Days

Contract Amount: $53,508.00

Project Goals:
- Safety
- Community
- Quality
- Schedule
- Budget

Contractor Requirements:
- Any questions about Contract Award or "Key Contract Items Summary Sheet"?
- Submit Construction Schedule
- Submit Traffic Handling Plan
- Submit Storm Water Pollution Prevention Plan (SWPPP)
- Submit Names/Phone Numbers of Foreman/Emergency People
- Submit Names of Additional Subcontractors

Storm Water & Erosion Control (Danny King – City Environmental Specialist)
- Best management practices shall be used & maintained
- Erosion control plan

Page 1 of 2

APPENDIX O: PRIVATE PROJECT PRE-CONSTRUCTION CHECKLIST

City of Solana Beach
635 South Highway 101,
Solana Beach, CA 92075

PRE-CONSTRUCTION SITE / STORM-WATER INSPECTION CHECKLIST

Municipal Code Chapter 13.10 Storm Water Management
Engineering Inspection Division

Storm Inspection Type: None ☐ Pre- ☐

Inspected By: _____ Date: _____

Project Superintendent _____ Date: _____

Project Type: _____ Location: _____

Name of Contractor's 24-hour Site Contact: _____

Phone: _____

Watershed: ___Carlsbad ___San Dieguito
303(d) Listed: -Sediment -Bacteria
-Nutrients
-Bacteria

Priority: High Medium Low

Based On: ☐ Size
☐ Soil Erosion Potential
☐ Site Slope
☐ Proximity to Environmentally Sensitive Areas
☐ Other _____

DEFINITIONS:

SWPPP: Storm-water Pollution Prevention Plan (>1 acre) **BMP:** Best Management Practice

NPDES: National Pollutant Discharge Elimination System

Mark (x) box "Yes" or "No" or "N/A"; if comments, mark (x) box "Comment".

Yes	No	N/A	Comment	PRE-CONSTRUCTION
☐	☐	☐	☐	1. Is there a SWPPP filed and available on-site?
☐	☐	☐	☐	2. Are there Sensitive Environmental Resources to be shown on plans to be protected?
☐	☐	☐	☐	3. Does the Contractor have an ongoing NPDES Training Program?
☐	☐	☐	☐	4. Does the Contractor have a Qualified Person to Monitor and Report on BMPs? Provide a statement of qualifications.
☐	☐	☐	☐	5. Does the Contractor have an inspection schedule and documents on-site and readily available?
☐	☐	☐	☐	6. Did Contractor receive BMP Guide?
☐	☐	☐	☐	7. Did Contractor receive/complete Weather Triggered Action Plan?

Comments:_____

I certify that I understand the issues regarding storm-water pollution and the responsibilities that I have to ensure the protection of Solana Beach waterways.

_____ _____

Signature Date

APPENDIX P: CONSTRUCTION INSPECTION CHECKLIST

City of Solana Beach
635 South Highway 101,
Solana Beach, CA 92075

CONSTRUCTION SITE/STORM-WATER INSPECTION CHECKLIST

Municipal Code Chapter 13.10 Storm Water Management
Engineering Inspection Division

Inspection Description: Initial Visit ☐ Routine Inspection ☐ Follow-Up Inspection ☐

Storm Event Inspection Type: None ☐ Pre- ☐ Post ☐

Inspected By: _____ Date: _____

Project Superintendent: _____ Date: _____

Project Type: _____ Location: _____

Name of Contractor's 24-hour Site Contact: _____

Phone: _____

Did Superintendent Receive The BMP Guide Previously: Yes ☐ No ☐

If No, Did He/She Receive One Now: Yes ☐ No ☐

Is The Weather Triggered Action Plan On-Site and Available: Yes ☐ No ☐

Watershed: ___Carlsbad ___San Dieguito
303(d) Listed: -Sediment -Bacteria
-Nutrients
-Bacteria

Priority: High Medium Low

Based On: Pre-Inspection Checklist

DEFINITIONS:

SWPPP: Storm-water Pollution Prevention Plan (>1 acre) **BMP:** Best Management Practice

NPDES: National Pollutant Discharge Elimination System

Mark (x) box "Yes" or "No" or "N/A"; if comments, mark (x) box "Comment".

Yes	No	N/A	Comment	CONSTRUCTION

☐	☐	☐	☐	1. Are all BMPs identified on the SWPPP/Plans installed in the proper location, in accordance to the specifications, and functioning properly?
☐	☐	☐	☐	2. Does the SWPPP/Plans reflect current site conditions?
☐	☐	☐	☐	3. If required, is Dry Season Preparation adequate? (e.g.: Able to implement quickly, materials on-site or close, contractor is monitoring weather, perimeter protection in place.)
☐	☐	☐	☐	4. Does the Contractor have an inspection schedule and documents on-site and readily available?
☐	☐	☐	☐	5. Are Monitoring Reports available, and in compliance?
☐	☐	☐	☐	6. Are all downstream Operational Storm Drain Inlets protected?
☐	☐	☐	☐	7. Are all Natural Drainage Courses in proximity to this project protected?
☐	☐	☐	☐	8. Are all gravel bags, straw bales, and silt fences in place in accordance with the SWPPP/Plans, and are they functioning properly?
☐	☐	☐	☐	9. Are Non-Storm-water BMPs being used? (e.g.: concrete washouts, irrigation runoff, etc.)
☐	☐	☐	☐	10. If present, are all sediment traps/basins functioning properly?
☐	☐	☐	☐	11. Is sediment, debris, or mud being cleaned from public roads and intersections with site access roads? (Tracking BMPs in place.)
☐	☐	☐	☐	12. Are all discharge points free of any significant erosion or sediment transport?
☐	☐	☐	☐	13. If present, are all significant erodible slopes protected from erosion through the implement of acceptable soil stabilization practices? (Rills and Gullies Developing.)
☐	☐	☐	☐	14. Are all material and equipment handling, storage, and maintenance areas clean, and free of spills, leaks, or other deleterious materials?

☐	☐	☐	☐	13. If present, are all significant erodible slopes protected from erosion through the implement of acceptable soil stabilization practices? (Rills and Gullies Developing.)
☐	☐	☐	☐	14. Are all material and equipment handling, storage, and maintenance areas clean, and free of spills, leaks, or other deleterious materials?
☐	☐	☐	☐	15. Are all on-site traffic routes, parking, and storage of equipment and supplies restricted to areas designated in the SWPPP/Plans for those uses?
☐	☐	☐	☐	16. Are all locations of temporary soil stockpiles or construction materials in approved areas?
☐	☐	☐	☐	17. Are all seeded or landscaped and irrigation areas properly maintained?
☐	☐	☐	☐	18. Are all BMPs maintained in functional order?

Comments:

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____

_____ _____

City Staff Signature Date

APPENDIX Q: WET WEATHER TRIGGERED ACTION PLAN-CONSTRUCTION

City of Solana Beach
635 South Highway 101,
Solana Beach, CA 92075

Weather Triggered Action Plan For Construction Sites
Municipal Code Chapter 13.10 Storm Water Management
Engineering Inspection Division

This Action Plan should be completed before the rainy season and updated prior to each rain event:

Project Superintendent:_____

Project Superintendent Signature:_____

Address:_____

Date:_____

Inspector Name:_____

Inspector Signature:_____

Date:_____

Notes:_____

_____

_____

_____

_____

_____

_____

_____

Materials and Wastes	
Existing Condition	Action Plan
Non-Storm Water Management	
Existing Condition	Action Plan
Discharge Locations	
Existing Condition	Action Plan
Erosion Controls	
Existing Condition	Action Plan
Sediment Controls	
Existing Condition	Action Plan
Equipment and Vehicles	
Existing Condition	Action Plan

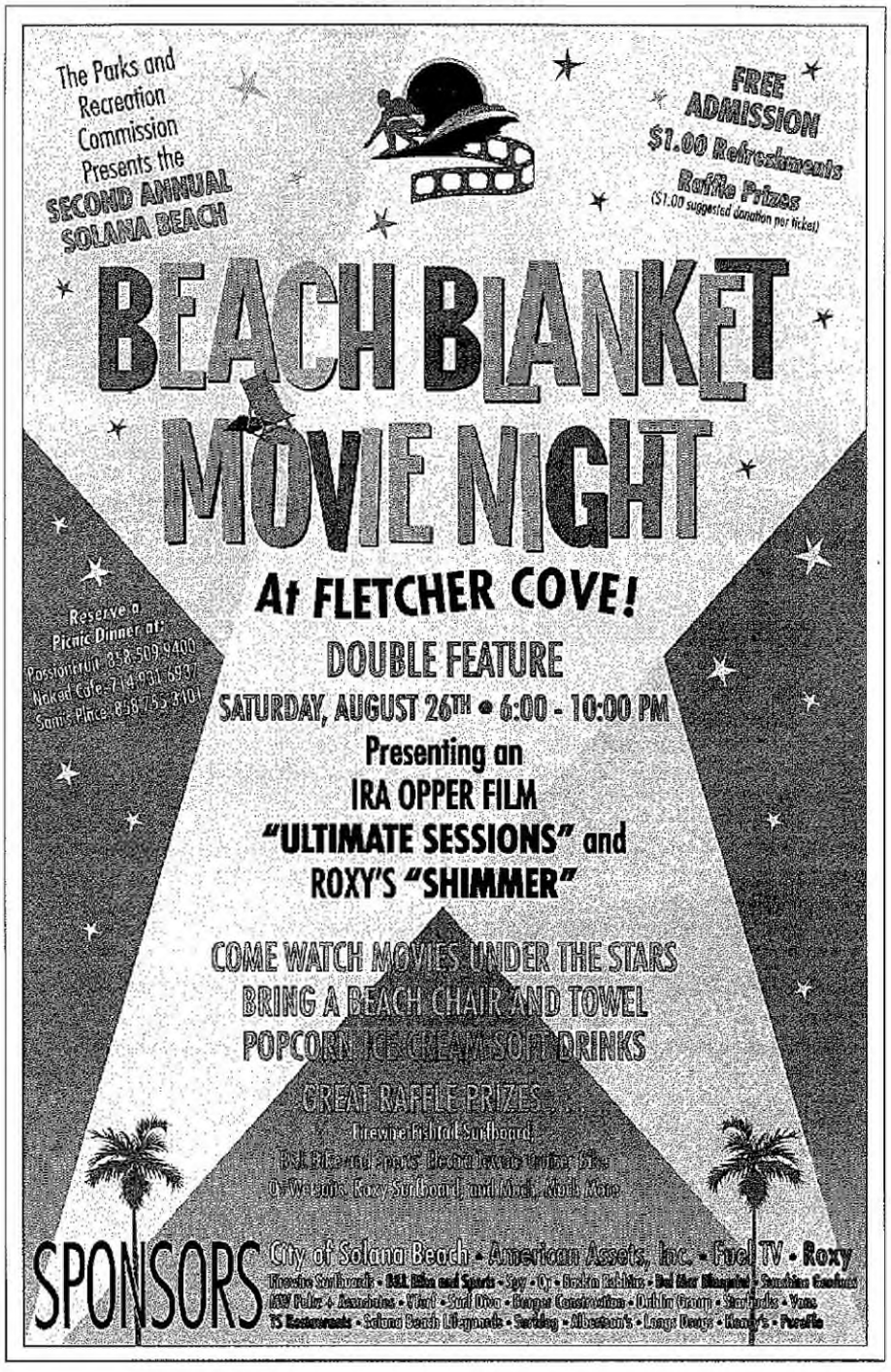
APPENDIX R: SAMPLE CONTACT/COMPLAINT DATABASE

Name	Affiliation	Date	Type	Address	Violation	Enforcement Action
Susan Welker	County of SD	10/29/2006 (Sunday)	Call	Solana Hills	Susan called to notify us of a broken down truck that was leaking oil. Susan placed down absorbent but it was leaky pretty heavily.	I investigated Monday morning and noticed the oil leak. The absorbent Susan placed down was completely soaked with oil. The oil was not flowing down the gutter, but any nuisance water may carry oil down to storm drain. The violation was referred to Code Enforcement for investigation. -- Code enforcement was successful in removing vehicle and oil was cleaned up

Susan Welker	County of SD	11/14/2006	Call	368 Holmwood Lane	Susan called to report an illegal discharge at 368 Holmwood Lane. Crews working on a remodel at the location were powerwashing the driveway and the runoff was allowed to enter the San Elijo Lagoon. There was no containment attempt at all.	I investigated immediately and made contact with the RP. I confirmed that there were no BMPs in place and no attempt was made to contain the washwater. A toxic substance was allowed to enter a drain and empty into a canyon in the lagoon. I stopped work immediately and we got Code Enforcement onsite. The RP was a day laborer and there was no company or licensed contractor on-site. We tried unsuccessfully to contact the homeowner. OES was contacted about the toxic spill in lagoon. It did not reach RW, and OES notified the necessary agencies. The homeowner was finally contacted, a meeting will be held tomorrow afternoon with all agencies involved. A fine of $500 was issued and cleanup and abatement order.
Dave Thomas	Public Works	3/15/2007	Call	Earl Warren Middle School	Dave reported heavy flow coming off site.	Dave investigated and discovered the maintenance crew had just washed down the outdoor eating area. Action was completed. Follow up to school district necessary.

Dave Thomas	Public Works	3/28/2007	Radio	Parioli Restaurant	Dave reported employees washing parking lot with no containment	I investigated the complaint and detected the recently washed parking lot. I spoke to the owner who admitted to his employees washing water. I explained the regulations and he promised to comply. A written NOV was sent
Frank Zamarippa	Code Enforcement	3/28/2007	Email	240 South Cedros (Leaping Lotus)	Frank witnessed an employee washing down sidewalk in front of business	Frank stopped the violation and educated the violator. Written NOV sent
Frank Zamarippa	Code Enforcement	3/28/2007	Email	107 South Cedros (Carizma)	Frank witnessed an employee washing down sidewalk in front of business	Frank stopped the violation and educated the violator. Written NOV sent

APPENDIX S: BEACH BLANKET MOVIE NIGHT FLYER



APPENDIX T: SUMMER CAMP PROGRAMS/CLASSES

City of Solana Beach
Department of Parks and Recreation
2006 - SUMMER CAMP PROGRAM SCHEDULE
Summer Session: June 19 – August 11, 2006
ALL the Summer Day Camps are for children ages 6-12 years.
(Kids entering 1st grade – Jr. High)

Awesome Astronomy
Session 1, June 26-30, 2006

This delightful camp will explore the fascinating world above our heads. Activities will include a variety of theme related games and craft projects as well as several projects that will enlighten children's awareness and knowledge of the Solar System and its affects on Earth. A field trip to the Ruben H. Fleet Space Theater and Science Center is part of this interesting summer camp. The camp meets Monday through Thursday from 9:00 am to 2:00 pm at San Dieguito Park and on Friday at Fletcher Cove. The fee is $90.00 per child.

* * * * *

Fantastic Rain Forrest
Session 2, July 10 – 14, 2006

The Fantastic Rain Forrest Camp will be filled with activities to enlighten children's awareness of the wonderful world hidden in the Earth's Rain Forrest's. The program includes theme related crafts and games as well as a visit from the Park Ranger, a cook out, and a special field trip to the Natural History Museum in Balboa Park. The camp meets Monday through Thursday from 9:00 am to 2:00 pm at San Dieguito Park and on Friday at Fletcher Cove. The fee is $90.00 per child.

* * * * *

Ecology and Lagoon Exploration
Session 3, July 24 - 28, 2006

The Ecology and Lagoon Exploration Summer Day Camp will investigate the ocean, lagoon, and park environments of Solana Beach. This exciting camp will be filled with fantastic activities and crafts that heighten children's awareness of the ecological opportunities around us. Field trips to the Monarch Butterfly Ranch and San Elijo Lagoon Nature Reserve are part of the exploration planned. The camp meets Monday through Thursday from 9:00 am to 2:00 pm at San Dieguito Park and on Friday at Fletcher Cove. The fee is $90.00 per child .

* * * * *

Awesome Olympics
Session 4, August 7 - 11, 2006

Our very own Summer Olympic Celebration will include Olympic style events that everyone can enjoy and be successful. Individual events as well as team competitions are planned. A terrific field trip to the Ray and Joan Kroc Community Center is planned, where campers can climb the rock tower and ice skate in the Olympic size rink. The camp meets Monday through Thursday from 9:00 am to 2:00 pm at San Dieguito Park and on Friday at Fletcher Cove. The fee is $90.00 per child .

* * * * *

DANCE TO THE STARS
Special Session, June 19-June 29, 2006
Monday through Thursday 2:00-4:30 p.m.

This class is intended to introduce 5th, 6th and 7th grade students to the basic elements of Ballroom Dancing from the 20th and 21st centuries. Students will gain an appreciation of the music of the times, as well as the manners and customs of a past era, along with the traditions of the present. The instructor, Marsi Weigand, teaches Dance and Physical Education at La Costa Canyon High School. The class meets Monday through Thursday from 2:00 - 4:30 p.m. at the La Colonia Community Center. The fee is $50.00 per student.

Solana Beach Department of Parks and Recreation
Kids Summer 2006 Day Camp - REGISTRATION FORM

Register for:

_____ Session I, Awesome Astronomy - June 26-30, 2006
_____ Session II, Fantastic Rain Forrest - July 10-14, 2006
_____ Session III, Ecology & Lagoon Exploration - July 24-28, 2006
_____ Session IV, Awesome Olympics - August 7-11, 2006
_____ Special Session, Dance To the Stars - June 19-29, 2006

Child's Name_____Grade in fall_____ Age_____
Address_____
City_____Zip_____
School child attends_____
Daytime Phone_____Emergency Phone No. _____
(Scholarships available for Solana Beach Students)
CircleT-shirt size: **Child:** S M L **Adult:** S M L XL (Cancellation fee $20.00)

A detailed information sheet will be mailed to you with your confirmation. For more information contact the Recreation Department at: 858 793-2564.

Release of Liability

I will not hold the instructors, sponsors, officials or members of the City of Solana Beach Department of Parks and Recreation responsible for any injury that any participant might incur while in the program.

_____
Parent/or Guardian

Please mail or deliver with your payment to:
City of Solana Beach, Dept of Parks and Recreation
635 South Highway 101
Solana Beach, California 92075

APPENDIX U: SPECIAL EVENTS PERMIT

NOTICE OF APPROVAL FOR SPECIAL EVENT
CITY OF SOLANA BEACH

The Special Event you have applied for has been approved, according to the following information:

Date Requested: June 12, 2004
Hours: 5:30 a.m. – 2:00 p.m.
Organization: San Dieguito Boys & Girls Clubs
Type of Event: Seaside Stride 5 Mile Walk
Location: See Attached Map
Contact Person: Ellen Flanagan (760) 471-5516

Approved By:_____
Barry Johnson, City Manager

SPECIFIC GUIDELINES:

1. No City services, at the request of the applicant, for the event will be provided by the City.
2. The event participants must utilize the sidewalks and not the roadway where available on the course. If there is no sidewalk, participants must utilize the very outer edge of the roadway.
3. Event organizers must obey all traffic signs, lights, and laws.
4. Event organizers and participants shall utilize public right-a-ways and property for the purpose of this event at their own risk.
5. Event organizers and participants shall obey all traffic laws, signs, and traffic control devices at all times.
6. Event organizers must comply with all applicable water run-off regulations and must use best management practices. There will be absolutely no liquid, solid, or any other by-product generated by the event allowed in the city storm drain system. The parking lot at the conclusion of the event must be cleaned of all debris and disposed of in an acceptable manner to the City's Public Works Department.
7. Roadway and sidewalks and any other public areas utilized by the event participants and audience shall be left in a clean and orderly condition at the conclusion of the special event.
8. Applicant shall be charged for the amount of time to clean-up the areas or facilities used by the event participants if the areas utilized by the attendees of the event are not left in a clean and orderly condition. Estimated cost for retaining one City employee to clean-up refuse, and trash disposal is $ 43.20 per hour.
9. Any damage to public property as the result of this event will encumber full cost recovery from applicant by the City.

10. Event organizers shall at all times comply with any request or orders from the City's public works, lifeguard, law enforcement, or other public safety personnel. Failure to do so will result in the revocation of this permit and an immediate cease event order.

GENERAL GUIDELINES:

1. This permit and any other permits associated with this event will be available at the event.
2. If City services are required, applicant will be billed in advance for any and all City services provided above normally scheduled services. **All fees and charges shall be paid prior to final issuance of a permit for the event. Exception: Costs incurred by the City for clean up or other reasons due to the event, if any, shall be charged to the applicant billed as soon as the total cost is determined.**
3. All vehicles must comply with City parking regulations.
4. The organization and any of its subcontractors in advance of the event must file a business license application and fee, if they do not have a business license.
5. Vehicle loading and unloading cannot block pedestrian access. If required for short durations, signage directing the flow of pedestrian access, including wheelchair access must be established and posted.
6. The City reserves the right to shut down the event at any time, if necessary.
7. Applicant must comply with City noise regulations.
8. **It is the responsibility of the applicant to know and comply with the terms and conditions as stated within this special event permit and all applicable laws that pertain do the event, its organizers, and its participants whether they are stated on this permit or not.**
9. Contact Leah Escarcega or David Ott at (858) 720-2410 if there are any questions regarding the special event permit process.

C: City Manager's Office
Public Safety Director
Public Works Director
Sheriff's Department
Marine Safety Captain

VENDOR GUIDELINES

Fiesta del Sol

- All electric cords should be out of the public access areas. If they must extend into a public access area, the cords must be protected with pedestrian transition molding to minimize the trip hazard.
- All cooking areas and devices shall have at least one 2A-20BC fire extinguisher readily accessible to persons working in the immediate proximity of each device or cooking area and shall be in plain view.
- All portable LP-gas containers, valves, and fittings shall be properly secured in a fixed upright position and protected in accordance with the Uniform Fire Code.
- The following conditions apply to canopies in excess of 400 square feet, and to tents and temporary membrane structures having an area in excess of 200 square feet:
- All tents, temporary membrane structures, and/or canopies that are to be used at the function shall be adequately braced and anchored to prevent weather related collapse. Documentation of structural stability shall be furnished to the Fire Chief on request.
- All tent, canopy, or temporary membrane structure exits shall be in accordance with the Uniform Fire and Building Codes.
- The design and construction of the fabric envelope, method of anchoring, and inflation systems for air-supported and air-inflated structures shall be in accordance with the Building Code.
- The sidewalls, drops and tops of temporary membrane structures, tents and canopies shall be composed of flame-resistant material or shall be treated with flame retardant in an approved manner. Floor coverings, bunting, combustible decorative materials and effects, including sawdust when used on floors or passageways, shall be composed of flame-resistant material or shall be treated with flame retardant in an approved manner. Temporary membrane structures, tents or canopies shall have either a permanently affixed label or a Certificate of Flame Resistance bearing the following information:
    - Identification of the temporary structure's size and fabric or material type.
    - For flame-resistant-treated materials, the date that the temporary membrane structure, tent or canopy and other combustible materials were last treated with an approved flame retardant. The trade name and type of flame retardant utilized in the flame-retardant treatment. The name of the person and firm that applied the flame retardant.
- The following general storm water run-off practices shall apply to the event:
    - No dumping or allowing any material into City storm drains.
    - Install secondary containment around portable restroom facilities when feasible.
    - Prompt and proper clean-up of all trash debris.
    - Do not use water or any liquid to rinse down any debris or dirt on any ground surface. Dry sweeping only of event debris is allowed.
    - Protect all storm drain catch basins/inlets when feasible with proper storm water Best Management Practices implementation.
    - Do not allow excess water to leave the site. Properly contain everything onsite before it enters the City's storm drain system.

APPENDIX V: 2006 DRY WEATHER MONITORING PROGRAM RESULTS

THE ATTACHED DOCUMENT IS A COPY OF THE

PROGRAM DESCRIPTION,
NARRATIVE SUMMARY
AND
RESULTS SECTIONS
OF THE

City of Solana Beach
2004 Dry Weather Field Screening Program

Prepared by the City of Solana Beach,

(Note: the complete report, including tables, sampling sheets, graphs and charts, is available at Solana Beach City Hall for review, upon request.)

TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY i
2.0 INTRODUCTION i
2.1 Land Use Characteristics vi
3.0 METHODS vii
4.0 RESULTS ix
4.1 Visual Observations ..... **Error! Bookmark not defined.**
4.2 Field Chemical Analyses xiv
4.3 Laboratory Chemical Analyses xvi
5.0 DISCUSSION xxi
6.0 CONCLUSIONS xxiii
7.0 REFERENCES CITED xxiii

1.0 EXECUTIVE SUMMARY

The Dry Weather Field Screening Program is an integral part of the NPDES (National Pollutant Discharge Elimination System) Storm Water Permit issued to the City of Solana Beach and other Copermittees by the San Diego Regional Water Quality Control Board.

The City of Solana Beach has implemented a comprehensive Storm Water Pollution Prevention Program. In 2006, twenty-eight sites were inspected with ***only one storm water conveyance*** line showing evidence of an illicit discharge or illegal connection. This line has a history of high bacteria counts, and the ongoing investigation attempting to locate the source of the bacteria is well documented and will continue until it is found and abated.

In September 2006, City of Solana Beach staff conducted the 2006 Dry Weather Screening Program under the regulations set forth in the NPDES Storm Water Permit Order No. 2001-01. Twenty-eight sites were inspected during the 2006 Dry Weather Screening Program. Each site was visually and chemically inspected for illegal discharges and/or illicit connections. Results were recorded on field data sheets and are included in the appendices of this Dry Weather Screening report.

2.0 INTRODUCTION

The Illicit Connection/Illegal Discharge Dry Weather Screening Program is one of the required tasks of the Storm Water NPDES Permit issued by the San Diego Regional Water Quality Control Board, under Order No. 2001-01. This is the fifth year that the San Diego Copermittees have conducted dry weather monitoring under this permit. The permit requires the City of Solana Beach, and all Copermittees, to develop and implement programs to prevent, reduce, and eliminate inappropriate discharges of pollutants from storm water conveyances into the waters of the United States.

The purpose of the Dry Weather Screening Program is to detect illicit connections and/or illegal discharges to the storm water conveyance system. In

order to accomplish this goal, strategic sites were identified to test for chronic and/or improper discharges. Chemical parameters specified by the U.S. Environmental Protection Agency (EPA) for field screening were used as indicators of potential pollution from industrial, commercial, or domestic sources. The EPA has presented the following most common non-storm water sources and has placed them into three contamination categories: pathogenic/toxic, nuisance, and clear. The pathogenic/toxic category can cause illness upon contact or consumption. The nuisance category can cause degradation of water quality and impair aquatic ecosystems. Clear water usually comes from natural sources such as springs and ground water infiltration. Table 1 displays the potential for these sources to enter the storm drainage system (EPA 1993).

Table 1: Potential Inappropriate Entries Into Storm Drainage Systems (EPA1993)

Potential Source:	**Storm Drain Entry**		**Flow Characteristics**		**Contamination Category**		
	Direct	**Indirect**	**Contin-uos**	**Inter-mittent**	**Patho-genic/ toxic**	**Nuis-anc e**	**Clea r**
Residential Areas:							
Sanitary wastewater	●	❍	●	❍	●	❍	
Septic tank effluent		●	●	❍	●	❍	
Household chemicals	❍	●		●	●		
Laundry wastewater	●			●		●	
Excess landscaping watering		●		●	❍	❍	●
Leaking potable water		●	●				●
Commercial Areas:							
Gasoline filling station	●	❍		●	●		
Vehicle maintenance/ repair	●	❍		●	●		
Laundry wastewater	●		●	❍	❍	●	
Construction site de-watering		●	●	❍		●	
Sanitary wastewater	●	❍	●		●		
Industrial Areas:							
Leaking tanks and pipes	❍	●	●	❍	●		
Miscellaneous process	●	❍	●	❍	●	❍	❍

waters			

Note: ● - most likely condition
❍ - may occur
Blank - not very likely

Discharges to the storm water conveyance system can originate form a variety of sources. The following provides a brief discussion of potential sources:

- Sanitary wastewater sources:
  - Sanitary wastewater (usually untreated) from improper sewer connections, exfiltration, or leakage
  - Effluent from improperly operating, or improperly designed, nearby septic tanks

- Automobile maintenance and operation sources:
  - Car wash wastewater
  - Radiator flushing wastewater
  - Engine degreasing wastes
  - Improper oil disposal
  - Leaky underground storage tanks

- Irrigation sources
  - Lawn runoff from over-watering
  - Direct spraying of impervious surfaces

- Relatively clean sources:
  - Infiltrating groundwater
  - Water routed from pre-existing springs or streams
  - Infiltrating potable water from leaking water mains

- Other Sources
  - Laundry wastewater
  - Non-contact cooling waters
  - Metal plating baths
  - Dewatering of construction sites
  - Washing of concrete trucks
  - Sump pump discharges
  - Improper disposal of household toxic substances
  - Spills from roadway and other accidents
  - Chemical, hazardous materials, garbage, sanitary sludge landfills and disposal sites

2.1 Land Use Characteristics

The City of Solana Beach consists of a total drainage area of 2,158 acres. The land use characteristics are estimated as follows (SANDAG 2000):

Agriculture	4 acres
Commercial and office	192 acres
Industrial	35 acres
Parks and Recreation	246 acres
Public Facilities and Utilities	110 acres
Residential	1436 acres
Transportation	98 acres
Undeveloped	37 acres
Water	1 acre

Figure 1 gives a visual presentation of the land use characteristics for the City of Solana Beach.

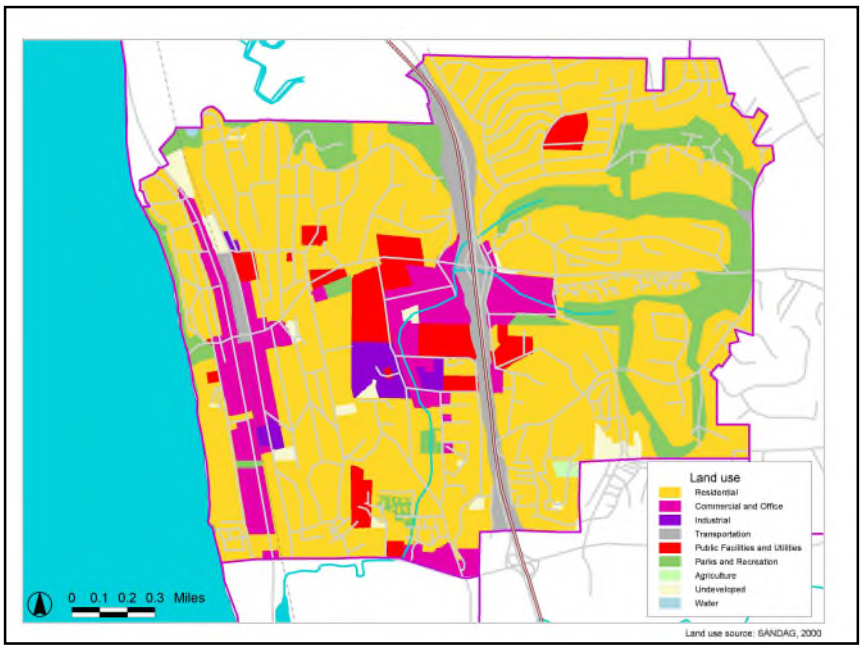


Figure 1. Land use in Solana Beach.

3.0 METHODS

This year marked the fifth year dry weather sampling was conducted under the municipal storm water discharge permit. Order No. 2001-01 Section F.5.b and Attachment E: Dry Weather Analytical and Field Screening Monitoring provide the requirements for field observations, field screening monitoring and analytical monitoring at each station. Further, the Copermittee Monitoring Workgroup has developed protocols for the jurisdictions to use to ensure consistency among the Copermittees.

First, a map of potential sampling locations was developed. In determining which storm drains and/or outfalls to monitor, the map was analyzed and sites were prioritized and selected based on the following: a review of the City's past Dry Weather Monitoring Programs; providing adequate coverage of the City's MS4 system, with a minimum of one monitoring location located within each hydrologic sub-basin; hydrologic conditions, total drainage area, history, and land use types at each potential monitoring location; points downstream of any suspected illegal or illicit activity; MS4 locations with potential to drain into surrounding sensitive water bodies; and ensuring sites were located at the farthest point downstream for each particular area of interest.

Four monitoring locations were selected within the coastal basin based on historical problem areas and proximity to the Pacific Ocean (Sites 11, 24, 25 and 26). Three monitoring locations were selected within the Fletcher Cove Basin based on their drainage to sensitive water bodies (Sites 20, 21, and 23). Eleven sites were selected within the San Elijo Basin. These sites were chosen based on their proximity to the environmentally sensitive San Elijo Lagoon, at the furthest possible point downstream before it enters the lagoon (Sites 1-10 and 22). Seven sites were chosen for the largest basin in the City, the Steven's Creek Basin (Sites 12-17, 19). The majority of this basin drains into Stevens Creek. Monitoring locations were selected at specific points throughout the basin based on the combination of criteria discussed in the previous paragraph. These sites were chosen to capture data from all the different land uses in the basin. These include industrial, residential, commercial and parks. The last basin, the Via de la Valle East Basin, is located in the southeast portion of the City. Three

monitoring locations were selected there to monitor what was leaving the City and entering the City of San Diego (Sites 18, 27, and 28).

An initial list of potential monitoring locations was developed. Twenty-eight sites met the criteria and were selected for the 2006 Dry Weather Monitoring program. All twenty-eight sites were identified as primary sites for monitoring based on the factors listed previously within this report.

The San Diego Stormwater Copermittees Jurisdictional Urban Runoff Management Program Model Appendix D: Dry Weather Analytical and Field Screening Guidance provides guidelines for dry weather monitoring procedures as well as action levels for specific dry weather screening analytes. In accordance with this document, City staff made an initial visit to each site to determine if there was flow or not**.** Field data sheets were used to record site descriptions and characteristics, flow estimations, visual observations, and field chemistry results (see Table 3 for a summary of field observations).

If flowing or ponded water was observed during the initial visit, water quality tests were conducted. Sites that had elevated chemistry levels or abnormal visual observations were investigated immediately and the site was revisited within a period of not less than four hours and not more than twenty-four hours. Observations and chemical testing were repeated during the second visit. If the site was dry on the initial visit, a follow-up visit was not conducted.

Sites 3, 9, 14 and 25 had field screen tests and lab analysis performed. The Permit only requires that jurisdictions take ¼ of samples that were field screened to lab for analysis, but the City decided that since there were so few catch basins that had enough water to sample, it would be prudent to take them all to the lab for analysis.

Samples were collected by inserting a pre-cleaned HDPE bottle into the middle of the flowing or ponded water. Samples were tested on-site using CHEMetrics field test kits for the colorimetric analysis of ammonia, nitrate-N, orthophosphate-P, and detergents. In addition to the colorimetric analyses, the samples were also analyzed for pH, conductivity, and temperature using an Oakton Model 35630-62 pH/Conductivity/ Temperature Meter. Turbidity was measured using a Hach 2100P Turbidimeter. A description of the chemical testing equipment and the Quality Assurance/Quality Control Program are provided in Appendix B.

Table 2 presents the specific ranges and detection limits of the field test kits and meters.

Table 2: Range and Detection Limits for Field Test Kits and Meters

Parameter	**Kit or Meter**	**Range**	**Detection Limits (mg/L)**	**Accuracy/ Increment**
pH	Oakton Model 35630-62 pH/ Conductivity/ Temperature Meter	0.00 to 14.00 pH	NA	± 0.01 pH
Temperature (°C)	Oakton Model 35630-62 pH/ Conductivity/ Temperature Meter	0 to 100 °C	NA	± 0.5 °C
Conductivity (mS/cm @ 25 °C)	Oakton Model 35630-62 pH/ Conductivity/ Temperature Meter	0.0 to 19.99 mS/cm	NA	± 1% Full Scale ± 1 Digit
Turbidity	Hach Model 2100P Turbidimeter	0-1000 NTU	NA	± 2% of reading plus stray light from 0-1000 NTU
Ammonia (mg/L)	CHEMetrics K-1510	0-1.0 and 1.0-10.0 mg/L	0.1	NA
Nitrates (mg/L)	CHEMetrics K-6902	0 – 1.0 and 1.0-5.0 mg/L	0.05	NA
Detergents (mg/L)	CHEMetrics	0-3.0 mg/L	0.25	NA
Phosphate (mg/L)	CHEMetrics K-8510	0 –1.0 and 1.0-10.0 mg/L	0.1	NA

4.0 RESULTS

Table 3 presents a detailed summary of all chemical, biological and visual observations made during the 2006 Dry Weather Screening Program. The following provides a brief discussion about the purpose and results of visual observations and chemical and biological tests.
Table 3

Table 3

Table 3

Table 3

4.1 Visual Observations

Visual observations included water color, clarity, and flow rate, floating materials, biological observations, structural condition of the conveyance, and vegetative condition at the site. If any particular odors were associated with the site, those observations were also recorded.

- **Flow:** Flowing water was observed at Sites 14 and 25. Ponded water was found at Sites 3, 9 and 12. Sites 1, 2, 6, 7, 11, 15, 17, 20, 21 and 26 were damp with insufficient water available to collect a sample. Sites 4, 5, 8, 10, 13, 16, 18, 19, 22, 23, 24, 26, 27, and 28 were dry.

- **Odor:** Odor can be caused by chemicals from residential, commercial, and industrial discharges; and from natural sources including decaying organic matter and microbial activity.

  The following sites had distinctive odors associated with them: Sites 9 and 25 had a distinct, musty odor. Site 3 had rotten eggs odor, which may have been due to decaying organic matter.

- **Water Color:** The apparent color of water results from dissolved substances and suspended matter. Soil runoff and decaying organic matter produce a variety of yellow, red, brown, and gray colors. Some algae and dinoflagellates produce reddish or deep yellow colors in water, while high levels of phytoplankton and other algae appear green.

  The water color ranged from clear to yellowish at the majority of sites. The water at Sites 3, 14, and 25 were a distinct yellow. All the other sites that contained water were clear.

- **Water Clarity:** Turbidity refers to the cloudiness of water. Water that is turbid generally has low clarity, and may appear cloudy or opaque, while less turbid water will appear clear. Suspended solids and microscopic plankton that scatter light passing through the water cause turbidity. High turbidity can be an indicator of soil runoff or blooms of microscopic organisms due to high nutrient inputs.

  - The water clarity at all sites was clear. Quantitative measurements for turbidity at each site are included in Table 3.

- **Floatable materials:** The type of floating matter can help identify the source of contamination, since these substances are often direct products of the source of the pollution.

  The majority of sites were free of floatable materials during the 2006 inspections, except for Sites 9 and 21 which contained trash and organic matter.

- **Biological:** At the majority of sites there was no biological activity noted with the following exceptions: Insects were detected at Sites 3, 7, 9, and 14.

- **Vegetative condition:** Excessive vegetation can be an indicator of elevated levels of nutrients in the runoff.

  Sites 1, 3, 9, 10, 14, and 25 had normal vegetation growth.

- **Deposits:**

  Sites 3, 9, and 25 had sediment/gravel deposits.

4.2 Field Chemical Analyses

All sites with flowing or ponded water were tested for the following parameters: temperature, pH, conductivity, turbidity, ammonia, detergents, nitrates, and orthophosphates. The data shows that the concentrations of some indicator parameters exceeded Copermittee action levels at Sites 3, 14 and 25. The following provides a brief discussion of each parameter. Table 3 provides a detailed list of analytical results. Section 5 provides a discussion of sites that appear impacted by illicit discharges.

- **Temperature:** Extreme temperatures can be an indication of commercial or industrial runoff.

  Temperature readings ranged from 19.1 to 23.3 ^{o}C.

- **pH:** Measures of pH represent the intensity of the acidity or alkalinity of water, on a scale from 0 to 14.0, with 7.0 considered neutral. The pH of natural

waters ranges from 6.0 to 9.0 (EPA 1993). Measurements outside of this range could be an indicator of commercial or industrial discharges.

All sites had pH levels within the recommended guidelines.

- **Conductivity:** Conductivity is the measure of the ability of water to carry an electrical current and high levels are an indicator of high total dissolved solids (TDS). The conductivity of saltwater is generally above 43 uS/cm. The Copermittees have not developed an action level for conductivity, but Best Professional Judgment (BPJ) is used. Generally, values greater than 5,000 umhos/cm may indicate an IC/ID.

  Conductivity levels ranged from 1.86 to 2.3 uS/cm. All levels were under the >5,000 uS/cm that is generally used for an IC/ID investigation so no follow up was required.

- **Turbidity:** Turbidity refers to the clarity of water. The cloudier the water, the higher the turbidity. Sources of turbidity include suspended organics/detritus, re-suspended bottom sediments, sediments originating from erosion, and phytoplankton. High turbidity can be an indicator of soil runoff or blooms of microscopic organisms due to high nutrient inputs.

  Best Professional Judgment is used for IC/ID follow up for turbidity. No follow-up was necessary from these results.

- **Ammonia**: Ammonia is a common ingredient in commercial and household cleaning products. In addition, organic material contains nitrogen, which can convert into ammonia by means of biochemical degradation. Elevated levels of ammonia can be an indication of decaying organic matter or discharges containing cleaning agents. Ammonia levels range from 6 to 380 mg/L in raw sanitary wastewater, and from 0.1 to 3.0 mg/L in all other waters (EPA 1993). The Copermittee action level for ammonia is 1.0 mg/L.

  Ammonia levels ranged from Not Detected to 3.5 mg/L. A level of 3.5 mg/L was measured at Site 3. A level of 0.8 mg/L was measured at Site 9. A level of 0.4 mg/L was measured at Site 14. A level of 2.5 mg/L was measured at Site 25. All other sites were below the Copermittee action level.

- **Detergents:** Detergents are found in household and commercial cleaning and laundering products. Elevated detergent levels are a good indicator of commercial and/or residential wash water entering the storm water

conveyance. Detergent (surfactant) concentrations are usually below 0.1 mg/L in natural waters and range from 1.0 to 20.0 mg/L in raw sanitary wastewaters (EPA 1993). The Copermittee action level for MBAS (detergents) is 1.0 mg/L.

Because of their importance, detergents (surfactants) were tested in the field and in laboratory analyses. Detergent levels ranged from 0.25 mg/L at Site 14 (Table 3) to 0.5 at Sites 3 and 9. The most likely source of detergents at this site is residential car washing.

- **Nitrate-N:** Nitrates are commonly found in fertilizers, human or other animal wastes, in certain manufacturing processes, and in decomposing organic materials. Elevated levels of nitrate may be present in irrigation runoff, or may be indicative of an illicit connection to the storm drain system, by either commercial or residential sources.

  Nitrate levels at all sites were below the Copermittee action level of 1.35 mg/L. The only sites to have slightly elevated levels of nitrates were Sites 9 and 14, which measured at 0.3 and 1 mg/L, respectively, well below the Copermittee action level.

- **Orthophosphate-P**: Orthophosphate-P occurs naturally from rocks, and with the decay and mineralization of dead plants and animals, but may also indicate the presence of human sewage, and commercial, agricultural or residential waste water.

  - Orthophosphate levels measured at sites 3, 9, 12, 14 and 25 were above the Copermittee action level of 0.07 mg/L, ranging from 1.5 to 5.5 mg/L. Follow up investigations did not reveal where the source originated from. Catch basins were dry above sites 3, 9, 12 and 14 (most likely the result of excess irrigation water) and the catch basin above 25 was damp, not enough water to sample (It was already a monitoring site due to historical levels of bacteria in the area).

4.3 Laboratory Chemical Analyses

In accordance with the San Diego Stormwater Copermittees Jurisdictional Urban Runoff Management Program Appendix D: Dry Weather Analytical and Field Screening Guidance, a minimum of 25% of all sites with flowing or ponded water

were tested for the following parameters: total hardness, surfactants (MBAS), oil and grease, diazinon and chlorpyrifos, dissolved cadmium, copper, lead, and zinc, and *Enterococcus*, total coliform, and fecal coliform bacteria. Sites 3. 9, 14, and 25 were selected for laboratory analysis based on analysis of previous Dry Weather monitoring results and geographic location. Concentrations of some indicator parameters exceeded co-permittee action levels at Sites 9, 12, 14, and 25. The following provides a brief discussion of each parameter. Table 3 provides a detailed list of analytical results. Section 5 provides a discussion of sites that appear impacted by illicit discharges.

- **Total Hardness:** Total hardness refers to the calcium and magnesium concentrations in water. The hardness of water can vary considerably between locations. Natural sources of hardness are dissolved limestones. Guidelines for maximum dissolved metals concentrations in natural water are linked to the hardness or alkalinity of the water (i.e., the softer the water, the lower the permitted level of dissolved metals).

  Hardness levels ranged from 317 to 602 mg CaCO3/L.

- **Surfactants (MBAS):** Surfactants are discharged from household and commercial cleaning and laundering operations. Anionic surfactants are commonly used in detergents and account for approximately two-thirds of the total surfactants used. Anionic surfactants are commonly measured as Methylene Blue Active Substances (MBAS). Surfactant concentrations are usually below 0.1 mg/L in natural waters and range from 1.0 to 20.0 mg/L in raw sanitary wastewaters (EPA 1993).

  MBAS was not detected at Site 25. However, Sites 3 and 9 had MBAS recordings of 0.5 mg/L, equal to the action level of 0.5 mg/L. Site 14 had an MBAS recording of 0.25, well below the action level of 0.5 mg/L. No follow-up investigations were required as a result of Surfactants (MBAS).

- **Oil and Grease:** The oil and grease analysis is applicable for the determination of hydrocarbons, vegetable oils, animal fats, waxes, soaps, grease, and related matter. Discharges may cause surface films and shoreline deposits leading to environmental degradation.

  Oil and grease levels at Sites 3, 9, 14 and 25 sampled for laboratory analysis were below the Copermittee action level of 5 mg/L, all registering Not Detected.

- **Diazinon:** Diazinon is an organophosphate insecticide. It kills insects, as well as other organisms through its effect on the nervous system. It is moderately persistent and has moderate to high mobility in soil. Diazinon, in high enough concentrations, is highly toxic to birds, mammals, honeybees, and other beneficial insects. It is also very highly toxic to freshwater fish and invertebrates following acute exposure.

  Diazinon was not detected at any of the sites selected for laboratory analysis.

- **Chlorpyrifos:** Chlorpyrifos is also an organophosphate insecticide and is the most widely used insecticide in the United States. It is used in agriculture on a variety of crops and for residential use as a termiticide, mosquitocide, lawn treatment, as well as other uses. It adsorbs readily to soil particles and therefore is not highly mobile in soil. Chlorpyrifos presents a high risk to birds, fish and mammals and an even a higher risk to aquatic invertebrates. The Copermittee action level for chlorpyrifos is 0.05 µg/L.

  Chlorpyrifos was not detected at any of the sites selected for laboratory analysis.

- **Dissolved Cadmium:** Cadmium occurs in sulfide minerals that also contain zinc, lead, or copper. It is used in electroplating, batteries, paint pigments, and alloys with various other metals. It is usually associated with zinc at a ratio of about one part cadmium to 500 parts zinc in most rocks and soils. It is nonessential for plants and animals and is extremely toxic and accumulates in the kidneys and liver. The average abundance of cadmium in streams is 1 µg/L and in groundwater is from 1 to 10 µg/L. The U.S. EPA primary drinking water standard MCL is 10 µg/L (Standard Methods 1998).

  Dissolved cadmium was not detected at any of the sites selected for laboratory analysis.

- **Dissolved Copper:** Copper occurs in its native state, but is also found in many minerals. It is widely used in electrical wiring, plumbing, roofing, various alloys, pigments, cooking utensils, brake pads, and the chemical industry. Copper is considered an essential trace element for plants and animals. The average abundance of copper in streams is 4 to 12 µg/L and in groundwater is less than 0.1 mg/L. The U.S. EPA drinking water 90th percentile action level is 1.3 mg/L (Standard Methods 1998).

Dissolved copper levels were not detected at Sites 3, 9, and 14. Site 25 had a recording of 0.014. No follow-up actions required for Dissolved Copper.

- **Dissolved Lead:** Lead is normally found in the mineral galena. It is commonly used in batteries, ammunition, solder, piping, pigments, insecticides, and some alloys. It is nonessential for plants and animals and is toxic by ingestion and is a cumulative poison. The average abundance of lead in streams is 3 µg/L and in groundwater is generally less than 0.1 mg/L. The U.S. EPA drinking water 90th percentile action level is 15 µg/L.

  Dissolved lead was not detected at any of the sites selected for laboratory analysis.

- **Dissolved Zinc:** Zinc occurs in its native state and is used in many alloys such as brass and bronze. It is also used in batteries, fungicides and pigments. It is an essential growth element for plants and animals, but at elevated levels it is toxic to some species of aquatic life. The average abundance of zinc in streams is 20 µg/L and in groundwater is less than 0.1 mg/L. The U.S. EPA secondary drinking water standard MCL is 5 mg/L.

  Zinc levels were not detected at Sites 3 and 9. Sites 14 and 25 had recordings of 0.029 and 0.028. No follow-up actions required as a result of Dissolved Zinc.

- **Bacteria:** Bacteria are commonly found in human and animal feces. They are generally not harmful themselves, but they do indicate the possible presence of pathogenic bacteria, viruses, and protozoans that also live in human and animal digestive systems. Total coliform, fecal coliform and *Enterococcus* bacteria are common test organisms for water quality sampling.

  - **Total Coliforms:** Total coliforms are a group of bacteria that can occur in human feces, but can also be present in animal manure, soil and other places outside of the human body.

    Total coliform levels were the following:
    - 220,000 MPN/100mL at Site 3
    - 70,000 MPN/100mL at Site 9
    - 17,000 MPN/100mL at Site 14
    - 16,000,000 MPN/100mL at Site 25

    Sites 3, 9 and 25 all had limits that exceeded the Copermittee Action Level (50,000 MPN/100mL). Site 25 is already the subject of an ongoing IC/ID

investigation. Staff conducted upstream investigations on Site 25 on 10/05/06 and on Sites 3 and 9 on 10/10/06 (the day after receiving the analytical reports from the lab, Enviromatrix Analytical, Inc).. The catch basins were all dry upstream from all three sites, with some evidence of over-irrigation. Staff concluded that the natural conditions of the outfalls for 3 and 9 along with the over-irrigation in the area are most likely the causes for the high levels of bacteria. The outfalls drain into an earthen channel (Site 3) and a large concrete basin on the outside border (Site 9) of the San Elijo Lagoon. The vegetation of the lagoon naturally collects the water in a large natural pond which was very conducive to bacterial growth. Site 25 has other issues that may be the cause for high bacteria counts, with the most likely culprit being a structural problem (large sag) in the pipe that is very conducive to bacterial re-growth.

- **Fecal Coliforms:** Fecal coliforms are a subset of total coliforms and are more fecal-specific in origin.

  Fecal coliform levels were the following:
  - 2,800 MPN/100mL at Site 3
  - 30,000 MPN/100mL at Site 9
  - 17,000 MPN/100mL at Site 14
  - 80,000 MPN/100mL at Site 25

Site 9 and 25 had bacteria readings that exceeded the Copermittee Action Level for Fecal Coliforms (20,000 MPN/100mL). As reported above, upstream investigations were conducted on 10/05/06 for Site 25 and 10/10/06 for Site 9, both turning up dry. The most likely cause for the exceedences is over-irrigation with the natural lagoon environment contributing to the stagnant nature of the outfall area for Site 9 and structural pipe deficiencies for Site 25.

- **Enterococci:** Enterococci are a subgroup within the fecal *Streptococcus* group and are better suited for survivability in salt water. They are generally found in the digestive systems of humans and other warm-blooded mammals.

  Enterococci levels were the following:
  - 2,595 MPN/100mL at Site 3
  - 5,201 MPN/100mL at Site 9
  - 657 MPN/100mL at Site 14
  - 10,168 MPN/100mL at Site 25

Site 25 had the only exceedance of Enterococci Copermittee levels (10,000 MPN/100mL). Again, this is the site of an ongoing IC/ID investigation and a follow up inspection was conducted on 10/05/06. The upstream catch basins were dry but the outfall was flowing. This most likely indicates an over-irrigation problem at the neighboring condominium complexes, which directly connects to the outfall pipe downstream from the catch basins. This problem is most likely also due to a structural deficiency, as a large sag in the pipe may be harboring existing bacteria and promoting re-growth.

5.0 DISCUSSION

During the 2006 Dry Weather Screening Program, four sites displayed elevated levels of some analytes, compared to the Action Levels developed by the Copermittees. Twenty-three of the twenty-eight sites inspected this year were either dry or damp, with one site (Site 12) inaccessible to sample due to dangerous conditions (steep banks). Ponded or flowing water at Sites 3, 9, 14, and 25 was of relatively good quality. Site 25 is the subject of an ongoing IC/ID bacteria investigation. Site 3 had elevated levels of ammonia, phosphorus and total coliform. Site 9 had slightly elevated levels of total and fecal coliform and Site 14 had a slightly elevated level of phosphorus.

- **Site 3:** Samples were taken from the outfall located at Santa Inez. The Orthophosphate-P reading of 5.5 mg/L exceeded the Copermittee action level. Bacteria samples were collected and the testing resulted in total coliform, fecal coliform, and *Enterococcus* levels of 220,000, 2,800 and 2,595 MPN/100 mL respectively. The total coliform results exceeded the Copermittee action level, but upstream investigations conducted on 9/29/06 for the exceedences in field screening and again on 10/10/06 for the lab analysis exceedences were inconclusive. All catch basins visited upstream were dry or damp on both follow-up visits. This leads the City to believe that the elevated bacteria levels are a result of the location of the outfall, since it empties directly into an earthen channel in the San Elijo Lagoon. The discharge is trapped by the excessive vegetation and becomes very stagnant. It appeared to be a perfect breeding ground for bacteria. The phosphate levels may have come from residual runoff from residential car washing, as the area has a historic problem of over-irrigation.

- **Site 9:** Samples were taken from the outfall at Santa Luisa. Samples collected during testing resulted in exceedences of total and fecal coliform levels. The upstream investigation occurred on 10/10/06 (the day after receiving the lab results) but did not reveal the source of these bacterial exceedences. The location of the outfall may be a cause of the bacteria exceedences, as it is a large open concrete catch basin located in the San Elijo Lagoon. Heavy vegetation keeps the runoff stagnant in the concrete basin and it may be conducive to bacteria growth and re-growth. The upstream catch basins were dry on the follow-up inspection but this area is known for some minor over-irrigation problems.

- **Site 14:** Samples were taken from the outfall at Genevieve Avenue/Steven's Avenue, located in the middle of Steven's Creek. Samples collected resulted in one field screening exceedance of phosphorus. The upstream investigation occurred on 9/29/06 but did not reveal the source of the exceedance. The exceedance was very minor (the action level is 2.0 and the sample was 2.5) and may have been the result of over-watering. The water quality at this location was much better than in the past couple of years, which is a definite sign of improvement.

- **Site 25:** Samples were taken from the outfall located at the Seascape Sur beach access. Bacteria samples were collected during testing resulted in total coliform, fecal coliform, and *Enterococcus* levels of 16,000,000, 80,000 and 10,168 MPN/100 mL respectively, all exceeding action levels. There was also an exceedance of ammonia action levels as well (2.5 mg/L NH_3-N**).** This outfall is the subject of an ongoing IC/ID source investigation for bacteria. This outfall has had a historically high level of bacteria for the past five years, and the City is actively pursuing the source of the bacteria. The upstream investigation for the field screening exceedance (ammonia) occurred on 9/22/06 and for the lab exceedences (bacteria) occurred on 10/05/06 but neither revealed the source of the exceedences, as the upstream catch basins were dry. However, this is not uncommon, as the condominiums adjacent to the beach access drain directly into the pipe underground, with no sample locations accessible. Therefore, the upstream catch basins are often times dry, but the outfall is flowing. The City has done exhaustive investigations with relatively little success. The most likely culprit no is a structural deficiency in the underground pipe. A large sag in the pipe has been identified through CCTV with large amounts of sediment and debris trapped. This could be harboring bacteria and an ideal location for re-growth. The City is currently investigating long term structural fixes such as pipe blasting, re-lining or even the possibility of installing a low-flow diverter. These are all very expensive fixes but the City is dedicated to coming up with a permanent solution to this ongoing problem. The only bright spot is that the

outfall has not been affecting the receiving waters, so no emergency fix is necessary.

6.0 CONCLUSIONS

The 2006 Dry Weather Monitoring Program found only one storm water conveyance line with an indication of illegal discharges to the City of Solana Beach's storm water system. The majority of the other sites visited were dry or damp, with some sites showing evidence of some over-irrigation and/or car washing discharges. With the exception of the Seascape Sur area, sites that had water present did not have parameter concentrations high enough to cause great concern. All necessary follow up activities did not reveal a dominant source, as the catch basins were either damp or dry.

It is recommended that the City continue with its efforts to educate the Beachwalk business district about the City's pollution prevention programs and continue its efforts to eliminate the discharge at Site 25 (Seascape Sur). Commercial educational programs should continue and include both the proprietors and their employees. Residential programs should include building owners and residents. An informed public will provide support for new and already existing prevention programs.

Additionally, the City should continue exploring the options for capital improvements in the Seascape area as the source of the recurring bacterial problems has proven elusive. The City will continue to look into possibly correcting the structural problems within the pipe, which may be leading to bacterial re-growth. The outfall has not affected the quality of the receiving waters, yet, but a proactive approach by the City to abate the bacterial problem is recommended.

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APPENDIX W: UNDERGROUND UTILITY CONSTRUCTION BMPS

CITY OF SOLANA BEACH
635 SOUTH HIGHWAY 101 • SOLANA BEACH, CALIFORNIA 92075-2215 • (858) 720-2400
www.ci.solana-beach.ca.us FAX (858) 792-6513 / (858) 755-1782

Undergrounding Utility District Construction Best Management Practices

When conducting trenching work, construction Best Management Practices (BMPs) must be utilized at all times. Failure to keep all sediment and debris on your property is a violation of the City's Storm Water Regulations and can result in fines. The following list contains BMPs that may be used to keep sediment onsite and out of the City's storm drain conveyance system:

- Perimeter protection BMPs such as silt fences, straw waddles and/or sand bags can be used to contain sediment onsite.
- Cover all materials and keep above ground when a predicted rain event is to occur (>50% chance).
- Keep all materials/sediment out of street and gutter to prevent nuisance water from washing into storm drain system.
- Prevent sediment tracking into street by placing down gravel where equipment is entering and exiting property and sweeping area frequently.

These are all common general BMPs that can be utilized to prevent discharges into the City's storm drain conveyance system. If you or your contractor have any questions or require additional information on any of this, please feel free to call me at the number below.

Sincerely,

Danny King
Environmental Specialist

APPENDIX Y: ASSESSMENT TABLE

TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY 1

2.0 INTRODUCTION 1

2.1 Land Use Characteristics 3

3.0 METHODS 4

4.0 RESULTS 7

4.1 Visual Observations ..... **Error! Bookmark not defined.**

4.2 Field Chemical Analyses 13

4.3 Laboratory Chemical Analyses 15

5.0 DISCUSSION 18

6.0 CONCLUSIONS 20

7.0 REFERENCES CITED 20

1.0 EXECUTIVE SUMMARY

The Dry Weather Field Screening Program is an integral part of the NPDES (National Pollutant Discharge Elimination System) Storm Water Permit issued to the City of Solana Beach and other Copermittees by the San Diego Regional Water Quality Control Board.

The City of Solana Beach has implemented a comprehensive Storm Water Pollution Prevention Program. In 2006 twenty-eight sites were inspected, with **only one storm water conveyance** line showing evidence of an illicit discharge or illegal connection. This line has a history of high bacteria counts, and the ongoing investigation attempting to locate the source of the bacteria is well documented and will continue until it is found and abated.

In September 2006, City of Solana Beach staff conducted the 2006 Dry Weather Screening Program under the regulations set forth in the NPDES Storm Water Permit Order No. 2001-01. Twenty-eight sites were inspected during the 2006 Dry Weather Screening Program. Each site was visually and chemically inspected for illegal discharges and/or illicit connections. Results were recorded on field data sheets and are included in the appendices of this Dry Weather Screening report.

2.0 INTRODUCTION

The Illicit Connection/Illegal Discharge Dry Weather Screening Program is one of the required tasks of the Storm Water NPDES Permit issued by the San Diego Regional Water Quality Control Board, under Order No. 2001-01. This is the fifth year that the San Diego Copermittees have conducted dry weather monitoring under this permit. The permit requires the City of Solana Beach, and all Copermittees, to develop and implement programs to prevent, reduce, and eliminate inappropriate discharges of pollutants from storm water conveyances into the waters of the United States.

The purpose of the Dry Weather Screening Program is to detect illicit connections and/or illegal discharges to the storm water conveyance system. In order to accomplish this goal, strategic sites were identified to test for chronic and/or improper discharges. Chemical parameters specified by the U.S. Environmental Protection Agency (EPA) for field screening were used as indicators of potential pollution from industrial, commercial, or domestic sources. The EPA has presented the following most common non-storm water sources and has placed them into three contamination categories: pathogenic/toxic, nuisance, and clear. The pathogenic/toxic category can cause illness upon contact or consumption. The nuisance category can cause degradation of water quality and impair aquatic ecosystems. Clear water usually comes from natural sources such as springs and ground water infiltration. Table 1 displays the potential for these sources to enter the storm drainage system (EPA 1993).

Table 1: Potential Inappropriate Entries Into Storm Drainage Systems (EPA 1993)

Potential Source:	Storm Drain Entry		Flow Characteristics		Contamination Category		
	Direct	Indirect	Contin-uos	Inter-mittent	Patho-genic/ toxic	Nuis-ance	Clear
Residential Areas:							
Sanitary wastewater	●	❍	●	❍	●	❍	
Septic tank effluent		●	●	❍	●	❍	
Household chemicals	❍	●		●	●		
Laundry wastewater	●			●		●	
Excess landscaping watering		●		●	❍	❍	●
Leaking potable water		●	●				●
Commercial Areas:							
Gasoline filling station	●	❍		●	●		
Vehicle maintenance/ repair	●	❍		●	●		
Laundry wastewater	●		●	❍	❍	●	
Construction site de-watering		●	●	❍		●	
Sanitary wastewater	●	❍	●		●		
Industrial Areas:							
Leaking tanks and pipes	❍	●	●	❍	●		
Miscellaneous process waters	●	❍	●	❍	●	❍	❍

Note: ● - most likely condition
❍ - may occur
Blank - not very likely

Discharges to the storm water conveyance system can originate form a variety of sources. The following provides a brief discussion of potential sources:

- Sanitary wastewater sources:
  - Sanitary wastewater (usually untreated) from improper sewer connections, exfiltration, or leakage
  - Effluent from improperly operating, or improperly designed, nearby septic tanks

- Automobile maintenance and operation sources:
  - Car wash wastewater
  - Radiator flushing wastewater
  - Engine degreasing wastes
  - Improper oil disposal
  - Leaky underground storage tanks

- Irrigation sources
  - Lawn runoff from over-watering
  - Direct spraying of impervious surfaces

- Relatively clean sources:
  - Infiltrating groundwater
  - Water routed from pre-existing springs or streams
  - Infiltrating potable water from leaking water mains

- Other Sources
  - Laundry wastewater
  - Non-contact cooling waters
  - Metal plating baths
  - Dewatering of construction sites
  - Washing of concrete trucks
  - Sump pump discharges
  - Improper disposal of household toxic substances
  - Spills from roadway and other accidents
  - Chemical, hazardous materials, garbage, sanitary sludge landfills and disposal sites

2.1 Land Use Characteristics

The City of Solana Beach consists of a total drainage area of 2,158 acres. The land use characteristics are estimated as follows (SANDAG 2000):

Agriculture	4 acres
Commercial and office	192 acres
Industrial	35 acres
Parks and Recreation	246 acres

Public Facilities and Utilities	110 acres
Residential	1436 acres
Transportation	98 acres
Undeveloped	37 acres
Water	1 acre

Figure 1 gives a visual presentation of the land use characteristics for the City of Solana Beach.

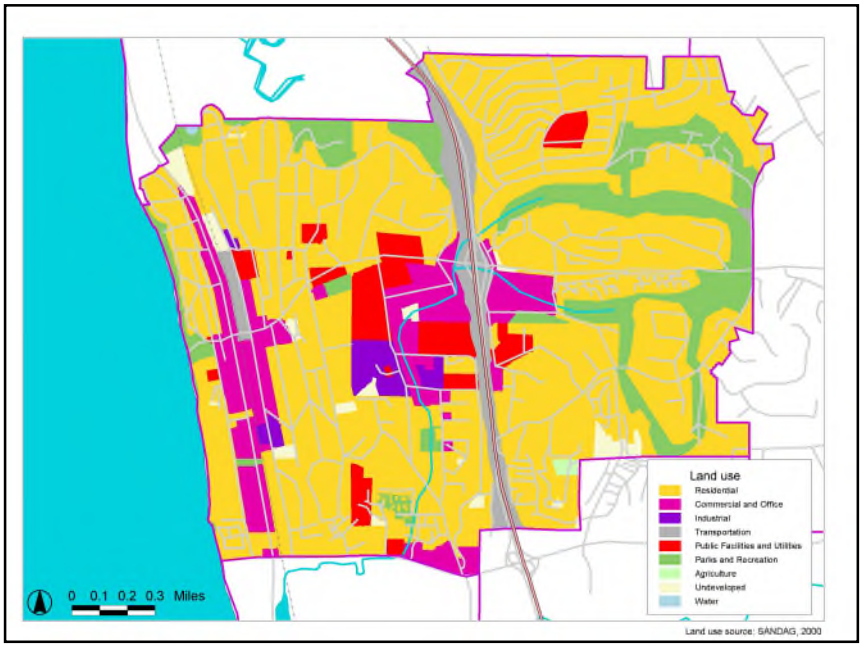

Figure 1. Land use in Solana Beach.

3.0 METHODS

This year marked the fifth year dry weather sampling was conducted under the municipal storm water discharge permit. Order No. 2001-01 Section F.5.b and Attachment E: Dry Weather Analytical and Field Screening Monitoring provide the requirements for field observations, field screening monitoring and analytical monitoring at each station. Further, the Copermittee Monitoring Workgroup has developed protocols for the jurisdictions to use to ensure consistency among the Copermittees.

First, a map of potential sampling locations was developed. In determining which storm drains and/or outfalls to monitor, the map was analyzed and sites were prioritized and selected based on the following: a review of the City's past Dry Weather Monitoring Programs; providing adequate coverage of the City's MS4 system, with a minimum of one monitoring location located within each hydrologic sub-basin; hydrologic conditions, total drainage area, history, and land use types at each potential monitoring location; points downstream of any suspected illegal or illicit activity; MS4 locations with potential to drain into surrounding sensitive water bodies; and ensuring sites were located at the farthest point downstream for each particular area of interest.

Four monitoring locations were selected within the coastal basin based on historical problem areas and proximity to the Pacific Ocean (Sites 11, 24, 25 and 26). Three monitoring locations were selected within the Fletcher Cove Basin based on their drainage to sensitive water bodies (Sites 20, 21, and 23). Eleven sites were selected within the San Elijo Basin. These sites were chosen based on their proximity to the environmentally sensitive San Elijo Lagoon, at the furthest possible point downstream before it enters the lagoon (Sites 1-10 and 22). Seven sites were chosen for the largest basin in the City, the Steven's Creek Basin (Sites 12-17, 19). The majority of this basin drains into Stevens Creek. Monitoring locations were selected at specific points throughout the basin based on the combination of criteria discussed in the previous paragraph. These sites were chosen to capture data from all the different land uses in the basin. These include industrial, residential, commercial and parks. The last basin, the Via de la Valle East Basin, is located in the southeast portion of the City. Three monitoring locations were selected there to monitor what was leaving the City and entering the City of San Diego (Sites 18, 27, and 28).

An initial list of potential monitoring locations was developed. Twenty-eight sites met the criteria and were selected for the 2006 Dry Weather Monitoring program. All twenty-eight sites were identified as primary sites for monitoring based on the factors listed previously within this report.

The San Diego Stormwater Copermittees Jurisdictional Urban Runoff Management Program Model Appendix D: Dry Weather Analytical and Field Screening Guidance provides guidelines for dry weather monitoring procedures as well as action levels for specific dry weather screening analytes. In accordance with this document, City staff made an initial visit to each site to determine if there was flow or not**.** Field data sheets were used to record site descriptions and characteristics, flow estimations, visual observations, and field chemistry results (see Table 3 for a summary of field observations; individual data sheets are included in Appendix C).

If flowing or ponded water was observed during the initial visit, water quality tests were conducted. Sites that had elevated chemistry levels or abnormal visual observations were investigated immediately and the site was revisited within a period of not less than four hours and not more than twenty-four hours. Observations and chemical testing were repeated during the second visit. If the site was dry on the initial visit, a follow-up visit was not conducted.

Sites 3, 9, 14 and 25 had field screen tests and lab analysis performed. The Permit only requires that jurisdictions take ¼ of samples that were field screened to lab for analysis, but the City decided that since there were so few catch basins that had enough water to sample, it would be prudent to take them all to the lab for analysis.

Samples were collected by inserting a pre-cleaned HDPE bottle into the middle of the flowing or ponded water. Samples were tested on-site using CHEMetrics field test kits for the colorimetric analysis of ammonia, nitrate-N, orthophosphate-P, and detergents. In addition to the colorimetric analyses, the samples were also analyzed for pH, conductivity, and temperature using an Oakton Model 35630-62 pH/Conductivity/ Temperature Meter. Turbidity was measured using a Hach 2100P Turbidimeter. A description of the chemical testing equipment and the Quality Assurance/Quality Control Program are provided in Appendix B.

Table 2 presents the specific ranges and detection limits of the field test kits and meters.

Table 2: Range and Detection Limits for Field Test Kits and Meters

Parameter	Kit or Meter	Range	Detection Limits (mg/L)	Accuracy/ Increment
pH	Oakton Model 35630-62 pH/ Conductivity/ Temperature Meter	0.00 to 14.00 pH	NA	± 0.01 pH
Temperature (°C)	Oakton Model 35630-62 pH/ Conductivity/ Temperature Meter	0 to 100 °C	NA	± 0.5 °C
Conductivity (mS/cm @ 25 °C)	Oakton Model 35630-62 pH/ Conductivity/ Temperature Meter	0.0 to 19.99 mS/cm	NA	± 1% Full Scale ± 1 Digit
Turbidity	Hach Model 2100P Turbidimeter	0-1000 NTU	NA	± 2% of reading plus stray light from 0-1000 NTU
Ammonia (mg/L)	CHEMetrics K-1510	0-1.0 and 1.0-10.0 mg/L	0.1	NA
Nitrates (mg/L)	CHEMetrics K-6902	0 – 1.0 and 1.0-5.0 mg/L	0.05	NA
Detergents (mg/L)	CHEMetrics	0-3.0 mg/L	0.25	NA
Phosphate (mg/L)	CHEMetrics K-8510	0 –1.0 and 1.0-10.0 mg/L	0.1	NA

4.0 RESULTS

Table 3 presents a detailed summary of all chemical, biological and visual observations made during the 2006 Dry Weather Screening Program. The following provides a brief discussion about the purpose and results of visual observations and chemical and biological tests.

Table 3

Table 3

Table 3

Table 3

4.1 Visual Observations

Visual observations included water color, clarity, and flow rate, floating materials, biological observations, structural condition of the conveyance, and vegetative condition at the site. If any particular odors were associated with the site, those observations were also recorded.

- **Flow:** Flowing water was observed at Sites 14 and 25. Ponded water was found at Sites 3, 9 and 12. Sites 1, 2, 6, 7, 11, 15, 17, 20, 21 and 26 were damp with insufficient water available to collect a sample. Sites 4, 5, 8, 10, 13, 16, 18, 19, 22, 23, 24, 26, 27, and 28 were dry.

- **Odor:** Odor can be caused by chemicals from residential, commercial, and industrial discharges; and from natural sources including decaying organic matter and microbial activity.

  The following sites had distinctive odors associated with them: Sites 9 and 25 had a distinct, musty odor. Site 3 had rotten eggs odor, which may have been due to decaying organic matter.

- **Water Color:** The apparent color of water results from dissolved substances and suspended matter. Soil runoff and decaying organic matter produce a variety of yellow, red, brown, and gray colors. Some algae and dinoflagellates produce reddish or deep yellow colors in water, while high levels of phytoplankton and other algae appear green.

  The water color ranged from clear to yellowish at the majority of sites. The water at Sites 9, 14, and 25 were a distinct yellow. All the other sites that contained water were clear.

- **Water Clarity:** Turbidity refers to the cloudiness of water. Water that is turbid generally has low clarity, and may appear cloudy or opaque, while less turbid water will appear clear. Suspended solids and microscopic plankton that scatter light passing through the water cause turbidity. High turbidity can be an indicator of soil runoff or blooms of microscopic organisms due to high nutrient inputs.

  The water clarity at all sites was clear. Quantitative measurements for turbidity at each site are included in Table 3.

- **Floatable materials:** The type of floating matter can help identify the source of contamination, since these substances are often direct products of the source of the pollution.

  The majority of sites were free of floatable materials during the 2006 inspections, except for Sites 9 and 21 which contained trash and organic matter.

- **Biological:** At the majority of sites there was no biological activity noted with the following exceptions: Insects were detected at Sites 3, 7, 9, and 14.

- **Vegetative condition:** Excessive vegetation can be an indicator of elevated levels of nutrients in the runoff.

  Sites 1, 3, 9, 10, 14, and 25 had normal vegetation growth.

- **Deposits:**

  Sites 3, 9, and 25 had sediment/gravel deposits.

4.2 Field Chemical Analyses

All sites with flowing or ponded water were tested for the following parameters: temperature, pH, conductivity, turbidity, ammonia, detergents, nitrates, and orthophosphates. The data shows that the concentrations of some indicator parameters exceeded Copermittee action levels at Sites 3, 14 and 25. The following provides a brief discussion of each parameter. Table 3 provides a detailed list of analytical results. Section 5 provides a discussion of sites that appear impacted by illicit discharges.

- **Temperature:** Extreme temperatures can be an indication of commercial or industrial runoff.

  Temperature readings ranged from 19.1 to 23.3 ^{o}C.

- **pH:** Measures of pH represent the intensity of the acidity or alkalinity of water, on a scale from 0 to 14.0, with 7.0 considered neutral. The pH of natural waters ranges from 6.0 to 9.0 (EPA 1993). Measurements outside of this range could be an indicator of commercial or industrial discharges.

  All sites had pH levels within the recommended guidelines.

- **Conductivity:** Conductivity is the measure of the ability of water to carry an electrical current and high levels are an indicator of high total dissolved solids (TDS). The conductivity of saltwater is generally above 43 uS/cm. The Copermittees have not developed an action level for conductivity, but Best Professional Judgment (BPJ) is used. Generally, values greater than 5,000 umhos/cm may indicate an IC/ID.

  Conductivity levels ranged from 1.86 to 2.3 uS/cm. All levels were under the >5,000 uS/cm that is generally used for an IC/ID investigation so no follow up was required.

- **Turbidity:** Turbidity refers to the clarity of water. The cloudier the water, the higher the turbidity. Sources of turbidity include suspended organics/detritus, re-suspended bottom sediments, sediments originating from erosion, and phytoplankton. High

turbidity can be an indicator of soil runoff or blooms of microscopic organisms due to high nutrient inputs.

Best Professional Judgment is used for IC/ID follow up for turbidity. No follow-up was necessary from these results.

- **Ammonia**: Ammonia is a common ingredient in commercial and household cleaning products. In addition, organic material contains nitrogen, which can convert into ammonia by means of biochemical degradation. Elevated levels of ammonia can be an indication of decaying organic matter or discharges containing cleaning agents. Ammonia levels range from 6 to 380 mg/L in raw sanitary wastewater, and from 0.1 to 3.0 mg/L in all other waters (EPA 1993). The Copermittee action level for ammonia is 1.0 mg/L.

  Ammonia levels ranged from Not Detected to 3.5 mg/L. A level of 3.5 mg/L was measured at Site 3. A level of 0.8 mg/L was measured at Site 9. A level of 0.4 mg/L was measured at Site 14. A level of 2.5 mg/L was measured at Site 25. All other sites were below the Copermittee action level.

- **Detergents:** Detergents are found in household and commercial cleaning and laundering products. Elevated detergent levels are a good indicator of commercial and/or residential wash water entering the storm water conveyance. Detergent (surfactant) concentrations are usually below 0.1 mg/L in natural waters and range from 1.0 to 20.0 mg/L in raw sanitary wastewaters (EPA 1993). The Copermittee action level for MBAS (detergents) is 1.0 mg/L.

  Because of their importance, detergents (surfactants) were tested in the field and in laboratory analyses. Detergent levels ranged from 0.25 mg/L at Site 14 (Table 3) to 0.5 at Sites 3 and 9. The most likely source of detergents at this site is residential car washing.

- **Nitrate-N:** Nitrates are commonly found in fertilizers, human or other animal wastes, in certain manufacturing processes, and in decomposing organic materials. Elevated levels of nitrate may be present in irrigation runoff, or may be indicative of an illicit connection to the storm drain system, by either commercial or residential sources.

  Nitrate levels at all sites were below the Copermittee action level of 1.35 mg/L. The only sites to have slightly elevated levels of nitrates were Sites 9 and 14, which measured at 0.3 and 1 mg/L, respectively, well below the Copermittee action level.

- **Orthophosphate-P**: Orthophosphate-P occurs naturally from rocks, and with the decay and mineralization of dead plants and animals, but may also indicate the presence of human sewage, and commercial, agricultural or residential waste water.

  Orthophosphate levels measured at sites 3, 9, 12, 14 and 25 were above the Copermittee action level of 0.07 mg/L, ranging from 1.5 to 5.5 mg/L. Follow up

investigations did not reveal where the source originated from. Catch basins were dry above sites 3, 9, 12 and 14 (most likely the result of excess irrigation water) and the catch basin above 25 was damp, not enough water to sample (It was already a monitoring site due to historical levels of bacteria in the area).

4.3 Laboratory Chemical Analyses

In accordance with the San Diego Stormwater Copermittees Jurisdictional Urban Runoff Management Program Appendix D: Dry Weather Analytical and Field Screening Guidance, a minimum of 25% of all sites with flowing or ponded water were tested for the following parameters: total hardness, surfactants (MBAS), oil and grease, diazinon and chlorpyrifos, dissolved cadmium, copper, lead, and zinc, and *Enterococcus*, total coliform, and fecal coliform bacteria. Sites 3. 9, 14, and 25 were selected for laboratory analysis based on analysis of previous Dry Weather monitoring results and geographic location. Concentrations of some indicator parameters exceeded co-permittee action levels at Sites 9, 12, 14, and 25. The following provides a brief discussion of each parameter. Table 3 provides a detailed list of analytical results. Section 5 provides a discussion of sites that appear impacted by illicit discharges.

- **Total Hardness:** Total hardness refers to the calcium and magnesium concentrations in water. The hardness of water can vary considerably between locations. Natural sources of hardness are dissolved limestones. Guidelines for maximum dissolved metals concentrations in natural water are linked to the hardness or alkalinity of the water (i.e., the softer the water, the lower the permitted level of dissolved metals).

  Hardness levels ranged from 317 to 602 mg CaCO3/L.

- **Surfactants (MBAS):** Surfactants are discharged from household and commercial cleaning and laundering operations. Anionic surfactants are commonly used in detergents and account for approximately two-thirds of the total surfactants used. Anionic surfactants are commonly measured as Methylene Blue Active Substances (MBAS). Surfactant concentrations are usually below 0.1 mg/L in natural waters and range from 1.0 to 20.0 mg/L in raw sanitary wastewaters (EPA 1993).

  MBAS was not detected at Site 25. However, Sites 3 and 9 had MBAS recordings of 0.5 mg/L, equal to the action level of 0.5 mg/L. Site 14 had an MBAS recording of 0.25, well below the action level of 0.5 mg/L. No follow-up investigations were required as a result of Surfactants (MBAS).

- **Oil and Grease:** The oil and grease analysis is applicable for the determination of hydrocarbons, vegetable oils, animal fats, waxes, soaps, grease, and related matter. Discharges may cause surface films and shoreline deposits leading to environmental degradation.

  Oil and grease levels at Sites 3, 9, 14 and 25 sampled for laboratory analysis were below the Copermittee action level of 5 mg/L, all registering Not Detected.

- **Diazinon:** Diazinon is an organophosphate insecticide. It kills insects, as well as other organisms through its effect on the nervous system. It is moderately persistent and has moderate to high mobility in soil. Diazinon, in high enough concentrations, is highly toxic to birds, mammals, honeybees, and other beneficial insects. It is also very highly toxic to freshwater fish and invertebrates following acute exposure.

  Diazinon was not detected at any of the sites selected for laboratory analysis.

- **Chlorpyrifos:** Chlorpyrifos is also an organophosphate insecticide and is the most widely used insecticide in the United States. It is used in agriculture on a variety of crops and for residential use as a termiticide, mosquitocide, lawn treatment, as well as other uses. It adsorbs readily to soil particles and therefore is not highly mobile in soil. Chlorpyrifos presents a high risk to birds, fish and mammals and an even a higher risk to aquatic invertebrates. The Copermittee action level for chlorpyrifos is 0.05 µg/L.

  Chlorpyrifos was not detected at any of the sites selected for laboratory analysis.

- **Dissolved Cadmium:** Cadmium occurs in sulfide minerals that also contain zinc, lead, or copper. It is used in electroplating, batteries, paint pigments, and alloys with various other metals. It is usually associated with zinc at a ratio of about one part cadmium to 500 parts zinc in most rocks and soils. It is nonessential for plants and animals and is extremely toxic and accumulates in the kidneys and liver. The average abundance of cadmium in streams is 1 µg/L and in groundwater is from 1 to 10 µg/L. The U.S. EPA primary drinking water standard MCL is 10 µg/L (Standard Methods 1998).

  Dissolved cadmium was not detected at any of the sites selected for laboratory analysis.

- **Dissolved Copper:** Copper occurs in its native state, but is also found in many minerals. It is widely used in electrical wiring, plumbing, roofing, various alloys, pigments, cooking utensils, brake pads, and the chemical industry. Copper is considered an essential trace element for plants and animals. The average abundance of copper in streams is 4 to 12 µg/L and in groundwater is less than 0.1 mg/L. The U.S. EPA drinking water 90th percentile action level is 1.3 mg/L (Standard Methods 1998).

  Dissolved copper levels were not detected at Sites 3, 9, and 14. Site 25 had a recording of 0.014. No follow-up actions required for Dissolved Copper.

- **Dissolved Lead:** Lead is normally found in the mineral galena. It is commonly used in batteries, ammunition, solder, piping, pigments, insecticides, and some alloys. It is nonessential for plants and animals and is toxic by ingestion and is a cumulative poison. The average abundance of lead in streams is 3 µg/L and in groundwater is

generally less than 0.1 mg/L. The U.S. EPA drinking water 90th percentile action level is 15 µg/L.

Dissolved lead was not detected at any of the sites selected for laboratory analysis.

- **Dissolved Zinc:** Zinc occurs in its native state and is used in many alloys such as brass and bronze. It is also used in batteries, fungicides and pigments. It is an essential growth element for plants and animals, but at elevated levels it is toxic to some species of aquatic life. The average abundance of zinc in streams is 20 µg/L and in groundwater is less than 0.1 mg/L. The U.S. EPA secondary drinking water standard MCL is 5 mg/L.

  Zinc levels were not detected at Sites 3 and 9. Sites 14 and 25 had recordings of 0.029 and 0.028. No follow-up actions required as a result of Dissolved Zinc.

- **Bacteria:** Bacteria are commonly found in human and animal feces. They are generally not harmful themselves, but they do indicate the possible presence of pathogenic bacteria, viruses, and protozoans that also live in human and animal digestive systems. Total coliform, fecal coliform and *Enterococcus* bacteria are common test organisms for water quality sampling.

  - **Total Coliforms:** Total coliforms are a group of bacteria that can occur in human feces, but can also be present in animal manure, soil and other places outside of the human body.

    Total coliform levels were the following:
    - 220,000 MPN/100mL at Site 3
    - 70,000 MPN/100mL at Site 9
    - 17,000 MPN/100mL at Site 14
    - 16,000,000 MPN/100mL at Site 25

    Sites 3, 9 and 25 all had limits that exceeded the Copermittee Action Level (50,000 MPN/100mL). Site 25 is already the subject of an ongoing IC/ID investigation. Staff conducted upstream investigations on Site 25 on 10/05/06 and on Sites 3 and 9 on 10/10/06 (the day after receiving the analytical reports from the lab, Enviromatrix Analytical, Inc).. The catch basins were all dry upstream from all three sites, with some evidence of over-irrigation. Staff concluded that the natural conditions of the outfalls for 3 and 9 along with the over-irrigation in the area are most likely the causes for the high levels of bacteria. The outfalls drain into an earthen channel (Site 3) and a large concrete basin on the outside border (Site 9) of the San Elijo Lagoon. The vegetation of the lagoon naturally collects the water in a large natural pond which was very conducive to bacterial growth. Site 25 has other issues that may be the cause for high bacteria counts, with the most likely culprit being a structural problem (large sag) in the pipe that is very conducive to bacterial re-growth.

- **Fecal Coliforms:** Fecal coliforms are a subset of total coliforms and are more fecal-specific in origin.

  Fecal coliform levels were the following:
  - 2,800 MPN/100mL at Site 3
  - 30,000 MPN/100mL at Site 9
  - 17,000 MPN/100mL at Site 14
  - 80,000 MPN/100mL at Site 25

Site 9 and 25 had bacteria readings that exceeded the Copermittee Action Level for Fecal Coliforms (20,000 MPN/100mL). As reported above, upstream investigations were conducted on 10/05/06 for Site 25 and 10/10/06 for Site 9, both turning up dry. The most likely cause for the exceedences is over-irrigation with the natural lagoon environment contributing to the stagnant nature of the outfall area for Site 9 and structural pipe deficiencies for Site 25.

- **Enterococci:** Enterococci are a subgroup within the fecal *Streptococcus* group and are better suited for survivability in salt water. They are generally found in the digestive systems of humans and other warm-blooded mammals.

  Enterococci levels were the following:
  - 2,595 MPN/100mL at Site 3
  - 5,201 MPN/100mL at Site 9
  - 657 MPN/100mL at Site 14
  - 10,168 MPN/100mL at Site 25

  Site 25 had the only exceedence of Enterococci Copermittee levels (10,000 MPN/100mL). Again, this is the site of an ongoing IC/ID investigation and a follow up inspection was conducted on 10/05/06. The upstream catch basins were dry but the outfall was flowing. This most likely indicates an over-irrigation problem at the neighboring condominium complexes, which directly connects to the outfall pipe downstream from the catch basins. This problem is most likely also due to a structural deficiency, as a large sag in the pipe may be harboring existing bacteria and promoting re-growth.

5.0 DISCUSSION

During the 2006 Dry Weather Screening Program, four sites displayed elevated levels of some analytes, compared to the Action Levels developed by the Copermittees. Twenty-three of the twenty-eight sites inspected this year were either dry or damp, with one site (Site 12) inaccessible to sample due to dangerous conditions (steep banks). Ponded or flowing water at Sites 3, 9, 14, and 25 was of relatively good quality. Site 25 is the subject of an ongoing IC/ID bacteria investigation. Site 3 had elevated levels of ammonia, phosphorus and total coliform. Site 9 had slightly elevated levels of total and fecal coliform and Site 14 had a slightly elevated level of phosphorus.

- **Site 3:** Samples were taken from the outfall located at Santa Inez. The Orthophospate-P reading of 5.5 mg/L exceeded the Copermittee action level. Bacteria samples were collected and the testing resulted in total coliform, fecal coliform, and *Enterococcus* levels of 220,000, 2,800 and 2,595 MPN/100 mL respectively. The total coliform results exceeded the Copermittee action level, but upstream investigations conducted on 9/29/06 for the exceedences in field screening and again on 10/10/06 for the lab analysis exceedences were inconclusive. All catch basins visited upstream were dry or damp on both follow-up visits. This leads us to believe that the elevated bacteria levels are a result of the location of the outfall, since it empties directly into an earthen channel in the San Elijo Lagoon. The discharge is trapped by the excessive vegetation and becomes very stagnant. It appeared to be a perfect breeding ground for bacteria. The phosphate levels may have come from residual runoff from residential car washing, as the area has a historic problem of over-irrigation.

- **Site 9:** Samples were taken from the outfall at Santa Luisa. Samples collected during testing resulted in exceedences of total and fecal coliform levels. The upstream investigation occurred on 10/10/06 (the day after receiving the lab results) but did not reveal the source of these bacterial exceedences. The location of the outfall may be a cause of the bacteria exceedences, as it is a large open concrete catch basin located in the San Elijo Lagoon. Heavy vegetation keeps the runoff stagnant in the concrete basin and it may be conducive to bacteria growth and re-growth. The upstream catch basins were dry on the follow-up inspection but this area is known for some minor over-irrigation problems.

- **Site 14:** Samples were taken from the outfall at Genevieve Avenue/Steven's Avenue, located in the middle of Steven's Creek. Samples collected resulted in one field screening exceedence of phosphorus. The upstream investigation occurred on 9/29/06 but did not reveal the source of the exceedence. The exceedence was very minor (the action level is 2.0 and the sample was 2.5) and may have been the result of over-watering. The water quality at this location was much better than in the past couple of years, which is a definite sign of improvement.

- **Site 25:** Samples were taken from the outfall located at the Seascape Sur beach access. Bacteria samples were collected during testing resulted in total coliform, fecal coliform, and *Enterococcus* levels of 16,000,000, 80,000 and 10,168 MPN/100 mL respectively, all exceeding action levels. There was also an exceedence of ammonia action levels as well (2.5 mg/L NH_3-N**).** This outfall is the subject of an ongoing IC/ID source investigation for bacteria. This outfall has had a historically high level of bacteria for the past five years, and the City is actively pursuing the source of the bacteria. The upstream investigation for the field screening exceedence (ammonia) occurred on 9/22/06 and for the lab exceedences (bacteria) occurred on 10/05/06 but neither revealed the source of the exceedences, as the upstream catch basins were dry. However, this is not uncommon, as the condominiums adjacent to the beach access

drain directly into the pipe underground, with no sample locations accessible. Therefore, the upstream catch basins are often times dry, but the outfall is flowing. The City has done exhaustive investigations with relatively little success. The most likely culprit no is a structural deficiency in the underground pipe. A large sag in the pipe has been identified through CCTV with large amounts of sediment and debris trapped. This could be harboring bacteria and an ideal location for re-growth. The City is currently investigating long term structural fixes such as pipe blasting, re-lining or even the possibility of installing a low-flow diverter. These are all very expensive fixes but the City is dedicated to coming up with a permanent solution to this ongoing problem. The only bright spot is that the outfall has not been affecting the receiving waters, so no emergency fix is necessary.

6.0 CONCLUSIONS

The 2006 Dry Weather Monitoring Program found only one storm water conveyance line with an indication of illegal discharges to the City of Solana Beach's storm water system. The majority of the other sites visited were dry or damp, with some sites showing evidence of some over-irrigation and/or car washing discharges. With the exception of the Seascape Sur area, sites that had water present did not have parameter concentrations high enough to cause great concern. All necessary follow up activities did not reveal a dominant source, as the catch basins were either damp or dry.

It is recommended that the City continue with its efforts to educate the Beachwalk business district about the City's pollution prevention programs and continue its efforts to eliminate the discharge at Site 25 (Seascape Sur). Commercial educational programs should continue and include both the proprietors and their employees. Residential programs should include building owners and residents. An informed public will provide support for new and already existing prevention programs.

Additionally, the City should continue exploring the options for capital improvements in the Seascape area as the source of the recurring bacterial problems has proven elusive. The City will continue to look into possibly correcting the structural problems within the pipe, which may be leading to bacterial re-growth. The outfall has not affected the quality of the receiving waters, yet, but a proactive approach by the City to abate the bacterial problem is recommended.

7.0 REFERENCES CITED

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TABLE 3

SITE CHARACTERISTICS

Site ID	Watershed	Location Description	Drainage Area Land-Use (1)	Conveyance Type (2)	Conveyance Construction (3)	Date	Time
1	Carlsbad	Rios Road Trailhead	Residential	Catchbasin	Concrete	9/28/2006	4:02 PM
2	Carlsbad	Glenmont/Rawl	Residential	Catchbasin	Concrete	9/28/2006	4:07 PM
3	Carlsbad	Santa Inez Outfall	Residential	Outfall	Concrete/Steel	9/28/2006	9:15 AM
4	Carlsbad	626 Canyon Dr	Residential	Catchbasin	Concrete	9/28/2006	4:10 PM
5	Carlsbad	635 Canyon Dr	Residential	Catchbasin	Concrete	9/28/2006	4:10 PM
6	Carlsbad	Highland Ave (Executive Golf Course)	Residential/Parks	Catchbasin	Concrete	9/28/2006	4:30 PM
7	Carlsbad	Santa Helena Trailhead	Residential	Catchbasin	Concrete	9/28/2006	4:24 PM
8	Carlsbad	Santa Carina Trailhead	Residential	Catchbasin	Concrete	9/28/2006	4:26 PM
9	Carlsbad	Santa Luisa Outfall	Residential	Catchbasin	Concrete	9/28/2006	11:31 AM
10	Carlsbad	East Side Railroad Tracks	Residential/Commercial	Channel	Concrete	9/28/2006	1:30 PM
11	Carlsbad	645 Pacific	Residential	Catchbasin	Concrete	9/28/2006	3:49 PM
12	San Dieguito	Steven's Creek Outfall	Residential/Commercial/ Industrial/Parks	Open Channel/Box Culvert	Concrete Channel/Natural Creek	9/27/2006	2:00 PM
13	San Dieguito	Valley (N. Baker Iron Works)	Residential/Industrial/ Commercial	Catchbasin	Concrete	9/29/2006	3:12 PM
14	San Dieguito	Genevieve Ave/Steven's Creek	Residential/Commercial	Outfall	Natural Creek	9/27/2006	2:15 PM
15	San Dieguito	309 Solana Hills Drive	Residential	Catchbasin	Concrete	9/28/2006	4:15 PM
16	San Dieguito	559 Glencrest Ave	Residential	Catchbasin	Concrete	9/28/2006	4:10 PM
17	San Dieguito	Wells Fargo	Residential/Commercial	Catchbasin	Concrete	9/28/2006	4:20 PM
18	San Dieguito	Avacado Place	Residential	Catchbasin	Concrete	9/28/2006	4:35 PM
19	San Dieguito	Dell Street	Residential/Parks	Catchbasin	Concrete	9/28/2006	4:13 PM
20	San Dieguito	South Cedros/Via De La Valle	Residential/Commercial	Catchbasin	Concrete	9/29/2006	3:19 PM
21	San Dieguito	605 Marsolan Ave	Residential/Commercial	Catchbasin	Concrete	9/26/2006	10:05 AM
22	San Dieguito	779 Barbara Ave	Residential	Catchbasin	Concrete	9/28/2006	4:06 PM
23	San Dieguito	North Cedros/Lomas Santa Fe	Residential/Commercial	Catchbasin	Concrete	9/28/2006	3:56 PM
24	San Dieguito	347 Acacia St	Residential	Catchbasin	Concrete	9/29/2006	3:33 PM
25	San Dieguito	Seascape (Outfall)	Residential/Commercial	Outfall	Steel	9/21/2006	3:00 PM
26	San Dieguito	248 Sierra Ave	Residential	Catchbasin	Concrete	9/28/2006	3:50 PM
27	San Dieguito	San Andreas (City Limits)	Residential	Catchbasin	Concrete	9/28/2006	4:38 PM
28	San Dieguito	Spindrift Way/American Lane	Residential	Catchbasin	Concrete	9/28/2006	4:40 PM

QUALITATIVE OBSERVATIONS										
Site ID	Estimated Flow (gpm)	Light Conditions (4)	Odor	Color	Clarity	Floatables	Deposits	Vegetation	Biology	Other
1	Damp	Overcast	None	None	Dry/No Flow	None	None	Normal	None	Catch basin damp, not enough to sample
2	Damp	Overcast	None	None	Dry/No Flow	None	None	None	None	Catch basin damp, not enough to sample
3	Ponded	Overcast	Rotton Eggs	Yellow	Slightly Couldy	None	Sediment/ Gravel	Normal	Insects	Ponded water, no flow, water staagnant due to vegetation in lagoon
4	Dry	Overcast	None	None	Dry/No Flow	None	None	None	None	Catch basin dry
5	Dry	Overcast	None	None	Dry/No Flow	None	None	None	None	Catch basin dry
6	Damp	Overcast	None	None	Dry/No Flow	None	None	None	None	Catch basin damp, not enough to sample
7	Damp	Overcast	None	None	Dry/No Flow	None	None	None	Insects	Catch basin damp, not enough to sample
8	Dry	Overcast	None	None	Dry/No Flow	None	None	None	None	Catch basin dry
9	Ponded	Sunny	Musty	None	Slightly Couldy	Trash	Sediment/ Gravel	Normal	Insects/Algae	Ponded water, no flow, water staagnant due to vegetation in lagoon
10	Dry	Sunny	None	None	Dry/No Flow	None	None	Normal	None	Concrete Channel Dry
11	Damp	Overcast	None	None	No Flow	None	None	None	None	Catch basin damp, not enough to sample
12	Ponded	Sunny	Other	Other	Other	Other	Other	Other	Other	Inaccessible
13	Dry	Sunny	None	None	Dry/No Flow	None	None	None	None	Catch basin dry
14	Flowing	Sunny	None	Yellow	Clear	None	None	Normal	Insects, Algae, Fish	Sample taken
15	Damp	Overcast	None	None	Dry/No Flow	None	None	None	None	Catch basin damp, not enough to sample
16	Dry	Overcast	None	None	Dry/No Flow	None	None	None	None	Catch basin dry
17	Damp	Overcast	None	None	Dry/No Flow	None	None	None	None	Catch basin damp, not enough to sample
18	Dry	Overcast	None	None	Dry/No Flow	None	None	None	None	Catch basin dry
19	Dry	Overcast	None	None	Dry/No Flow	None	None	None	None	Catch basin dry
20	Damp	Partly cloudy	None	None	Dry/No Flow	None	None	None	None	Catch basin damp, not enough to sample
21	Damp	Overcast	None	None	Dry/No Flow	Organic matter	None	None	None	Catch basin damp, not enough to sample, organic matter detected in basin
22	Dry	Overcast	None	None	Dry/No Flow	None	None	None	None	Catch basin dry
23	Dry	Overcast	None	None	Dry/No Flow	None	None	None	None	Catch basin dry
24	Dry	Partly cloudy	None	None	Dry/No Flow	None	None	None	None	Catch basin dry
25	Flowing	Sunny	Musty	Yellow	Slightly Cloudy	None	Sediment/ Gravel	Normal	Other	Not enough water flow, water flow increased for short amount of time, then went back to normal
26	Dry	Overcast	None	None	Dry/No Flow	None	None	None	None	Catch basin dry
27	Dry	Overcast	None	None	Dry/No Flow	None	None	None	None	Catch basin dry
28	Dry	Overcast	None	None	Dry/No Flow	None	None	None	None	Catch basin dry

LABORATORY ANALYSIS																		
Site ID	Surfactants		Oil and Grease		Total Hardness mg/L		Cadmium (dissolved)		Copper (dissolved)		Lead (dissolved)		Zinc (dissolved)		Diazinon		Chlorpyrifos	
	mg/L	DL	mg/L	DL	CaCO3	DL	mg/L	DL	mg/L	DL	mg/L	DL	mg/L	DL	ug/L	DL	ug/L	DL
3	ND	0.5	ND	5	602	10	ND	0.005	ND	0.005	ND	0.005	ND	0.02	ND	0.05	ND	0.05
9	ND	0.5	ND	5	496	10	ND	0.005	ND	0.005	ND	0.005	ND	0.02	ND	0.05	ND	0.05
14	ND	0.5	ND	5	479	10	ND	0.005	ND	0.005	ND	0.005	0.029	0.02	ND	0.05	ND	0.05
25	6.3	0.5	ND	5	317	10	ND	0.005	0.014	0.005	ND	0.005	0.028	0.02	ND	0.05	ND	0.05

	BACTERIAL ANALYSIS					
Site ID	Total Coliform		Fecal Coliform		Enterococcus	
	MPN/100ml	DL	MPN/100ml	DL	MPN/100ml	DL
3	220,000	50,000	2,800	20,000	2,595	10,000
9	70,000	50,000	30,000	20,000	5,201	10,000
14	17,000	50,000	17,000	20,000	657	10,000
25	16,000,000	50,000	80,000	20,000	10,168	10,000

FIELD SCREENING								
Site ID	Temperature °C	pH	Turbidity NTU	Conductivity uS/cm	Nitrate mg/L NO_3-N	Ammonia mg/L NH_3-N	Reactive Phosphorus PO_4-P mg/L	Surfactants (MBAS) mg/L
1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3	19.6	7.58	N/A	2.3	0.1	3.5	5.5	0.5
4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
9	19.1	7.73	N/A	1.86	0.3	0.8	1.5	0.5
10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
13	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
14	23.3	8.4	10	1.87	1	0.4	2.5	0.25
15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
16	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
17	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
18	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
21	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
22	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
23	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
24	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
25	N/A	N/A	N/A	N/A	0.1	2.5	2	N/A
26	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
28	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Compliance with Acti

Municipal

Inspections	Actual No. of Facilities	2001-2002
High Priority Facilities	~90	0
Medium Priority Facilities	19	0
Low Priority Facilities	44	0
Maintenance		
Material removed from MS4 (storm drain cleaning, public cleanup events, channel clearing)		178 tons
Material prevented from entering MS4 (street sweeping operations)		2,099 tons
Education		
No. of Presentations to Municipal Employees		9

Industrial Businesses

Inspections	Actual No. of Facilities	2001-2002
High Priority Facilities	66	7
Medium Priority Facilities	16	0
Low Priority Facilities	126	0
Enforcement		
Responses to Hotline Calls in regard to Industrial Businesses		Not known
Education/Public Participation		
No. of Workshops hosted for Industrial Business Sectors		2+ongoing at Business License counter
No. of Materials Distributed to Industrial Businesses		Not known

Commercial Businesses

Inspections	Actual No. of Facilities	2001-2002
High Priority Facilities	810	0
Low Priority Facilities	Not known	0
Enforcement		
Responses to Hotline Calls in regard to Commercial Businesses		Not known
Education/Public Participation		
No. of Workshops hosted for Commercial Business Sectors		2+ongoing at Business License counter
No. of Materials Distributed to Commercial Businesses		Not known

Municipal

Inspections	Actual No. of Facilities	2001-2002
High Priority Facilities	~90	0
Medium Priority Facilities	19	0

Residential

Household Hazardous Waste		2001-2002
Quantity of Household Hazardous Waste Collected		153,019 lbs.
Enforcement		
Responses to Hotline Calls in Regard to Residential Activities		91
Education/Public Participation		
No. of Presentations to Residential Neighborhoods, HOA, Community Groups, Etc.		4
No. of Cleanup Events Hosted		11
No. of Materials Distributed (brochures, magnets, bags, fliers, newsletters, posters)		Not known

Land Use

SUSMP		2001-2002
No. of Developments Subject to SUSMP requirements		0

Construction

Inspections	Actual No. of Facilities	2001-2002
High Priority Sites	27	27
Medium Priority Sites	17	17
Low Priority Sites	9	9
Enforcement		
Responses to Hotline Calls in regard to Construction Sites		Not known
Education/Public Participation		
No. of Workshops Hosted for Construction/Development Community		2
No. of Materials Distributed to Construction/Development Community		Not known

General Education

Estimated Impressions		2001-2002

Municipal			
	Inspections	**Actual No. of Facilities**	**2001-2002**
	High Priority Facilities	~90	0
	Medium Priority Facilities	19	0
	No. of Estimated Educational Impressions Made (distributed materials, PSAs, bus shelters,		Not known
IC/ID			
	Dry Weather Sampling	**Actual No. of Locations**	**2001-2002**
	No. of Locations Monitored	200	135
	No. of Exceedances		
	Nitrate		
	Reactive Phosphorus		
	Bacteria (enterococcus)		
	Cadium		
	Lead		
	Ammonia		
	Coastal Monitoring		
	No. of Exceedances	22	
	Total Coliform		
	Fecal Coliform		
	Enterococcus		

vity-Based Permit Requirements

Actual No. of Facilities	2002-2003	Actual No. of Facilities	2003-2004	Actual No. of Facilities	2004-2005	Actual No. of Facilities
81*	76					
68*	45					
41	20					

	47.6 tons					
	2,284 tons					

	27					

Actual No. of Facilities	2002-2003	Actual No. of Facilities	2003-2004	Actual No. of Facilities	2004-2005	Actual No. of Facilities
207	207					
5	5					
115	2					

	3					

	3+ongoing at Business License counter					
	~300					

Actual No. of Facilities		Actual No. of Facilities	2003-2004	Actual No. of Facilities	2004-2005	Actual No. of Facilities
546	358					
4,837	7					

	62					

	6+ongoing at Business License counter					
	~1,800					

Actual No. of Facilities	2002-2003	Actual No. of Facilities	2003-2004	Actual No. of Facilities	2004-2005	Actual No. of Facilities
81*	76					
68*	45					

	2002-2003	Actual No. of Facilities	2003-2004	Actual No. of Facilities	2004-2005	Actual No. of Facilities
	163,509 lbs.					

	227					

	4					
	8					
	101,193					

	2002-2003	Actual No. of Facilities	2003-2004	Actual No. of Facilities	2004-2005	Actual No. of Facilities
	78					

Actual No. of Facilities		Actual No. of Facilities	2003-2004	Actual No. of Facilities	2004-2005	Actual No. of Facilities
28	28					
33	33					
17	17					

	25					

	4+ongoing through permitting process					
	~500					

	2002-2003	Actual No. of Facilities	2003-2004	Actual No. of Facilities	2004-2005	Actual No. of Facilities

Actual No. of Facilities	2002-2003	Actual No. of Facilities	2003-2004	Actual No. of Facilities	2004-2005	Actual No. of Facilities
81*	76					
68*	45					
	462,385					

Actual No. of Locations	2002-2003	Actual No. of Locations	2003-2004	Actual No. of Locations	2004-2005	Actual No. of Locations
99	99					
	71					
	12					
	14					
	2					
	1					
	3					
	49					

21	4					
	2					
	0					
	2					

2005-2006
2005-2006
2005-2006

2005-2006

2005-2006

2005-2006

2005-2006

2005-2006

2005-2006

2005-2006

Compliance with Activity-Based Permit Requirements

Municipal

Inspections	Actual No. of Facilities	2001-2002	Actual No. of Facilities	2002-2003	Actual No. of Facilities	2003-2004	Actual No. of Facilities	2004-2005	Actual No. of Facilities	2005-2006	Actual No. of Facilities	2006-2007
High Priority Facilities	10	10	10	10	10	10	10	10	10	10	10	10
Medium Priority Facilities	1	1	1	1	1	1	1	1	1	1	1	1
Low Priority Facilities	4	4	4	4	4	4	4	4	4	4	6	6
Maintenance												
Material removed from MS4 (storm drain cleaning, public cleanup events, channel clearing)		N/A		~5 tons		~4 tons		~6 tons		~4 cubic yards		drain and channel clearing) - 325 pounds debris at beach clean up
Material prevented from entering MS4 (street sweeping operations)		N/A		N/A		N/A		645 cubic yards		~4 cubic yards		188lbs street sweeping
Number of catch basins cleaned (all catch basins inspected)		N/A		N/A				37		N/A		309 inspected / 35 catch basins cleaned
Education												
No. of Presentations to Municipal Employees		4		12 (Monthly Meetings)		4		3		4		3

Industrial Businesses

Inspections	Actual No. of Facilities	2001-2002	Actual No. of Facilities	2002-2003	Actual No. of Facilities	2003-2004	Actual No. of Facilities	2004-2005	Actual No. of Facilities	2005-2006	Actual No. of Facilities	2006-2007
High Priority Facilities	0	0	1	1	1	1	1	1	1	1	1	1
Medium Priority Facilities	2	2	1	1	1	0	1	0	0	0	0	0
Low Priority Facilities	0	0	1	1	1	0	1	0	0	0	0	0
Enforcement												
Responses to Hotline Calls in regard to Industrial Businesses		Not known		0		0		0		0		0
Education/Public Participation												
No. of Workshops hosted for Industrial Business Sectors		4		1		0		0		0		0
No. of Materials Distributed to Industrial Businesses		Not known		4 visits (Educational Materials Distributed Every Time		3 visits (Educational Materials Distributed Every Time		2 visits (Educational Materials Distributed Every Time		1 visit (Educational Materials Distributed and Discussed		1 visit (Educational Materials Distributed and Discussed)

Commercial Businesses

Inspections	Actual No. of Facilities	2001-2002	Actual No. of Facilities		Actual No. of Facilities		Actual No. of Facilities		Actual No. of Facilities		Actual No. of Facilities	
High Priority Facilities	90	90%	88	90%	87	85%	88	50%	88	20%	88	11

Compliance with Activity-Based Permit Requirements												
Low Priority Facilities	0	0	0	0	0	0	0	0	0	0	0	0
Enforcement												
Responses to Hotline Calls in regard to Commercial Businesses		Not known		4		9		16		3		13
Education/Public Participation												
No. of Workshops hosted for Commercial Business Sectors		4		1		0		1		0		0
No. of Materials Distributed to Commercial Businesses		Not known		~1,800		~150		~100		0		~150 (3 per week)
Residential												
Household Hazardous Waste		**2001-2002**		**2002-2003**		**2003-2004**		**2004-2005**		**2005-2006**		**2006-2007**
Quantity of Household Hazardous Waste Collected		Not Known		Not Known at time of reporting (158 residents from Solana Beach utilized the program during this reporting period, but the tonnage is unknown).		HHW Facility does not document amount of waste collected. However, 270 residents utilized this service this reporting period, up from 158 last reporting period		HHW Facility does not document amount of waste collected. However, 293 residents utilized this service this reporting period, up from 158 last reporting period		HHW Facility does not document amount of waste collected. However, 319 residents utilized this service this reporting period, up from 293 last reporting period		HHW Facility does not document amount of waste collected. However, 379 residents utilized this service this reporting period, up from 319 last reporting period
Enforcement												
Responses to Hotline Calls in Regard to Residential Activities		Not Known		12		47		20		11		22
Education/Public Participation												
No. of Presentations to Residential Neighborhoods, HOA, Community Groups, Etc.		4		6		3		1		0		0
No. of Cleanup Events Hosted		1		1		1		1		1		1
No. of Materials Distributed (brochures, magnets, bags, fliers, newsletters, posters)		Not known		~2,000		~1,000		~1,200		~11,000		~1,200 (100 per month)
Land Use												
SUSMP		**2001-2002**		**2002-2003**		**2003-2004**		**2004-2005**		**2005-2006**		**2006-2007**
No. of Developments Subject to SUSMP requirements		0		0		2		0		2		2
Inspections	**Actual No. of Facilities**	**2001-2002**	**Actual No. of Facilities**		**Actual No. of Facilities**		**Actual No. of Facilities**		**Actual No. of Facilities**		**Actual No. of Facilities**	
High Priority Sites	2	2	2	2	4	4	4	4	4	3	4	192 (1 time per month)

Compliance with Activity-Based Permit Requirements												
Medium Priority Sites	4	4	6	6	6	6	6	6	6	6	8	96 (I time per month)
Low Priority Sites	16	16	9	9	9	8	9	8	9	39	45	) (1 during wet, 1 during dry)
Enforcement												
Responses to Hotline Calls in regard to Construction Sites		Not known		6		4		4		12		7
Education/Public Participation												
No. of Workshops Hosted for Construction/Development Community		4		1		0		0		1		0
No. of Materials Distributed to Construction/Development Community		Not known		~50		~550		~550		~600		521
Dry Weather Sampling	**Actual No. of Locations**	**2001-2002**	**Actual No. of Locations**	**2002-2003**	**Actual No. of Locations**	**2003-2004**	**Actual No. of Locations**	**2004-2005**	**Actual No. of Locations**	**2005-2006**	**Actual No. of Locations**	**2006-2007**
No. of Locations Monitored	260	10	260	31	260	24	260	32	260	29	309	28
No. of Exceedances		2		3		4		2		1		9
Nitrate		N/A		3		0		0		0		0
Reactive Phosphorus		N/A		0		0		0		2		2
Bacteria		2		3		3		2		3		6
Cadium		N/A		0		0		0		0		0
Lead		N/A		0		0		0		0		0
Ammonia		N/A		3		1		0		0		0
Coastal Monitoring												
No. of Exceedances	1	0	1	1	2	2	2	0	1	0	0	0
Total Coliform		0		0		0		0		0		0
Fecal Coliform		0		1		2		0		0		0
Enterococcus		0		0		0		0		0		0

CITY OF SOLANA BEACH

JURISDICTIONAL URBAN RUNOFF MANAGEMENT PROGRAM (JURMP) ANNUAL REPORT

SEPTEMBER 2008

Reporting Period:
July 1, 2007 to June 30, 2008

Respectfully Submitted to:
San Diego Regional Water Quality Control Board
In compliance with:
Order No. 2007-0001, NPDES Permit No. CAS0108758

CITY OF SOLANA BEACH
ANNUAL REPORT
STORM WATER PROGRAM
SEPTEMBER 2008

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ACKNOWLEDGEMENTS

The City of Solana Beach wishes to expressly thank each Copermittee Storm Water Program Manager/Coordinator and their staff for their efforts during the Regional Stormwater Management Committee meetings and the workgroups and their development of model program components, the sharing of ideas and willingness to cultivate program consistency throughout San Diego County as an effective means of improving water quality in the Region. The level of collaboration among agencies and across jurisdictional boundaries is unique and a credit to the professionalism and efforts of the San Diego County Copermittees.

The activities described in this report are not merely *written words on a page*, but are the result of *tremendous efforts* of City staff to integrate many new activities into their daily routines and tasks. The City's FY 07/08 Storm Water Program Coordinator wishes to thank the Storm Water Team for their assistance, dedication and collaboration to make the City's FY 07/08 storm water program successful *and meaningful.*

Storm Water Team:

- Code Enforcement Officer, Tom Warden
- City Manager/Fire Chief/Director of Public Safety, David Ott
- Operations Manager, Steve Kerr
- City Inspector, Hector Ezquerro
- Deputy City Engineer, Dan Goldberg
- Director of Public Works/City Engineer, Mo Sammak
- Community Services Director, Tina Christianson
- Associate Engineer, Jim Greenstein
- Assistant Planner, Corey Johnson
- Senior Engineering Technician, Robert Martinez
- Management Analyst, Rimga Viskanta

A big thank-you also to the Public Works Crew for all their hard work!

- Maintenance Worker, Bill Stedman
- Maintenance Worker, Dave Thomas
- Lead Maintenance Worker, Danny Hernandez

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TABLE OF CONTENTS

ACKNOWLEDGEMENTS ii
LIST OF TABLES vii
Acronyms viii
Executive Summary 2
Certification Statement 6
Chapter 1: Introduction 8
1.1 Report Organization 9
1.2 Common Activities 9
1.3 Report Content 9
1.4 Program Goals 10
CHAPTER 2: Development Planning Component 13
2.1 Assessment and Modification of General Plan 13
2.2 Project Approval and Environmental Review Process Modifications 14
2.3 Education 19
2.4 New Activities and Improvement for FY 08/09 21
2.5 Summary 21
CHAPTER 3: Construction Component 24
3.1 Introduction 24
3.2 Modification of Grading Ordinance 24
3.3 Modification of Construction and Grading Approval Process 25
3.4 Construction Site Inventory 28
3.5 Construction Follow-Up Activities: 34
3.6 Capital Improvement Projects Inventory 36
3.7 Threat to Water Quality Prioritization 36
3.8 BMPs and Pollution Prevention Methods 39
3.9 Enforcement and Inspections 40
3.10 New Activities and Improvements in FY 08/09 47
3.11 Summary 48
Chapter 4: Municipal Component (Existing Development) 51
4.1 Introduction 51
4.2 Inventory of Municipal Facilities 51
4.3 Pollutant Source Identification 55
4.4 Threat to Water Quality Prioritization 56
4.5 Pollution Prevention Methods 57
4.6 Pollution Prevention Strategy Effectiveness 67
4.7 JURMP Comments from RWQCB 67

4.8 New Activities and Improvements for FY 08/09 71
4.9 Summary 72

Chapter 5: Industrial And Commercial Component 75
5.1 Introduction 75
5.2 Industrial Facilities Section 76
5.2.1 Inventory of Industrial Facilities 76
5.2.2 Pollutant Source Identification 76
5.2.3 Threat to Water Quality Prioritization 78
5.2.4 Pollution Prevention Methods 78
5.2.5 Industrial Inspections 78
5.2.6 New Activities and Improvements for FY 08/09 79
5.2.7 Summary of Industrial Section 79
5.3 Commercial Facility Section 80
5.3.1 Inventory of Commercial Facilities 80
5.3.2 Pollutant Source Identification 85
5.3.3 2007 Dry Weather Monitoring Results 86
5.3.4 Threat to Water Quality Prioritization 87
5.3.5 Business Community Education Campaign 88
5.3.6 Pollution Prevention Methods 89
5.3.7 New Pollution Prevention Methods 90
5.3.8 Ensuring Implementation through Commercial Property Inspections 92
5.3.9 Enforcement 92
5.3.10 Mobile Businesses 93
5.3.11 New Activities and Improvements for FY 08/09 94
5.3.12 Summary of Commercial Section 94

CHAPTER 6: Residential Component 97
6.1 Introduction 97
6.2 Pollution Prevention Methods 97
6.3 BMP Implementation 97
6.4 Threat to Water Quality Prioritization 105
6.5 Implementation of BMPs 105
6.6 Construction BMPs 106
6.7 Enforcement Actions 106
6.8 New Activities and Improvement for FY 08/09 106
6.9 Summary 107

CHAPTER 7: Illicit Discharge Detection and Elimination Component 110

CHAPTER 8: Education Component 112
8.1 Introduction 112
8.2 Pollution Prevention through Education – Jurisdictional Activities 113
School / Adult Community Education 116
8.3 Pollution Prevention through Education – Regional Activities 122
8.4 Pollution Prevention through Education – Watershed Activities 123
8.5 New Activities and Improvements for FY 08/09 125
8.6 Summary 126

Chapter 9: Public Participation Component 129

9.1 Introduction 129
9.2 Community Events 130
9.3 City Council Meetings and Workshops 132
9.4 Copermittee Meetings 133
9.5 Collaborative Community Partnerships 133
9.6 Other Opportunities 137
9.7 New Activities and Improvements for FY 08/98 138
9.8 Summary 139

CHAPTER 10: Fiscal Analysis 141
10.1 Introduction 141
10.2 Revenue Sources 141
10.3 FY 2007/2008 Expenditures 142
10.4 FY 2008/2009 Proposed Budget 143
10.5 Summary 145

CHAPTER 11: Effectiveness Assessment Component 148
11.1 Introduction 148
11.2 "A Framework for Assessing the Effectiveness of Jurisdictional Urban Runoff Management Programs" 148
11.3 Level 1: Compliance with Activity-Based Permit Requirements 150
11.4 Levels 2&3: Changes in Knowledge/Awareness and Behavioral Changes 150
11.5 Level 4: Load Reductions 164
11.6 Levels 5&6: Changes in Discharge and Receiving Water Quality 166

CHAPTER 12: Special Investigations 170
12.1 Introduction 170
"The Mystery of the Bacteria at Seascape Sur…" 170
12.2 Introduction 170
12.3 Background 171
12.4 The 2002 Investigation 172
12.5 Timeline of Significant Actions 180
12.6 Where We Are Now 182
12.7 Future Activities 185
12.8 Summary 186

CHAPTER 13: Non-Emergency Fire Fighting 188

CHAPTER 14: JURMP Revisions 190

CHAPTER 15: Conclusion and Recommendations 192
15.1 Conclusion 192
15.1.1 2007/2008 Accomplishments 193
15.2 Recommendations 195

Appendix A: Street Sweeping Materials Form 198

Appendix B: Smoking Ban Ordinance 199

Appendix C: Special Event Vendor BMP Guidelines 203

Appendix D: Shorelines Newsletter Summer 2007 204
Appendix E: Fiesta Del Sol Flyer 2008 208
Appendix F: Shorelines Newsletter Winter 2007 209
Appendix G: Shorelines Newsletter Spring 2008 212
Appendix H: Shorelines Newsletter Summer 2008 214
Appendix I: Construction BMP Brochure 215
Appendix J: Storm Water Plan Check Comment Form 217
Appendix K: Building Plan Check Routing Form 218
Appendix L: Public Project Pre-Con Meeting Agenda (Sample) 219
Appendix M: Civil Penalty Matrix 220
Appendix N: Construction BMP Guide 226
Appendix O: General Construction "Good Neighbor" Brochure 230
Appendix P: Underground Utility District Special BMP Handout 232
Appendix Q: Contact and Complaint Database (Sample) 233
Appendix R: Beach Blanket Movie Night Flyer 234
Appendix S: Special Events Permit Conditions of Approval (Sample) 235
Appendix T: Summer Camp Programs/Classes 237
Appendix U: San Elijo Lagoon Day 239
Appendix V: 2007 Dry Weather Monitoring Program Results i
Appendix Z: Effectiveness Assessment Table i

LIST OF TABLES

LIST OF TABLES

Table 3-1 SUSMP Projects 2007/2008.....26
Table 3-2 Construction Site Inventory- Grading Projects 2007/2008.....29
Table 3-3 Construction Site Inventory 30
Table 3-4 Public Projects Pre-Construction Meetings 2007/2008.....33
Table 3-5 Construction Violations 2007/2008 34
Table 4-1 Existing Municipal Facilities, By Priority Level 52
Table 5-1 Existing Industrial Facilities 76
Table 5-2 Inventory Of High Priority Commercial Facilities 80
Table 5-3 303(d) Water Bodies and COCs.....85
Table 5-4 High Priority TTWQ Commercial Facilities by Type of Business 88
Table 12-1 FY 07/08 Storm Water Budget 142
Table 12-2 FY 08/09 Storm Water Management Proposed Budget.....143
Table 11-1 Municipal Inspections.....151
Table 12-1 DWMP Initial Results (Sampled August 6-7, 2002).....172
Table 12-2 Upstream Testing Results 175

ACRONYMS

Acronym	Description
BMP	Best Management Practices: minimum standards that everyone and every business must adopt to reduce or eliminate urban runoff. BMPs are part of all storm water programs.
DWMP	Dry weather monitoring program: the procedures, requirements and program to collect samples during the dry season each year. Samples are typically collected over a one-two day period and then sent to the lab for analysis.
HHW	Household Hazardous Waste
IC/ID	Illegal Connection and Illicit Discharge: the term used to discuss connections to the MS4 that are not approved (illegal) or non-storm water (illicit) discharges.
JURMP	Jurisdictional Urban Runoff Management Program
MEP	Maximum Extent Practical: A term used by the RWQCB, and Copermittees to refer to the "best efforts," or "as much as possible."
MS4	Municipal Separate Storm Sewer System: references the City's storm water drainage system and the City's wastewater conveyance system.
NPDES	National Pollution Discharge Elimination System: the Federal program created by the 1972 Clean Water Act that governs State water quality / storm water programs.
Permit	Order 2007-0001 issued by the RWQCB, which requires cities to adopt and implement the JURMP, WURMP, and SUSMP.
PPM	Pollution Prevention Measure: a method, procedure, and/or process to control, reduce, prevent, or eliminate pollution.
RWQCB	Regional Water Quality Control Board. The Board is a California board, but for the *purposes of this report,* RWQCB represents the local water quality board (San Diego Regional Water Quality Control Board).
SUSMP	Standard Urban Storm water Mitigation Plan: a plan as to how the City will alter its review of construction plan (public and private) and estimate the extent of pollutant contributions from the site; the plan must specify BMPs that the City will require.
WURMP	Watershed Urban Runoff Management Program: programs that focus on urban water runoff from a larger point-of-view, which is the entire watershed (a watershed is aka a hydrological unit). Programs must specify how cities will work together on planning urban projects and solving water quality problems.
WWMP	Wet weather monitoring program: the procedures, requirements and program to collect samples during the wet season each year. Samples are collected on a monthly basis, depending on weather.

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

During reporting period FY 07/08, the City worked with the other Copermittees to continue developing model guideline programs and implementing all the requirements of the old Permit (Order 2001-01) as well as beginning the development of the significant new requirements of the new Permit No. R9-2007-0001, which was adopted in January 2007. The City continued to implement its existing Jurisdictional Urban Runoff Management Program (JURMP) that was developed and submitted on February 21, 2002. In addition, the City developed and submitted a new JURMP in March, 2008 to comply with the new Permit, Order R9-2007-0001. Although most of the reporting period covered in this Annual Report consists of implementing activities consistent with Order No. 2001-01, there were some additional activities implemented during this reporting period that addressed new components of Order R9-2007-0001.

The new activities will be discussed in their respective chapters of this Report. Since many of the new programs required by the Permit R9-2007-0001 included time for the Copermittees to develop the programs, many of the new programs were not required to be implemented until after this reporting period. However, the City began the process of developing the new programs in cooperation with the other Copermittees, and any new programs that were actually implemented in this reporting period will be discussed in this Annual Report.

The City is confident that it has implemented all programs required of them during the five year permit cycle of Order 2001-01. The City is also actively working on developing and implementing improved programs for the next five year permit cycle in compliance with Order R9-2007-0001. During the last five year permit cycle, the City was able to create a storm water team consisting of staff from various departments, implemented all of the components of the JURMP and trained all pertinent staff as to the expectations of the Permit.

Accomplishments to prevent and reduce pollution, eliminate contamination and improve water quality include the following:

- *The City successfully implemented comprehensive educational, inspection and enforcement procedures for municipal, commercial, residential, industrial and construction component activities as described in the City's JURMP.*

- *The City maintains a storm water team approach that integrates staff from various departments, bringing diverse expertise and strengths to the program.*
- *The City monitors a dedicated Storm Water Hotline and email address to receive complaints, questions, and general information 24 hours a day, seven days a week, 365 days a year.*
- *The City provided recurring training for all staff regarding general Best Management Practices and specific department-related BMPs.*
- *The City maintains an inventory of all commercial properties in the City, including prioritization of those that pose a threat to water quality.*
- *The City inspected the minimum amount of high priority businesses as stated in the new JURMP and notified all high-priority businesses of specific BMPs related to each type of business.*
- *The City collaborated with neighboring jurisdictions within their respective watersheds to develop educational brochures, surveys, and host community events and distributed hundreds of brochures to residents and the business community.*
- *The City continues to modify plan-check review processes to include a requirement for Erosion Control Plans, BMPs, structural change and runoff mitigation alterations in project proposals and/or construction activities.*
- *The City participated in the 2007/2008 San Diego County Wet Weather Monitoring Program.*
- *The City investigated about 77 complaints regarding urban runoff. These complaints only include the ones in which follow-up actions were required. On average the City receives approximately 3-4 calls a week from residents reporting a potential violation.*
- *The City continues to enforce a smoking ban at all local beaches and parks, the first jurisdiction in the nation to do so.*
- *The City provided several opportunities for public participation including educational workshops/classes, Annual Coastal Clean-up Day, Copermittee meetings and Household Hazardous Waste home pick-up and permanent drop-off collection sites.*
- *The City continues to implement the new "Environmental" review to ALL building/grading permit applications to ensure every project that gets approved by the City is reviewed for storm water management.*
- *The City Council lowered the grading threshold from 200 cubic yards to 50 cubic yards for all projects within the City. This caused more projects to be assessed by the City engineers to implement pre, during, and post construction BMPs than previously.*

- *The City co-sponsored the third annual "Beach Blanket Movie Night" that provided residents a night of free movies and environmental education. The City had a booth co-sponsored by the Solana Center for Environmental Innovation that contained educational materials and games for attendees, and the films shown were dedicated to environmental protection of our ocean resources.*
- *The City authorized a part-time Code Enforcement Officer to continue weekend and off-hour patrols for storm water violations.*
- *The City added storm water specific language and reporting duties to new "standard" street sweeping contract to be used in all current and future contracts.*
- *The City modified its Municipal Code to comply with the new requirements of the Permit*
- *The City adopted the new model SUSMP*
- *The City participated in the development of the new Low Impact Development (LID) and Hydromodification Plan (HMP)*
- *The City developed and implemented the new post-construction BMP tracking and inspection program*

CERTIFICATION STATEMENT

CERTIFICATION STATEMENT

I certify that the work performed, and the report prepared herein, was conducted under the supervision and guidance of the City of Solana Beach Public Works/ Engineering Department to meet the requirements of the *Waste Discharge Requirements for Discharges of Urban Runoff from the Municipal Separate Storm Sewer Systems (MS4s) Draining the Watersheds of the County of San Diego, the Incorporated Cities of San Diego County, the San Diego Unified Port District, and the San Diego County Regional Airport Authority* (NPDES No. CAS0108758). I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

Mo Sammak, P.E. **Date**
Director of Public Works/City Engineer
City of Solana Beach

CHAPTER 1
Introduction

CHAPTER 1: INTRODUCTION

The City of Solana Beach (hereinafter, referred to as "City") has prepared this report in compliance with Order No. 2001-01 and R9-2007-0001, NPDES Permit No. CAS0108758, *Water Discharge Requirements for Discharges of Urban Runoff From Municipal Separate Storm Sewer Systems Draining Watersheds of the County of San Diego, the Incorporated Cities of San Diego County and The San Diego Unified Port District and the San Diego County Regional Airport Authority* (hereinafter referred to as "Permit"). The California Regional Water Quality Control Board, San Diego Region (hereinafter, referred to as "RWQCB") issued the original Permit on February 21, 2001 to all Copermittees (all Cities of San Diego County, the County of San Diego, the Airport Authority and the Port District) and renewed the Permit R9-2007-0001 in January, 2007.

The new five-year Permit (Order No. R9-2007-0001) was issued just prior to this reporting period, and any activities developed and implemented during this reporting period will be described in this Report. However, it should be noted that the City submitted its new JURMP in relation to Order No. 2007-0001 in March, 2008, so any activities related to the new Order that were developed or implemented from March, 2008 to June 30, 2008, will be described in their respective chapters.

Under the new Permit, each Copermittee is required to submit an Annual Report in September of each year describing its jurisdictional program for the previous fiscal year (July 1 to June 30). The purpose of the report is to document to the RWQCB the City's progress and program accomplishments during the reporting period.

On February 21, 2002 and subsequently updated in March, 2008, Copermittees were required to implement a new comprehensive storm water program (Jurisdictional Urban Runoff Management Program [JURMP]) and submit a copy of the new program to the RWQCB. The implementation of this program occurred during the reporting period July 1, 2007 to June 30, 2008 for this 2008 Annual Report. This Annual Report will cover the final full year of implementation under Order No. 2001-01, as well as the first three months of implementation for Order No. 2007-0001.

The scope of the City's storm water program was significantly expanded by the requirements of the Order No. 2001-01 (Permit). The Permit also requires a more comprehensive Annual Report of the City's activities to reduce urban runoff than had been submitted in previous years (prior to 2001). This 2008 Annual Report covers

the City's storm water program activities throughout the entire 2007/2008 fiscal year reporting period.

1.1 Report Organization

This Report contains a description of all activities conducted to meet the requirements of the Permit. The information will be discussed in chapters applicable to each component of the JURMP, which occurred during this reporting period.

The organization of this report follows the outline of the new JURMP and includes the following sections:

- Development Planning Component
- Construction Component
- Municipal (Existing Development) Component
- Industrial and Commercial (Existing Development) Component
- Residential (Existing Development) Component
- Illicit Discharges Detection and Elimination Component
- Education Component
- Public Participation Component
- Fiscal Analysis Component
- Effectiveness Assessment Component
- Special Investigations
- Non-Emergency Fire Fighting
- JURMP Revisions
- Conclusions and Recommendations

1.2 Common Activities

The City participated with the Copermittees in several common activities (workshops, educational program component elements, model programs, etc.) that allowed for a sharing of resources and knowledge, which will provide a more cohesive message to the community. The common activities are described in the Copermittee Unified Urban Runoff Management Program (URMP) Annual Report, submitted with this report by the County of San Diego and incorporated herein by reference.

1.3 Report Content

The content of this report includes the activities associated with implementing the

storm water program (JURMP). The development of the City's JURMP required the City to inventory and prioritize its municipal facilities, commercial and industrial businesses, develop a method to educate the business and residential community about the new requirements, evaluate existing municipal ordinances, and adopt new laws if needed to ensure enforcement action was available, develop a method for educating agency staff, and develop a commercial, industrial and construction site inspection program.

The content of this report will include discussions about the programs and activities that occurred during this reporting period (July 1, 2007 to June 30, 2008e). The City presumes that the reader recognizes that significant activity has occurred subsequent to the end of the reporting period for this report. As a result, throughout this report a summary of post-reporting period activities will be discussed (where appropriate) to assist the RWQCB in understanding the City's efforts to reduce urban runoff and pollution and to comply with the Permit.

1.4 Program Goals

The primary goal of the City's JURMP is to reduce or eliminate pollutant discharge into the City's MS4 (municipal separate sewer storm system) and receiving water bodies, including the Pacific Ocean, thus improving the quality of water in the City, neighboring jurisdictions, and region-wide.

The City recognizes that a *scientifically measurable* change in water quality is a long-term goal that would require many years of data collection, research and analysis, extending beyond the life of the current Permit (which expires in 2012). As a result, the City's program includes short-term goals expected to focus the City's program on permit compliance as well as water quality improvements.

The following summarizes the City's current short-term annual program goals:

FY 02/03: Integration of WURMP(s), SUSMP and JURMP activities
FY 03/04: Complete assessment of JURMP (using regional strategy)
FY 04/05: Complete overall assessment of Regional Programs JURMP, WURMP and SUSMP; prepare for new Permit from RWQCB
FY 05/06: Assessment of JURMP, WURMP and SUSMP in preparation of new Permit anticipated to be adopted in early 2007. This involves the assessment of water quality data to focus on the sources of high priority pollutants locally as well as watershed and regionally.

FY 06/07 Further assessment of JURMP, WURMP and SUSMP to effectively develop new programs for incorporation in the new JURMP, WURMP and SUSMP that will be required by the new Permit (adopted January 2007). The complete program will be assessed to determine the effectiveness of existing programs and to develop better, more efficient programs to include in the next Permit cycle.

FY 07/08 Development and implementation of new JURMP to comply with Permit Order No. 2007-0001. The new Permit includes additional and improved requirements from those included in Order No. 2001-01. Although the City continued the implementation of Order 2001-01 during FY 07/08, significant time and resources were spent developing the new programs included in Order 2007-0001.

FY 08/09 Continue developing the new programs and activities under Permit Order No. 2007-0001, such as the Low Impact Development (LID) and Hydromodification Plan (HMP). In addition, track all SUSMP project post-construction BMPs and develop inspection protocol for annual inspections.

CHAPTER 2
Development Planning Component

CHAPTER 2: DEVELOPMENT PLANNING COMPONENT

In accordance with Permit Section D.1, this section of the report describes the City's efforts to reduce Development Project discharges of pollutants from the MS4 to the MEP; and to prevent Development Project discharges from the MS4 from causing or contributing to a violation of water quality standards; and to manage increases in runoff discharge rates and durations from Development Projects that are likely to cause increased erosion of stream beds and banks, silt pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force.

In each Annual Report to the RWQCB, this section will include new modifications to the City's General Plan (if any), review process for new and redevelopment projects, inventory of current public and private projects and activities associated with the Standard Urban Storm Water Mitigation Plan (SUSMP). Activities conducted post-reporting period may be included if the activity is deemed essential to understanding the City's efforts at reducing urban runoff or permit compliance.

The JURMP (Section 4.0: Development Planning Component) describes the City's plans to integrate new project review processes to require mitigation of urban runoff. In addition, the City adopted the new model SUSMP in February, 2008.

2.1 Assessment and Modification of General Plan

Effective land use planning can provide important water quality protections by controlling the type and placement of activities allowed in critical areas, and by providing a framework within which site-specific control measures may be identified and imposed during land development and redevelopment activities. As such, the General Plan is crucial to the long-term success of its water quality and environmental programs.

There were *no changes* to the General Plan during this reporting period. However, the City has begun the process of updating the General Plan at the time of writing this report, and anticipates the update will take about two to three years to complete. Updates will be given in subsequent annual reports.

There were three modifications to the Municipal Code as a result of the new Permit and subsequent JURMP. These modifications include:

1. Minor revisions to Chapter 13.10 Storm Water Management that adds provisions that meet the requirements of the new stormwater permit within the timelines required for implementation.
2. The second ordinance change adds a new Chapter 13.30 to the Municipal Code to include the City's stormwater mitigation plan (SUSMP) that governs methods of controlling stormwater pollution. The SUSMP contains the specific types of best management practices that the city will impose on development.
3. The third ordinance change revises Chapter 15.40 Excavation and Grading, which controls the manner and method of grading properties and excavation within the City. The revised ordinance updates the existing ordinance to include new erosion control measures required by the SDRWQCB.

These modifications will be discussed in this chapter as well as Chapter 3, Construction Component.

2.2 Project Approval and Environmental Review Process Modifications

The City is tasked with ensuring that land uses in Solana Beach comply with City codes, the General Plan, City Council policies, Engineering standards and State law requirements. Approval of projects through the discretionary review process is generally but not always required prior to issuing grading, building and right-of-way permits. The City Code requires compliance with storm water regulations for all discretionary approvals and ministerial permits. The Planning, Engineering, Environmental, Building and Fire Departments review all plan checks that are submitted to the City. The Engineering and Environmental Departments administer all aspects of design and construction for public improvement projects. The Planning Department administers the environmental review (Initial Studies, Negative Declarations, EIRs, etc.) of both public and private projects.

The City has reviewed its General Plan and Municipal Codes and determined that the General Plan meets the requirements of Order No. 2007-0001. The following is a short list of recent improvements to the project review process that ensures all projects are reviewed and properly address storm water concerns:

- FY 05/06 - Every applicant who inquires about a particular project at the City Hall counter will be given a copy of the City's Construction BMP Brochure (Appendix I). This is being done to ensure that every person will have received a copy of the City's educational guide, many times more

than once. Additionally, the plan check routing sheet was previously modified to include a separate box to check when the applicant receives the BMP guide. The project will not be approved until the box is checked. This was done not only to ensure that all applicants receive the guide, but as well as helping the Code Enforcement Department enforce violations much more efficiently. For example, if there is a storm water violation at a particular project, staff can now go back and check the plan check routing slip to see if the applicant received the BMP guide. If the box is checked, then staff knows that they have the guide and should be aware of the proper regulations, therefore increased enforcement can be taken.

- FY 05/06 - Any project that increases the impervious area of a site by a minimum of 1,000 square feet must complete a Storm Water Plan Check Comment Form (Appendix J). This sheet requires a variety of information to ensure that there will be no additional run-off as a result of the project. The first requirement is the preparation of an Erosion Control Plan. Also, the applicant must demonstrate that the project *does not increase stormwater runoff*. Lastly, the applicant must demonstrate that they are implementing and maintaining all precautionary measures necessary to ensure that pollutant discharges from the site *will be reduced to the maximum extent practicable*. All additional storm water must be completely contained and treated onsite. This is not required by the Permit, but the City believes that it would be prudent to address this issue on such a small scale because of the relative abundance of these smaller projects within the jurisdiction and the lack of larger scale projects that would otherwise be dealt with through the SUSMP process. Instead of ignoring these projects all together, the City felt it would be in its best interests to review these “minor” projects to ensure that most new construction and redevelopment would address these storm water concerns.
- FY 06/07 - City continued to evaluate its project approval process and made some modifications to the process for approving new and redevelopment projects. As noted in last year’s Annual Report, the plan check routing sheet was further modified to include additional information regarding storm water management. The intent of the modifications is to ensure that pollutants and runoff from development will be reduced to the maximum extent practicable (MEP) standard and/or will not contribute to an exceedance of receiving water quality objectives.

- FY 06/07 - Project Applicants (Applicants) are required to submit a detailed project application, which addresses a variety of concerns, including urban runoff and environmental impacts. The project application provides an opportunity for City staff to determine whether or not the project will be exempt from the California Environmental Quality Act (CEQA) process. If the project is subject to CEQA, the environmental impacts of the project must be reviewed and depending on the potential impacts, a more substantial environmental impact report (EIR) may be required.

- FY 06/07 - The plan check routing sheet was further modified to include another section titled *Environmental* (Appendix K). This section was included to ensure that *all* plans submitted would be reviewed for storm water implications, no matter how small or relatively insignificant. Previously, plans would be routed through the Engineering Department and if the Engineering Technician determined that it warranted further review, the plans would be passed through to the Environmental Specialist. The process was modified to ensure that all plans would be reviewed just in case something was missed or overlooked. The City believes that plan review is essential to ensuring storm water compliance, so we are doing everything possible to make sure it is done thoroughly and accurately. This new and improved process resulted in the Environmental Specialist reviewing 286 plans during this reporting period.

In addition to the CEQA review process, all applicants must obtain a permit from the California Coastal Commission (CCC) because the City does not have a Local Coastal Plan. The City also has strict environmental standards requiring compliance and governing land-use planning and construction.

The application includes some of the following questions:

- Financial interest of all parties who own, or intend to own the property.

- Proof that all owners of record within 300 feet of the exterior boundaries of the property have been noticed of the intent to develop (this allows opportunity for public participation in the process).

- Present use of property and proposed development description (commercial, residential, mixed use, etc.).

- Current floor area ratio (FAR) and proposed (this allows review of the proposed change in impervious to pervious surface area). The City has a strict FAR and prohibits development within 40 feet of the western edge of the coastal bluffs.

- Proposed area to be graded (this allows the Engineering Department to assess potential erosion and runoff).

- Environmental condition of property (vegetation, drainage, noise, etc.) and neighboring properties.

- Business Applicants are required to submit information pertaining to the types of hazardous materials, whether or not industrial wastewater will be discharged in the property *and/or* off the property.

2.2.1 Project Requirements

As mentioned above, applicants are required to submit plans for all new and redevelopment of current structures to both the Planning and Engineering Department prior to approval. The Engineering Department (which includes Environmental Review) reviews the project's grading and construction plans for potentiality of contributing to urban runoff. The City Engineering Department also determines the appropriate BMP requirements for each project and attaches the Storm Water Plan Check Comment form to the project plans and returns the plans to the applicant for modification, if required. Applications may be required to submit one or more of the following:

- An Erosion Control Plan (which requires BMPs to manage storm water and non-storm water discharges from the site at all time and shall emphasize sediment control).

- Evidence that the project will not increase storm water runoff.

- Storm Water and Non-Storm Water Runoff Control (this requirement address long-term control of runoff and may require structural modifications to direct discharges into permeable areas such as landscaping).

In addition, all grading projects are required at a minimum to include the following:

- Source control BMPs for all projects expecting to generate runoff.

- Implementation of site design/landscape measures to reduce and/slow runoff, minimize impervious to previous ratio, maximize infiltration and promote alternative driveways and parking lots to include pervious land surfaces (as described in detail in the City's JURMP).

- Implementation of buffer zones for natural water bodies, where feasible and if not, trees, lighting and access restrictions are required.

- Industrial applicants are also required to provide evidence of coverage under the California General NPDES Permit for Storm Water Discharges Associated with Industrial Activities.

- Applicants are required to be in compliance with the City's current grading and storm water management ordinances, inspection requirements, general requirements for construction activities during the wet and dry season and implementation of appropriate BMPs to control erosion and runoff.

2.2.2 SUSMP

The City participated with other Copermittees in the development of the original model Standard Urban Storm Water Mitigation Plan (SUSMP), which was approved by the RWQCB on June 13, 2002. The Solana Beach City Council adopted the City's SUSMP on December 3, 2002, which was submitted to the RWQCB on December 13, 2002. ***The City adopted the updated model SUSMP that complies with all requirements of the new Permit in February 2008***.

The SUSMP addresses post-construction urban runoff pollution from new development and redevelopment projects that are designated as "priority projects" under the Permit. Most of the criterion that specifies which projects will be priority projects will not be applicable to the majority of City projects. The reason for this is that the City of Solana Beach is more than 95% "built-out" and primarily a residential community with small-business commercial properties (there are a few large commercial sites in the City). As a result, the City made few modifications to the Model SUSMP that was developed collectively by the Copermittees for its SUSMP. Over time, City staff will evaluate the effectiveness of the SUSMP and discuss changes to the Plan in this section of the Annual Report.

During this reporting period, the City of Solana Beach had *two projects* approved subject to the SUSMP requirements. These will be described in the following Construction Chapter.

However, the City's Planning Department (also referred to as Community Development Department) is well aware of the SUSMP requirements and is consistently on the lookout for potential projects that may fall under the SUSMP requirements. The Engineering Department handles all of the BMP review for the City, however, the Planning Department is the first department to review applicant plans.

2.2.3 Low Impact Development (LID)

LID is one of the most significant new requirements of the new Permit. The Permit states that each Copermittee shall develop and require each Priority Development Project to implement LID BMPs which will collectively minimize directly connected impervious area and promote infiltration. The City's new JURMP describes the LID site design BMPs required at each Priority Development Project. The LID requirements are being developed by the Copermittees on a regional level to promote consistency for the development community. The City is participating in the development of the LID requirements and will implement them into the City's program once finalized and within the timeline required by the new Permit.

2.2.4 Treatment Control BMP Maintenance Tracking

The City has developed a watershed-based database to track and inventory approved treatment control BMPs and treatment control BMP maintenance for Priority Development Projects within the City. The database contains all necessary information as required by the new Permit. In addition, the City has developed a program to verify that approved treatment control BMPs are operating effectively and have been adequately maintained.

2.3 Education

Municipal Staff Education

The City of Solana Beach is a very intimate, cooperative group. All departments work very well with one another because they are forced to do so on a daily basis to serve the relatively small community. This makes training and education a much easier task.

The previous formation of the storm water team brought together the directors of all the different departments (Planning, Engineering, Public Works, Assistant City Manager, Public Safety Chief, Code Enforcement Officers, Environmental Programs Manager, City Attorney and City Inspector) and provided them a forum to discuss storm water issues and come up with solutions collectively. In turn, the directors would educate their respective employees on the specific tasks they were to perform. This was a very effective and efficient way to educate the Municipal Staff when the Permit was first adopted and the JURMPs were initially being implemented.

City staff welcomes additional training opportunities and often seeks outside training opportunities to keep up with the ever-changing storm water universe. Part of the City's budget is specifically earmarked for training expenses to encourage Staff participation. Additionally, numerous consultants have made presentations to City staff regarding the latest technologies in the protection of water resources, including techniques to reduce erosion, bacteria and other COCs in urban runoff. City staff is always seeking new training opportunities to stay on top of this rapidly evolving field. The City's budget specifically allocated $1,850 for training and conferences in the Environmental Services budget for the FY 07/08.

Owner / Developer Education

The City, along with the other North County Copermittees, has developed a Construction BMP Brochure (Appendix I) which describes the construction storm water regulations and required BMPs. The BMPs are generic and a simple map is shown of a "typical" construction site, but the brochure has been very well received by the development community. It is simple and easy to understand, and City staff makes certain developers and contractors know every site is different and has unique characteristics. These brochures are distributed at the counter, at pre-construction meetings and in the field during inspections.

In addition, the City sends a "Rainy Season Reminder" to all current and active private projects within the City as a tool to educate and remind project owners and developers about the need to strictly adhere to the erosion control requirements during the rainy season.

Inspections are another opportunity staff utilizes to educate owners and developers about City and State runoff and erosion requirements. During inspections, the City Inspector points out problem areas and requires mitigation compliance immediately. If an owner or developer fails to comply, increased

enforcement including fines can be levied and the City Inspector has the authority to halt construction practices.

The City has implemented similar procedures for public projects as those utilized for private projects. That is, during pre-construction meetings (for all grading and public projects) the requirements for erosion control and runoff management are discussed; the City Inspector makes daily inspections of the construction site to ensure appropriate BMPs are implemented and verifies effectiveness; and if necessary, the City Inspector will require modification of practices and activities to reduce runoff or control erosion.

2.4 New Activities and Improvement for FY 08/09

The City will continue implementing the activities described in the Development Planning Component of the City's JURMP. In addition, with the development and implementation of the new SUSMP and LID requirements, the focus for FY 08/09 will include the continued implementation and education of planning staff, builders, residents, and the community at-large as to how regulations of the SUSMP and LID will impact construction. A more streamlined and effective approach will be implemented during permit application to ensure that all applicants are fully aware of the storm water regulations and the consequences of not adhering to them.

In addition, the new Permit necessitated updates to the City's municipal code that will have significant changes this component. The new Permit will necessitate ordinance changes, specifically to the Stormwater Management section (13.10) and the Grading Ordinance (15.40). These ordinances were approved by the City Council and the implementation has already occurred during this reporting period. They will be discussed in greater detail later in this Report.

2.5 Summary

The City has successfully implemented the Development Planning Component of the JURMP. Some of the key accomplishments include:

- Education of planning staff, owners/developers and the community regarding changes in planning processes.
- Implementation of new procedures to ensure new and redevelopment projects do not contribute to an exceedance in water quality standards.
- Addition of Environmental section of permit routing sheet to ensure *all* plans/projects are reviewed by Environmental Specialist for storm water

issues. Addition of post-construction BMP tracking and inspection box on routing sheet to ensure all BMPs are installed according to approved plans.

- Increased cooperation between City departments in implementing SUSMP requirements.
- Developed and implemented new post-construction BMP inventory and inspection tracking database.
- Modified Municipal Code to include new requirements of Permit Order No 2007-0001.

CHAPTER 3
Construction Component

CHAPTER 3: CONSTRUCTION COMPONENT

3.1 Introduction

In accordance with Permit Section D.2, this section of the report describes the City's efforts to reduce construction site discharge of pollutants from the MS4 to the MEP and prevent construction site discharges from the MS4 from causing or contributing to a violation of water quality standards.

In each Annual Report to the RWQCB, this section will include modifications to the City's inventory of active construction sites (private and public), modifications to the City's policies or Municipal Code with respect to construction activities, modifications to identified potential threats to water quality. In addition, this section of each Annual Report will include results from the City's efforts to require BMPs at construction sites and program accomplishments. Also, a summary of activities conducted post-reporting period may be included if the activity is deemed essential to understanding the City's efforts at reducing urban runoff or Permit compliance.

During this reporting period, the City conducted an evaluation of its construction practices and inventoried existing construction sites in an effort to understand potential sources of pollution, threats to water quality, and to develop a plan to mitigate or eliminate urban runoff and pollution from these construction sites by requiring BMPs.

3.2 Modification of Grading Ordinance

There were *significant modifications* of the Grading Ordinance during this reporting period as a result of new requirements in the Permit. Chapter 15.54 (Excavating and Grading) was modified on February 13, 2008 to include the new requirements of the Permit. The amendments update and strengthen the City's regulations regarding stormwater pollution controls. The two main areas of impact in the updated ordinance deal with two new concepts (Hydromodification Plan (HMP) and Low Impact Development (LID)). Hydromodification is a state mandate that requires all local jurisdictions to regulate erosion control and other land-shaping impacts from stormwater runoff.

Low Impact Development is a new requirement including in the new storm water permit. It deals with using various techniques to channel stormwater runoff and the pollution it contains away from the stormwater conveyance system and into

landscaping and other on-site features to limit the amount of pollution escaping from individual parcels.

The last significant modification occurred June 30, 2005 in which the grading threshold was lowered from 200 cubic yards to 50 cubic yards for all construction projects, meaning much smaller projects that would not normally be scrutinized for storm water management would now be required to go through the grading permit process. This gave City staff more discretion on smaller projects to require storm water mitigation, and with it, gave Staff more power to enforce the installation and/or site design modifications to that would not have been required if a grading permit were not necessary.

3.3 Modification of Construction and Grading Approval Process

The modifications to the City's processes for project approvals are described in detail in the previous chapter of this report (Chapter 6). Although Chapter 6 specifically addresses Development Planning, the discussion included a description of various processes that Project Applicants must proceed with in order to obtain approval of their construction plans. Chapter 6 also describes the improvements made to the plan check routing slips as well as the increased education efforts City staff has made to ensure Permit compliance.

The Storm Water Plan Check Comment Form (see Appendix J) may require the Applicant to submit an Erosion Control Plan, proof that the project does not increase runoff from the property and/or implementation of structural changes to redirect runoff onto impervious surfaces.

3.3.1 SUSMP BMPs Installation and Tracking

The City continued implementation of the updated SUSMP process during this reporting period, and there were two *projects that required the SUSMP process review.* The two projects are:

Table 3-1 SUSMP Projects 2007/2008

PROJECT	SUSMP TRIGGER	SUSMP BMPs REQUIRED
735 Genevieve Street	>15 Parking Spaces	Installed permeable pavers and landscaping at end of parking lot and placed landscaping throughout parking lot to allow for infiltration.
201 South Hwy 101	Redevelopment >5,000 square feet of additional impervious surfaces	Installation of structural treatment control BMP (Jensen filtration device), detention pipe and bioswale.

These projects are still in the construction phase at the time of writing this report. However, the City does currently have a SUSMP treatment control BMP inventory for completed projects that is available upon request. In order to demonstrate the City's process for conditioning a SUSMP project from plan review until final occupancy, the following is a brief review of a project that was completed during this reporting period.

3.3.1.1 228 South Cedros Case Study

228 South Cedros (Project) consisted of the construction of a new office building on an already developed lot. The project on its own would not have triggered the SUSMP process because the lot was already impervious, however since the City has relatively few lots that would trigger the SUSMP on their own, the City takes into account the surrounding areas and often requires smaller projects to comply with the SUSMP regulations. The surrounding areas are also impervious in this area, so the City took the opportunity to condition this new construction with requirements that are often associated with stand alone SUSMP projects. The following process occurred during this reporting period.

The developer of 228 South Cedros submitted plans to the City in December 2006. A series of meetings occurred between the developer and the City's Engineering Department to discuss a myriad of issues, one being the post-construction BMP requirements. After a few meetings and discussions regarding the BMP plans, the project was approved with the following post-construction BMPs included:

- Modifications of existing drop inlet catch basin in parking lot to act as a small dry-well. The bottom of the inlet was removed making it an infiltration pit and a pipe installed vertically to allow for ponding and infiltration during non-rain events.
- Installation of a bio-swale along the edge of the parking lot for infiltration.

- Installation of a trench drain along bottom of parking lot for additional infiltration so no water would leave the site during non-rain events.

All of these BMPs were sized by a licensed engineer and verified by the City Engineer.

The above post-construction BMPs were approved by the City for this project. However, as often times are the case, things are altered during the construction phase, many times unauthorized. Because of this, the City now has included a box that can be checked on the initial plan check routing sheet requiring a final inspection of the BMPs prior to final permit and occupancy approval (see Appendix K). This allows the City one final inspection to ensure what was approved initially is what was actually installed. This scenario occurred during this project, and the City was able to catch it and require additional BMP measures. The City's Environmental Programs Manager and Associate Civil Engineer inspected the project and found the following:

- The vertical pipe in the drop inlet catch basin was not as high as approved on the plans. The contractor subsequently raised the pipe.
- The bio-swale on the edge of the parking lot ran into an existing concrete swale (which was uncovered during construction), thereby limited the capacity of the entire swale. The City required the contractor to install an additional infiltration pit at the end of the swale to make up for the unforeseen concrete section of the swale.
- The trench drain was not as deep as the plans showed. The City required the contractor to remove a large section of the asphalt parking lot above the trench drain and replace with permeable pavers to make up for the lack of depth of the trench drain.

This is a brief example of the City's process for requiring the post-construction BMPs and ensuring the contractors are installing them per plan. Construction projects are constantly changing due to field conditions, however the City is confident that its process for review and inspection is more than adequate to ensure SUSMP compliance.

The City does not anticipate many projects that will fall under the SUSMP guidelines, since the City is 95% "built out." However, any project that may be proposed that fall under the guidelines will be put through the process. Planning staff and Engineering staff have been trained and are aware of the SUSMP requirements, and will implement the program when appropriate.

As reported in last year's Annual Report, a significant improvement to the

building permit routing sheet that occurred last reporting period was the addition of the *Environmental* section (Appendix K). As noted in Chapter 2, the routing sheet was modified to ensure *all* permit applications were thoroughly reviewed by the Environmental Programs Manager. Even though the revision occurred before this reporting period, it's significant to mention because it brings the Environmental Programs Manager into the review process for all projects, regardless of size or type. This is significant because no projects will slip through the cracks, and all will be required to address storm water concerns. In addition, as mentioned above, the routing sheet also contains an area to mark if the project requires the installation of post-construction BMPs. Final permit approval and building occupancy will not be granted until a final inspection confirms the BMPs were installed correctly, according to approved plans.

3.4 Construction Site Inventory

This section of each Annual Report will include an inventory of construction sites active during this reporting period. Given that the reporting period for these Annual Reports ends prior to the submittal of the report, the inventory will most likely be slightly outdated by the time the report is reviewed by the RWQCB. However, the City maintains an inventory of current construction project sites, which is always available for review. In addition, the Planning Department maintains an inventory of proposed sites and projects. Large private projects (commercial sites, multi-unit housing, etc.) may remain on the "active" inventory for a significant period of time.

As shown on Table 3-2, there are currently twelve construction sites that required a grading permit active within the City. In addition, City Engineers are in constant discussions with private project property owners during the plan check process to ensure their projects include an Erosion Control Plan, modify drainage alterations to re-route runoff to pervious surface areas, proof that the project would not result in an increase in runoff from the site or other various structural BMPs, and require all projects to control and mitigate all run-off before it reaches the City's MS4 system. Table 3-3 shows all construction projects that have a potential to discharge pollutants but did not require a grading permit. These projects had extensive plan review by City staff and storm water/erosion control conditions placed on them even though a grading permit was not required.

Table 3-4 shows all the pre-construction meetings that were conducted for projects that were deemed high priority as well as all public projects. Pre-construction meetings are vital to storm water compliance, as all issues are

discussed as well as warnings given before there are storm water violations. The City takes this opportunity to educate the contractors as well as warn them about violation fines and citations, to let the contractors know how serious the City is about storm water regulations.

Table 3-2 Construction Site Inventory- Grading Projects 2007/2008

Project Name and Location	Priority Category	Current Zoning	Type of Construction	Project Size	Hydrologic Unit	Drainage	Draining to 303(d) listed water?	303(d) Pollutants of Concern	
583 Canyon Drive	Medium	Residential	Single Family Home	<1 acre	Carlsbad	Runoff drains to MS4 to Pacific Ocean. Low flow drainage to sewer system through low-flow diverter	Yes	Ocean - Coliform	Sto Ma Ero
548 North Rios Avenue	Medium	Residential	Single Family Home	<1 acre	San Dieguito	Runoff drains to MS4 to Pacific Ocean. Low flow drainage to sewer system through low-flow diverter	Yes	Ocean - Coliform	Sto Ma Ero
401 Glencrest Drive	Medium	Residential	Single Family Home	<1 acre	San Dieguito	Runoff drains to MS4 to Pacific Ocean. Low flow drainage to sewer system through low-flow diverter	Yes	Ocean - Coliform	Sto Ma Ero
140 North Rios	Medium	Residential	4-unit subdivision	< 1 acre	San Dieguito	Runoff drains to MS4 to Pacific Ocean. Low flow drainage to sewer system through low-flow diverter	Yes	Ocean-Coliform	Sto Ma Ero
118 Brookdale Place	Medium	Residential	Single Family Home	<1 acre	San Dieguito	Runoff drains to MS4 to Pacific Ocean. Low flow drainage to sewer system through low-flow diverter	Yes	Ocean - Coliform	Sto Ma Ero
327 Pacific Avenue	Medium	Residential	Upper Bluff Maintenance	<1 acre	San Dieguito	Runoff drains to MS4 to Pacific Ocean. Low flow drainage to sewer system through low-flow diverter	Yes	Ocean - Coliform	Sto Ma Ero
1128 Solana Drive	Medium	Residential	Single Family Home	<1 acre	San Dieguito	Runoff drains to MS4 to Pacific Ocean. Low flow drainage to sewer system through low-flow diverter	Yes	Ocean - Coliform	Sto Ma Ero
417/423 Pacific Avenue	Medium	Residential	Upper Bluff Maintenance	<1 acre	San Dieguito	Runoff drains to MS4 to Pacific Ocean. Low flow drainage to sewer system through low-flow diverter	Yes	Ocean - Coliform	Sto Ma Ero
311-319 Pacific Avenue	Medium	Residential	Upper Bluff Maintenance	<1 acre	San Dieguito	Runoff drains to MS4 to Pacific Ocean. Low flow drainage to sewer system through low-flow diverter	Yes	Ocean - Coliform	Sto Ma Ero

147 North Sierra Avenue	Medium	Residential	Single Family Home	<1 acre	San Dieguito	Runoff drains to MS4 to Pacific Ocean. Low flow drainage to sewer system through low-flow diverter	Yes	Ocean - Coliform	St Ma Er
214 South Rios Avenue	Medium	Residential	Single Family Home	<1 acre	San Dieguito	Runoff drains to MS4 to Pacific Ocean. Low flow drainage to sewer system through low-flow diverter	Yes	Ocean - Coliform	St Ma Er
134 South Granados	Medium	Residential	Single Family Home	<1 acre	San Dieguito	Runoff drains to MS4 to Pacific Ocean. Low flow drainage to sewer system through low-flow diverter	Yes	Ocean - Coliform	St Ma Er
733 Genevieve	High - SUSMP	Commercial	Restaurant	<1 acre (15 Parking Spaces)	San Dieguito	Runoff drains to Steven's Creek – Drains to San Dieguito Lagoon	Yes	Ocean - Coliform	SU Co Re

Table 3-3 Construction Site Inventory
Small Private Projects Requiring Plan Review/Modifications

Address	Type / Priority	General Storm Water Comments	Storm Water Plan Check Comment Form	Comments
233 Acacia Ave	Residence / Low	Yes	Yes	Erosion Control Plan Needed. Proof runoff not increased. Location of Impervious drainage required to be shown on plans
319 Barbara Ave.	Residence / Low	Yes	No	Storm Water BMPs required throughout project, no discharges allowed off-site
533 Barbara Ave.	Residence / Low	Yes	Yes	Erosion Control Plan Needed. Proof runoff not increased. Location of Impervious drainage required to be shown on plans.
628 Canyon Place	Residence / Low	Yes	Yes	Erosion Control Plan Needed. Proof runoff not increased. Location of

					Impervious drainage required to be shown on plans
319	Barbara Ave.	Residence / Low	Yes	No	Storm Water BMPs required throughout project, no discharges allowed off-site
662	Canyon Dr.	Residence / Low	Yes	Yes	Erosion Control Plan Needed. Proof runoff not increased. Location of Impervious drainage required to be shown on plans.
702	Castro Street	Residence / Low	Yes	Yes	Erosion Control Plan Needed. Proof runoff not increased. Location of Impervious drainage required to be shown on plans.
246	N. Cedros Ave,	Multi-Use / Low	Yes	Yes	Erosion Control Plan Needed. Proof runoff not increased. Location of Impervious drainage required to be shown on plans
607	N. Cedros Ave.	Residence / Low	Yes	Yes	Erosion Control Plan Needed. Proof runoff not increased. Location of Impervious drainage required to be shown on plans
505	Ford Ave.	Residence / Low	Yes	Yes	Erosion Control Plan Needed. Proof runoff not increased. Location of Impervious drainage required to be shown on plans
508	Glenmont	Residence / Low	Yes	Yes	Erosion Control Plan Needed. Proof runoff not increased. Location of Impervious drainage required to be shown on plans
718	North Granados Ave.	Residence / Low	Yes	No	Storm Water BMPs required throughout project, no discharges allowed off

1426	Highland Drive	Residence / Low	Yes	No	Storm Water BMPs required throughout project, no discharges allowed off
645	Ida Avenue	Residence / Low	Yes	No	Storm Water BMPs required throughout project, no discharges allowed off
837	Ida Avenue	Residence / Low	Yes	Yes	Erosion Control Plan Needed. Proof runoff not increased. Location of Impervious drainage required to be shown on plans
412	Marview Drive	Residence / Low	Yes	No	Storm Water BMPs required throughout project, no discharges allowed off
614	Marvista Drive	Residence / Low	Yes	No	Storm Water BMPs required throughout project, no discharges allowed off
624	Ridgeline Place	Residence / Low	Yes	No	Storm Water BMPs required throughout project, no discharges allowed off
516	N. Rios Avenue	Residence / Low	Yes	Yes	Erosion Control Plan Needed. Proof runoff not increased. Location of Impervious drainage required to be shown on plans
701	N. Rios Avenue	Residence / Low	Yes	Yes	Storm Water BMPs required throughout project, no discharges allowed off
1223	Santa Luisa Dr	Residence / Low	Yes	No	Storm Water BMPs required throughout project, no discharges allowed off
1507	Santa Sabina Ct	Residence / Low	Yes	Yes	Storm Water BMPs required throughout project, no discharges allowed off
1050	Santa Queta	Residence / Low	Yes	Yes	Erosion Control Plan Needed. Proof runoff not increased.

					Location of Impervious drainage required to be shown on plans.
506	Seabright Ln	Residence / Low	Yes	No	Storm Water BMPs required throughout project, no discharges allowed off
717	Seabright Ln.	Residence / Low	Yes	No	Storm Water BMPs required throughout project, no discharges allowed off
1050	Solana Drive	Residence / Low	Yes	No	Storm Water BMPs required throughout project, no discharges allowed off

Table 3-4 Public Projects Pre-Construction Meetings 2007/2008

DATE	PROJECT	DETAILS
7/20/2007	Street Repair and Slurry Seal	Erosion Control/Storm Water requirements discussed.
11/29/2007	N Cedros Avenue Drainage Improvement	Erosion Control/Storm Water requirements discussed.
3/20/2008	Hwy 101 Tree Replacement	Erosion Control/Storm Water requirements discussed.
3/18/2008	Tide Beach Seawall Maintenance	Erosion Control/Storm Water requirements discussed.
2/20/2008	Streetlight Installation Project	Erosion Control/Storm Water requirements discussed.
3/25/2008	Plaza Street Improvements	Erosion Control/Storm Water requirements discussed.
3/20/2008	Hwy 101 Tree Replacement	Erosion Control/Storm Water requirements discussed.
3/18/2008	Tide Beach Seawall Maintenance	Erosion Control/Storm Water requirements discussed.

**Table 3-4is not meant to be part of the Construction Inventory. This table is simply to demonstrate that the City conducts Pre-Construction Meetings prior to public projects and that storm water issues are discussed. The projects that require storm water inspection oversight from this table are included in their respective tables (Table 3-1 and 3-2).*

3.5 Construction Follow-Up Activities:

The City is very aggressive with its construction inspections and follow-up, and unless otherwise stated, all follow-up corrective activities were properly addressed and corrected within seven (7) working days. Many times the corrections are made immediately, however the City's policy is to allow the responsible party seven days to correct the violation. However, if there is an immediate threat to public health or safety, the City can require immediate corrective actions.

As stated above, the City takes a very pro-active approach toward construction projects. Plans are heavily scrutinized and discussions with the contractors often happen before the project even begins. The City has found that initiating contact with the contractor before the project even starts and maintaining contact throughout the construction process, leads to continued compliance with storm water regulations. Since the City of Solana Beach is relatively small and built out, the City's inspector has the ability to visit sites almost daily, and at a minimum weekly. Due to this high level of supervision, sites are not allowed to get out of compliance with storm water BMPs. That being said, there are instances where accidents do take place, most often when concrete trucks and pumpers are involved. The only violations from construction sites are listed below in Table 3-5. As you can see, no construction sites were cited for continued storm water violations except for the occasional accident that occurs often at construction sites.

Table 3-5 Construction Violations 2007/20

DATE	COMPANY	VIOLATION	ACTION
7/17/2007	Ismael's Concrete Pumping	Washing down concrete truck, no containment	Stop work, immediate clean-up. $100 Citation issued
9/10/2007	Palomar Transit Mix	Washing down concrete truck, no containment	Stop work, immediate clean-up. $100 Citation issued
9/19/2007	Salerno's Concrete Breaking, Trenching, Grading	Washing down dirt and mud in street from tracking	Water did not reach storm drain, verbal warning issued
11/9/2007	GRS Construction	Draining a Jacuzzi and minor storm water construction BMP violations	Stop draining Jacuzzi into street. Clean up construction site. Verbal warning issued
12/14/2007	Bryan Outcault, Inc	Washing down concrete truck, no containment	Stop work, immediate clean-up. $100 citation issued

12/26/2007	Fun Builder, Inc.	Washing down concrete from finished driveway, no containment	Stop work, immediate clean-up. $200 fine issued for violation and non-compliance
1/4/2008	Blue Moon Pool	Plaster spill onto street and gutter, no containment	Stop work, immediate clean-up. Spill did not reach storm drain. Written NOV issued
1/9/2008	Burger Construction	Testing new sprinkler lines, no containment, dirt and mud flowing into street	Stop work, immediate clean-up. $100 citation issued
2/13/2008	Streamline Concrete Pumping	Washing down concrete truck, no containment	Stop work, immediate clean-up. $100 citation issued
4/23/2008	True Blue Pools	Plaster discharge into City street	Stop work, immediate clean-up. $100 citation issued

3.6 Capital Improvement Projects Inventory

In addition to the inventory for private projects, City staff believes it is equally important to discuss both public (Capital Improvement Projects [CIPs]) and private projects under construction.

CIPs are held to the same *or stricter* standards for reducing runoff as private projects. BMPs, Erosion Control Plans, and structural changes to reduce or mitigate runoff pre and post-construction are required. Most, if not all, CIPs in Solana Beach are constructed by private contractors selected through the standard public bid process. Contractors are informed *prior to submitting a bid,* that the City requires adherence to RWQCB standards, Permit and City storm water regulations. To ensure compliance the City Inspector conducts a daily inspection of each CIP site during construction. Stop Notices are issued if the contractor fails to comply with any storm water / erosion control regulations.

Additionally, the Environmental Programs Manager is included in pre-construction meetings that are required for *all* public projects. A line item discussing NPDES regulations and requirements is standard for all public project agendas (Appendix L). This is just another way to ensure that all contractors are aware of the requirements before the project begins, and to help with possible enforcement actions.

In FY 06/07, the City Inspector did not issue any Stop Notices to contractors for failing to comply with storm water/erosion control regulations.

3.7 Threat to Water Quality Prioritization

In accordance with Permit Section F.2.e., the City described the criterion for designation of construction projects as high, medium, or low priority, in its JURMP. *There are **no changes** to report in the City's criterion for determining a project's impact or threat to water quality.* The City's prioritization criterion meets the requirements of the new Permit, so no changes were needed.

Of the active projects currently under construction, *there are no changes to report with respect to the potential threat to water quality*. The City is 95% "built out" which does not leave much room for major development projects. The only projects that would fall under the high priority would be significant redevelopment projects, which there were none of during this reporting period. The City is closely monitoring three potential projects that may fall under the high priority in the next reporting period, pending permit approval. It is important to note that

City staff is currently working with the prospective developers to ensure they integrate beneficial storm water designs during the design phase. The following projects are being closely monitored by City staff:

1) Multiple plans have been submitted to the City to build a hotel/restaurant and condos on the east side of Highway 101 at the northern tip of the City (commonly referred to as the Magellan site), however it has been met with some opposition within the community and a compromise is being sought. Plans still have not been adopted by the City Council at the time of this report. If a project is accepted for development in that area during the next reporting period, it will be a high priority project subject to the SUSMP process because of its proximity to the San Elijo Lagoon, a 303 (d) listed water body.

2) Another *potential* high priority project that is being discussed is a large multi-use residential/commercial development on what is currently the North County Transit District's (NCTD) train station property. This proposed project has also come under heavy scrutiny from the public and no plans have been approved by the City. If a project is accepted for development on this site during the next reporting period, it will be a high priority project because of its size. It will be subject to the SUSMP requirements much like the project mentioned above.

3) A potential high priority project that is still in the planning stage is the significant redevelopment of a portion of a commercial property located just east of Interstate 5 at Lomas Santa Fe. Currently, there exists a large commercial site consisting of multiple large stores, including Vons, Marshalls and a Big 5 Sporting Goods store. The site contains a large parking lot and conceptual plans have been discussed that would add another large store to the complex and redevelop another portion of the existing buildings. This project would be significant for Solana Beach and is being closely monitored through the beginning stages of the design.

The City's Capital Improvement Projects, available upon request, will be considered at least a medium priority for several reasons. First, priority categories may only result in a change in the frequency of oversight and the City Inspector visits each public construction site on a daily basis, which therefore eliminates the need for delineation in priority. Second, given the City's proximity to the Pacific Ocean, all erosion, sediment and runoff control practices are very important and are expected to be very beneficial to the community. Therefore, the designation of "medium or high priority," improves the likelihood that CIPs will not contribute to an exceedance of water quality standards. It doesn't make

sense to categorize a CIP project as low priority since the City holds itself to a higher standard than the rest of the community. The City strongly feels it should lead by example, and since the City Inspector is onsite everyday at CIP projects, storm water issues are addressed daily.

Two highly visible and much anticipated public projects were completed during this reporting period. First, the much anticipated public Coastal Rail Trail project continued during this reporting period. Due to the size and location of the project, the City felt it prudent to hire an independent inspector just for this project. The City does not have the resources to dedicate a full time employee to this project, so it was necessary to hire some outside help. Included in the duties of the inspector was storm water compliance. The inspector was required to complete weekly reports on storm water compliance and submit them to the City's Environmental Specialist for review. This project has been completed and is no longer in the City's inventory.

The other highly anticipated project that was completed during this reporting period was the Fletcher Cove Community Park redevelopment. This project consisted of turning a large, completely impervious parking lot into a multiuse community park with large areas of grass and landscaping. The park is located directly adjacent to the ocean which meant that extra care was given during the planning phase to ensure there would be no negative impacts to the environment. Some highlights of the park include:

- Turning approximately half of the parking lot into a large grassy area for the community to enjoy

- Planting native, drought tolerant plants to increase the amount of landscaping and pervious areas

- Creating a small patch of artificial turf located adjacent to the coastal bluff to eliminate irrigation and prevent bluff failures

- Installing a new shower that no longer drains to the ocean but instead is redirected into the sewer system. The shower also contains a sand trap to remove sand before it can impact the sewer system

- The installation of a CDS unit to treat all the runoff from the site prior to discharge to the sewer system

- The installation of nine (9) new dual trash/recycling containers to provide recycling options for the visitors

- The installation of a new, pervious asphalt low flow infiltration system to a parking lot across the street to compensate for the loss of parking as a result of this redevelopment. The City installed this system to treat runoff from an existing parking lot.

This new park is a testament to the community's passion for the environment. The park will have an environmental theme throughout and will not drain any runoff towards the ocean. New catch basins are going to be installed at the front of the site to capture runoff from up the street and divert it into the sewer system.

3.8 BMPs and Pollution Prevention Methods

As noted in the City's JURMP, the City requires general and specific BMPs for construction sites and with the modifications in the development review process; the City is able to require site design, source control and treatment BMPs prior to construction. Owners and developers are provided a BMP Construction Brochure (see Appendix I), and they meet with engineering staff to develop methods to ensure that runoff is not increased as a result of their proposed project. The City believes that working with the contractors during the plan approval process is the most critical time period to ensure that appropriate BMPs (structural, pre-and post-development) are built into the project *before* pollutants are allowed to enter the storm drain conveyance system.

BMP Selection

The City does not require a specific or certain type of BMP (except for SUSMP projects) for all projects similarly designed. Instead, staff members evaluate each project on its own merit and determine if modifications to the plans are required to control erosion and/or reduce runoff. City staff works together with property owners and developers to find satisfactory solutions to project problems.

Pollution Prevention Methods (PPM)

- Construction limitations – the City limits construction during the wet season when construction plans warrant and when it is feasible. Implementation of this PPM reduces the potential for pollution.

- Education – the City sends out letters to all active public and private

construction projects at the start of the wet season to remind them of the importance of implementing the required BMPs (see City JURMP for a description) and the importance to take precautions during storm events. Additionally, a BMP Construction Brochure is attached to all permit approvals and distributed at City Hall Engineering and Planning counters to all prospective developers and interested members of the community.

- Inspections – as discussed below and elsewhere in this report, the City Inspector and Environmental Programs Manager visit construction sites and keep a record of BMP implementation and effectiveness. When a developer does not comply with the City Inspector's request to modify practices to reduce runoff or erosion, construction activities can be halted at the site and fines may be levied.

3.9 Enforcement and Inspections

Enforcement of the City's Municipal Code is conducted by the City's Code Enforcement Officers. The City Inspector and Environmental Programs Manager conduct inspections of construction site BMPs, but if enforcement actions above written NOVs are necessary, Code Enforcement Officers are notified.

Code Compliance

The City has developed procedures to track and monitor citations issued to property and business owners, visitors, and developers. These procedures include the adoption of an Administrative Fine process which was adopted by the City Council on June 18, 2002. This process allows Code Enforcement Officers to issue administrative citations and penalties in between $100 and $1,000 for each day the violation occurs; this applies to construction sites, public and private.

In addition to the administrative fine process, the City adopted a Civil Penalty Matrix (Matrix). This is a very significant tool that has greatly enhanced the enforcement of storm water violations. The City felt it was necessary to develop a matrix to evaluate each violation in the field, and to respond to them in a consistent and appropriate manner. The Matrix was designed so that anybody in the field who witnesses a violation can apply the parameters of the Matrix to decide the appropriate way to respond. This greatly enhanced the efficiency of the storm water program, as now not all violations would require multiple staff to respond or, if a fine was necessary, staff did not have to wait for approval from upper management to issue it. This would sometimes take as long as month, but

with the Matrix, this could happen instantaneously in the field.

The Matrix was modeled after the City of San Diego's Civil Penalty Matrix. The Matrix was scaled down and modified for the type of violations most often encountered in Solana Beach, but the foundations are very similar. The Matrix basically breaks down the violation into two categories, Environmental Significance and Compliance Significance. These two categories are further broken down into Moderate, Major, and Severe. According to the type of violation and the history of the violator, the penalties will be placed in the appropriate section of the Matrix. This ensures that all violations are treated consistently, and the feelings of the investigating officer do not interfere, so the enforcement actions do not vary. This, according to our Code Enforcement Department, is extremely important if a fine gets challenged in court. The Matrix is currently being used, and a fine has not been successfully challenged yet. The Matrix was developed in cooperation between the City's Environmental Specialist and Code Enforcement Officer, further showing the great working relationship between City Departments.

The Matrix is used for all violations, not just construction related offenses. It can be applied to municipal, commercial, and residential offenses. For the complete Civil Penalty Matrix, see Appendix M.

The City also utilizes special radios that are used to communicate between Staff to report storm water violations. The radios were purchased so communication can be made at all times with appropriate staff, in the case of a storm water violation. The radios also can connect with the City's Code Enforcement Department, Fire Department, and Marine Safety Department, as well as the City of Del Mar Code, Fire, and Marine Safety Departments. This allows for immediate contact with appropriate staff to respond to any situation, including storm water. Before the radios, people either had to be paged or had to be at their desks, which proved to be very inefficient. The delays would often cause staff to miss violations because they did not get the information in time. The radios have allowed for much better communication and increased enforcement, as violators are often contacted while the violation is occurring.

Site Inspections

All construction sites that have a potential to discharge pollutants are inspected by the City Inspector and Environmental Programs Manager, this includes public and private development projects. As stated in the City's JURMP, it was

anticipated that private development projects would be inspected by the City's Building Department, which is shared with the City of Encinitas. However, a partnership to handle inspections did not develop. As a result, the City Inspector and Environmental Programs Manager have been visiting all development projects in the City, unless the project is an indoor remodel. In that case, the City Inspector would only visit the property if time and resources permit, and if prohibited activity is noticed, a letter is sent to the property owner.

With the combination of the City Inspector and Environmental Programs Manager, the City is often times able to inspect construction sites more frequently than required by the Permit. Both the City Inspector and Environmental Programs Manager devote time out of their schedule to visually monitor all construction sites. Sometimes this is done in tandem, but often times it is simply a drive by of all sites. They meet at the end of the day and discuss any problems observed, if any. This has been very successful in preventing pollution from leaving construction sites, as most problems are fixed before any illegal discharges leave the property. Since there are not too many projects in the City, this type of monitoring is highly successful, as private project managers and city staff communicate very effectively.

In addition to the visual inspections discussed above, more thorough on-site inspections are conducted in accordance to the City's JURMP. These inspections are conducted by both the City Inspector and Environmental Programs Manager in conjunction with the project superintendent. These inspections are set-up beforehand to ensure that the project superintendent has time set aside to walk the site with City staff and discuss storm water compliance. As reported in the newly revised JURMP, all high priority construction sites will be inspected, at a minimum, on a bi-weekly basis during the wet season and more frequently when deemed necessary during both wet and dry seasons. All medium priority sites will be inspected at least once per month during the wet season and more frequently when deemed necessary during both wet and dry seasons. All low priority sites will be visited on an as needed basis during both the wet and dry seasons, with more inspections likely during the wet season months.

If any possible violations are noticed during either the visual inspections or on-site inspections, City staff may stop and talk with the property owner, write a letter, request Code Compliance to issue a citation, issue a "stop work notice" or a combination of these activities. The City's new adopted Civil Penalty Matrix, discussed previously, is also used for construction related violations.

In addition, City staff conducts informal visual inspections at all medium and high priority construction sites prior to a rain event to ensure all BMPs are installed correctly and working properly. A follow-up informal visual site inspection is then conducted after the rain event to monitor how effective the installed BMPs were and if any modifications need to be done. Construction sites are constantly evolving and require constant monitoring, which the City staff understands and enforces.

Enforcement of BMPs

During inspection of construction sites, City staff verifies that appropriate BMPs have been implemented and are effective (sediment is on-site, erosion control methods in place, runoff mitigated or not leaving property, etc.). In addition, City staff has the authority to immediately require new BMPs if erosion control, runoff, or other activity is taking place that contributes pollutants into the City's MS4.

During this reporting period, the City staff conducted inspections of all CIPs and mandatory inspections of private projects within the City's jurisdiction and did not need to report any non-compliant sites to the RWQCB. Any site that was determined to be out of compliance was immediately notified and the problems were resolved within the time frame specified by the City.

Educational Activities

The education activities conducted for construction sites consisted mainly of verbal conversations between the contractor/developer and City staff. Because of the relatively few projects in the City, it is possible and practical to discuss issues on-site with the contractors. Also, they are given the Construction BMP brochure and storm water issues were specifically brought up. The City believes that it is much more effective to talk with the contractor face-to-face about these concerns and, since we are a small city, it has been and continues to be very effective.

City staff previously developed an educational Construction BMP guide (Appendix N) that is available upon request to actual and prospective developers/contractors at City Hall. This BMP Guide provides some background on the storm water regulations and provides examples of proper storm water management for construction sites. This used to be the primary tool used to disseminate information/guidelines to the development/construction community. However, as discussed briefly before in this report, a new and improved tool has

been developed by the North County Storm Water Program and is now being distributed to all prospective and active construction applicants.

A new educational brochure (see Appendix O) was developed by the City during this reporting period that focuses on general construction site requirements relating to all City codes. The brochure, titled "Construction Site Supervision in Solana Beach: Code Requirements and Good Neighbor Practices," was requested by the City Council as a general educational tool to be distributed to all contractors. This has been very well received by the development community because it addresses everything from construction hours to permitting to storm water BMPs. This is another example of the City's proactive approach to community education.

The new tool that was developed and discussed in last year's Annual Report is the Construction BMP Brochure (Appendix I). This was developed by the North County Storm Water Program to provide a consistent message and requirements to all contractors/developers in the region, regardless of where they are doing work. This brochure was meant to supplement each individual cities educational outreach to ensure that the development community was receiving a consistent message regarding proper construction practices. This brochure has been very well received by the development community and in Solana Beach has replaced the Construction BMP Guide as the primary educational tool distributed to the development community. The Construction BMP Guide is still available upon request at the Planning/Engineering counter, but the Construction Brochure is now attached to all permit plans routed through the City.

Additionally, as discussed previously, the recent addition of the *Environmental* section to the building permit checklist has afforded the City another opportunity to educate the applicant/contractor on the storm water regulations. Every project that has the potential to discharge pollutants to the MS4, regardless of size or type, is reviewed by the Environmental Programs Manager and commented on. The Environmental Programs Manager always includes a statement on the routing sheet to remind the applicant/developer, "No discharges permitted off-site during the construction process and erosion control BMPs must be utilized and maintained throughout the life of the project." This statement varies slightly depending on the project but is always included to remind the applicant/contractor of their responsibilities. It is just another reminder that they must adhere to the storm water regulations, and sometimes, it will result in a conversation between the applicant and City staff in the beginning of the project

phase that can become very beneficial in establishing a good working relationship that carries throughout the project.

Another educational tool utilized by the City to get the word out to our residents was a series of articles published in the bi-annual newsletter "Shorelines" put out by the City. The newsletter is received by everyone in the community and is very popular and eagerly anticipated. A variety of storm water topics are touched upon, including construction. These articles are intended for smaller projects such as remodeling and single home construction, but it is still very important nonetheless. These smaller projects hold a much higher priority in our City because of the lack of larger projects; so educating the individual homeowners is extremely vital. Also, the City has found that the smaller projects have the most potential violations, as most are owner/contractor situations where they are not aware of the storm water regulations. The larger projects often have erosion control specialists and employees who are required to attend storm water education classes. The newsletter comes out four times a year, and are included as Appendices and described in previous Chapters of this Report.

Special Project BMP Education

A new tool developed during this reporting period was the development of a specialized BMP notice given to a specific type of construction activity. For example, during last reporting period, a large scale effort was made to underground overhead power lines for view impact reductions around the City. These were special projects that did not go through the normal permitting process. Therefore, these plans would not have been reviewed by the normal parties, and since the City is dedicated to storm water protection, City staff developed a special "Undergrounding Utility District Construction Best Management Practices" handout (Appendix P). This was a one page handout to be included in every permit application submitted by those participating in this program. Since the process of undergrounding utilities involves moving a lot of dirt, the City felt it prudent to take this extra precaution to ensure the proper BMPs are in place.

If any special projects in the future require project specific BMPs, the City is dedicated to developing materials to distribute to the applicants.

Post Construction BMP Inventory and Inspection

Another major change that occurred during this reporting period, as a result of the new Permit, is the requirement that the City must develop an inventory of all

post construction BMPs and conduct annual inspections. The City now has the ability to ensure that all post construction BMPs are installed and maintained by the contractor and/or property owner. The *Environmental* review section on the routing sheet contains a section that can be marked for inspection required prior to installation or prior to final approval of the project. This was done to ensure post construction BMPs required on the plans are actually installed and ensures maintenance through a special agreement that is recorded through the County of San Diego. The City found in some cases that the post construction BMP(s) are sometimes buried in the ground before inspection, thereby making it impossible to inspect and ensure it was actually installed. So, there is now a spot on the routing sheet that will put the onus on the contractor to call for an inspection during the installation to ensure it is actually being done. This way it can be more efficiently documented and inspection required before the permit gets final approval. In addition, this allows the Environmental Programs Manager the ability to document in a spreadsheet the type of BMP, location and inspection frequencies as the plans are being reviewed. This will assist City staff with post construction inspection requirements way before the project even begins.

Construction and Demolition Debris Recycling Ordinance

In January 2008, the City Council adopted a Construction and Demolition Debris Recycling Ordinance (C&D Ordinance). This ordinance requires all demolition projects and construction projects over a valuation of $100,000 to submit an approved Waste Management Plan (WMP) detailing how the contractor will recycle at least 50% of the waste generated from project. The contractor will not receive final permit approval until it's proven at least 50% of the waste was recycled.

This is an extremely significant accomplishment for the City and its clean water efforts. According to the National Association of Home Builders (NAHB) Research Center, the building of a 1,700 square foot home requires:

- 9,700 board feet of lumber
- 750 copper wire
- 2,500 square feet of insulation
- 6,484 square feet of drywall
- 170 feet of copper pipe
- 55 gallons of paint
- 55 cubic yards of concrete

This is a significant amount of waste that would normally end up in the local

landfills, or worse, illegally dumped in the environment. This new ordinance requires contractors to recycle their used materials, guaranteeing that it does not pollute the environment. This is another example of the progressiveness of the community as a whole when it comes to protecting the environment.

3.10 New Activities and Improvements in FY 08/09

City staff will continue to review all plans, enforce BMP (site, source and treatment) installation, conduct inspections and keep an accurate inventory of the private and public projects and post construction BMPs. The City is committed to working with the other cities within its respective watersheds (Carlsbad and San Dieguito) to ensure compliance with all storm water regulations and continue to develop watershed educational information. Some activities for next reporting period will focus on construction projects to target sediment, which is a high priority pollutant in both watersheds.

The primary focus for FY 08/09 will be the continued development and implementation of the LID program and new SUSMP. These are major program components and the City is committed to working with the other Copermittees to develop a high quality work product that can be implemented region-wide. These two components are extremely important to maintaining and enhancing the water quality in the region as more and more land is developed. As mentioned in last year's Annual Report, a major transition has been occurring within the City and it will continue into FY 08/09. This significant event is the moving of the City's Building Department in-house. Historically, Building Department services were provided to the City by a private company, EsGil. EsGil provided building services to the cities of Solana Beach, Encinitas and Del Mar on a contractual basis. However, the Building Department was housed at the City of Encinitas, and there was relatively no relationship between City staff and EsGil staff. This has now changed as EsGil has moved staff into the Solana Beach City Hall. This has allowed for staff interaction and cooperation, which has been tremendously successful. Bringing the Building Department into Solana Beach City Hall has provided the following benefits:

- Bringing all plans, review and inspections in-house. This will allow the City more control over the plan review process and inspection process. Previously, EsGil determined the amount and extent of review and inspections, and was not willing to accommodate storm water into their processes. This left the review of plans and inspections up to existing

staff, straining already limited resources. Now, EsGII staff and City staff routine discuss plans and work collaboratively to ensure consistency, including storm water issues.

- Since the development and implementation of this new transition will take some time and adjustments, it is not anticipated that it will be fully integrated until probably the FY 08/09 reporting period. However, City staff is very excited about this new development, as more staff will be available to assist in the storm water program. Additionally, as the SUSMP is updated and LID program implemented, it will be important to have the input and guidance from a dedicated Building Department staff in house. This way, all departments will be on board during the development stages to ensure buy-in and support of the new programs.

3.11 Summary

The City has been effective at implementing a plan-check process that has resulted in the implementation of BMPs, site design modifications, structural changes and runoff mitigation activities in project proposals and/or construction activities. Both public and private construction projects are subject to the City's strict standards, which provide a consistent approach to reducing urban runoff from construction activities. The City has effectively integrated the new stricter standards of the Permit, including the SUSMP, into its plan-check review process. The City has also begun developing project specific construction BMPs for large-scale specialized construction activities such as the Undergrounding Utility Districts that are forming around the community.

The City will continue to actively analyze the construction program and make necessary improvements/modifications to ensure the protection and enhancement of the local water quality. An example was the addition of the Environmental review section of the permit routing sheet. The City felt like some smaller projects, although not specifically required to be plan reviewed and inspected by the Permit, may have the potential to be overlooked. Therefore, now *all* plans are reviewed by the Environmental Programs Manager and necessary changes can be made before plans are approved. Also, the reduced grading ordinance modification demonstrates the City's commitment to reviewing as many projects as possible and integrating storm water management requirements to projects that would have been overlooked in the past.

The City is actively working with the other regional Copermittees on the

development and implementation of the two significant new requirements, the HMP and LID. These two programs are significant additions that will require City staff to work with the other Copermittees to develop regional programs to address runoff from construction projects. These new programs will also include an educational component, which the City will develop in conjunction with the region. The City is committed to participating with the regional Copermittees to develop and implement these respective programs, even though the HMP is not expected to affect any projects within the City. The City values itself as an active Copermittee, and allocated funds to the HMP development, even though it is highly unlikely to affect any projects within the City's jurisdiction.

CHAPTER 4
Municipal Component

CHAPTER 4: MUNICIPAL COMPONENT (EXISTING DEVELOPMENT)

4.1 Introduction

In accordance with Permit Section F.3.a, this section of the report describes the City's efforts to prevent or reduce pollutants in runoff from municipal land use areas and activities.

In each Annual Report to the RWQCB, this section will include modifications to the City's inventory of municipal facilities, pollutant source identification and potential threats to water quality. In addition, this section of each Annual Report will include results from the City's efforts to implement BMPs at municipal facilities, program accomplishments and activities. Also, a summary of activities conducted post-reporting period may be included if the activity is deemed essential to understanding the City's efforts at reducing urban runoff or Permit compliance.

Municipal facilities and areas within the City of Solana Beach include public parks, public buildings, streets, roads, and parking lots, a public works yard, and the MS4 system. During this reporting period, the City conducted a comprehensive re-evaluation of its municipal sites to understand potential sources of pollution, threats to water quality, and to develop a plan to mitigate or eliminate urban runoff and pollution from its facilities by implementing Best Management Practices (BMPs). This was accomplished through inspections of all public facilities.

4.2 Inventory of Municipal Facilities

During this reporting period, in response to the requirements of the Permit and in an effort to improve the quality of water in the region, the City once again inventoried its municipal sites and activities. Table 4-1 presents the City's municipal facilities, by prioritization level. *There are no changes in the City's inventory of municipal sites from those submitted to the RWQCB in the City's last Annual Report.*

The City's municipal facilities include five public buildings (City Hall, one Fire Station, the Marine Safety Center and the Community Centers at La Colonia Park and Fletcher Cove), one Public Works Yard, six public parking lots, City streets and roads, the Municipal Separate Storm Sewer System (MS4) and the beach (which consists of four access locations: Del Mar Shores, Seascape Sur, Tide Beach Park, and Fletcher Cove).

Table 4-1
Existing Municipal Facilities, By Priority Level

Facility Name	Facility Address	Type of Activity	Priority
Public Works Department	1764 Highland Drive	Materials storage, fleet parking, administration	High
North Seascape Sur Surf Park	Public beach access west of Highway 101	Public beach	High
Roads, streets	Citywide	Circulation	High
MS4 System	City-wide	Storm-water conveyance system	High
Fletcher Cove Parking Lot	North end of Plaza St.	Parking	High
Distillery Parking Lot	Sierra and Lomas Santa Fe		
Solana Beach and Tennis Club	West end of Dahlia St.		
Seascape Sur Parking Lot	Seascape Sur Easement		
Del Mar Shores Parking Lot	Sierra Ave. near Del Mar Terrace		
Del Mar Beach Club East Parking Lot	Sierra Ave. east of Del Mar Beach Club Dr.		
City of Solana Beach Fire Department	500 Lomas Santa Fe	Public Building - Fire Station, fleet and fire equipment storage	Medium
City of Solana Beach City Hall	635 S. Highway 101	Public Building -Administrative	Low
Marine Safety Department, Fletcher Cove	111 S. Sierra Ave.	Public Building Administrative, marine safety equipment storage	Low
Fletcher Cove Community Center	111 S. Sierra Ave.	Public Building – Community Center	Low
La Colonia Park and Community Center	715 Valley Ave	Public Park and Building – Community Center, administrative, park	Low
Tide Beach Park	302 Solana Vista Drive	Public beach	Low
Del Mar Shores	190 Del Mar Shores	Public beach	Low

4.2.1 Inspection Frequency of Municipal Sites

The City inspects all of its municipal sites listed above on a continuous basis. Every winter, prior to the wet season, the Public Works Yard (Yard) is given a complete inspection and all Public Works employees are given a complete storm water refresher training seminar. Also, the Public Works Crew is put through a practice run of the Weather Triggered Action Plan to prepare for the upcoming wet season. At this annual inspection, the current inventory of the storm water BMPs kept on-site (gravel bags, bio-filter rolls, straw rolls, etc) is documented

and additional supplies are ordered if necessary. Visual inspections are conducted on a daily basis by the Public Works Crew. Here are the specific dates and numbers of inspections for the City's municipal areas:

Public Works Yard: Weekly facility visual inspections by City staff and training every October to prepare for wet season. Inspection and training conducted last year on June 25, 2008.

Roads and Streets: Daily visual inspections by City Staff. Every street is swept at least once per month. Main arterial streets are swept once per week and collector streets are swept every other week. These frequencies are set based on the size and frequency of use by vehicles on a daily basis.

Parking Lots: Weekly visual inspections by City Staff. Every City parking lot is swept once per month. In addition, the Fletcher Cove Park parking lot is swept monthly during the summer months due to an increase in use during the summer.

MS4 System: Weekly visual inspections by City Staff. Highest priority catch basins cleaned annually (those with accumulated debris inside). All catch basins were inspected and 17 catch basins were cleaned. Approximately three (3) cubic yards of debris was removed from the MS4 system during this reporting period

Fire Department: Daily visual inspection by City Staff. Last inspection was conducted on June 25, 2008.

City Hall: Daily visual inspection by City Staff. Last inspection was conducted on June 25, 2008.

Marine Safety: Daily visual inspection by City Staff. Last inspection was conducted on June 25, 2008.

Parks and Recreation Department (La Colonia Community Center): Daily visual inspection by City Staff. Last inspection was conducted on June 25, 2008.

Beaches: Daily visual inspection by City Staff (Marine Safety Department).

4.2.2. Follow-up Activities

The City did not have any follow-up activities as a result of municipal inspections. All facilities were implementing the necessary BMPs and all employees were

properly trained. The Public Works Yard required no corrective action as everything remained in compliance. The Wet-Weathered Action Plan was successfully implemented and the employees were trained again and had a practice run prior to the beginning of the wet season.

4.2.3 Implementation of Pesticides, Herbicides and Fertilizer BMPs

The City has implemented all the appropriate pesticide, herbicide and fertilizer BMPs that are listed in the JURMP. The City's Public Works Department only handles approximately 10% of pesticide, herbicide, and fertilizer application for the City. There is a small amount of Round-Up kept on-site at the Public Works Yard that is stored and locked indoors. All employees of the Public Works Department are registered with the County of San Diego Department of Agriculture and are inspected on an annual basis. As part of the Integrated Pest Management Program, Public Works Staff has switched from using harmful pesticide Dursdan to a more environmentally friendly insecticidal latex coating to control the roach problems in City sewer manholes.

4.2.4 Special Events Vendor BMP Requirements

The City developed a "Special Events Vendor BMP Guidelines" (Appendix C) for all events that required a Special Events Permit. The guidelines include BMPs for food vendors, event coordinators and event workers. The guidelines include BMPs such as:

- Protecting all adjacent catch basins
- Trash and recycling containers required
- Portable restroom secondary containment
- No dumping into storm drains
- Proper clean-up practices (No water)

These requirements are all included in the Special Events Permit. For larger events, such as the City sponsored Fiesta Del Sol and Beach Blanket Movie Night, the City holds many meetings prior to the event with the organizers and all issues are discussed. The organizers are required to submit their BMP plans to the City, and City staff monitors the events throughout their entirety. The City then schedules post-event Street sweeping through its street sweeping contractor.

4.3 Pollutant Source Identification

To assist the City in determining the source of pollutants in its receiving water bodies, and/or the receiving water bodies of neighboring jurisdictions, the municipal facilities were also identified by Watershed in the City JURMP*. There are no changes to report in the municipal facility by watershed classification.*

During this reporting period, staff continued to evaluate the possible types of pollution that could be generated from each municipal facility. The evaluation included the following:

- Type of materials stored or used on site
- Activities conducted on site
- Proximity to conveyance system, or environmentally sensitive areas
- Any additional activities that may affect water quality such as additional storage or new materials kept on-site

Results from the evaluation indicate that most City facilities are a low threat to water quality. Parking lots, streets and roads, and the Public Works Yard are the highest priority of municipal facilities as they could introduce pollutants into the conveyance system, which could impact water quality.

The City is committed to implementing BMPs that will reduce pollutants from parking lots, streets and roads and the Public Works Yard in particular. The City has installed and maintains a BioClean filter in one of the upstream catch basins that lead to the problem Seascape Sur pipe. In addition, the City installed a curb inlet screen at the same catch basin upstream from Seascape Sur to prevent debris, and possible pollutants, from entering the catch basin. Also, the Yard is visually inspected weekly and BMPs are maintained and reinforced as needed. In addition, the City utilizes results from its dry-weather-monitoring program to determine if pollutants are entering the system from its municipal facilities.

During this reporting period, the results from the City's 2007 Dry-Weather-Monitoring Program (DRMP) were completed and presented to the City in January 2008. The results indicated a concern at Seascape Sur, which has been an ongoing problem in the City (see discussion in Chapter 12, Special Investigations) where elevated levels of bacteria were detected. An investigation into the identification of the pollutant source is ongoing, and the City is looking into alternatives ways to address the situation. No municipal facilities were found to be contributing the pollutants.

The City utilized the information from the 2002-2007 dry-weather-monitoring

programs and the criteria established by the Permit (Order 2001-01) to further develop its 2008 Dry-Weather-Monitoring Program. The results of the 2008 program will not be available until after this reporting period, but if any exceedances are detected, follow-up actions will be taken immediately. The results from the 2007 program indicate that the City's municipal facilities are not a likely contributor of pollutants.

4.4 Threat to Water Quality Prioritization

The City utilized the criteria prescribed in Permit Section F.3.a. (3)(a) and (b) to prioritize the facilities based on their potential Threat To Water Quality (TTWQ) from storm water runoff. In addition, dry-weather monitoring data and previous complaint records were included in the evaluation. As noted in the City's JURMP, results from the dry-weather monitoring program indicated that there were no illegal discharges or illicit connections associated with existing municipal facilities. However, the City still classified its public parking lots, MS4 system, streets and roads and the Public Works Yard as *high priority* using the criteria of the Permit. As also noted in the JURMP, the City classified the beach at Seascape Sur as a *high priority* because results from the dry-weather monitoring program indicated elevated levels of bacteria (see Chapter 12, Special Investigations).

The Fire Department facility was the only municipal site classified as medium-priority. The City Hall building, the Community Center at La Colonia Park, Tide Beach Park, Fletcher Cove Community Center and the Marine Safety Center facility were classified as low priority primarily due to the activities conducted at those sites.

There are no changes to report in the City's prioritization of its municipal facilities. As stated in the 2003 Annual Report, the results of the 2003 Wet Weather Monitoring Program revealed very high levels of the pesticide Diazinon within the watershed. The City focused its efforts on reducing the use of Diazinon within the City and by municipal landscaping contractors through educational activities. The City is happy to report that Diazinon was not found in any of the samples analyzed by the lab for our 2004, 2005, 2006 or 2007 dry weather programs. This is consistent with the overall trend region-wide showing that diazinon levels have been steadily decreasing. The City can now focus on other pesticides or high priority pollutants in the ongoing effort to improve water quality in the region.

4.5 Pollution Prevention Methods

As described throughout the Municipal Component Section of the JURMP, the City has established pollution prevention methods that focus on municipal operations, including operation and maintenance of its MS4 system with the goal of preventing and reducing pollutants in runoff. The following is a list of some of the methods in place to accomplish this goal:

- Annual Inspection and cleaning of the City's entire MS4 system
- Routine street sweeping (schedule is on the City's web site and available upon request)
- Daily trash removal from streets and parks
- Sediment and erosion control methods (application of Visqueen, materials coverage, silt fences, etc.)
- Facility and ground maintenance conducted in a manner that would not contribute pollutants to a conveyance systems and expected to reduce pollutant runoff during storm events
- The use of bio-filter roll(s) as a PPM at municipal facilities
- The installation and maintenance of additional permanent treatment BMPs at City facilities (Two CDS units and a large Bioswale)
- Maintenance of the MS4 including routine inspections, annual cleaning and proper disposal of captured materials
- Spill response procedures (street and road spills, facility spills)
- Household Hazardous Waste Collection (Note: the City participated in a reciprocal use agreement with the Cities of Vista, Poway and Escondido for use by Solana Beach residents to recycle their household waste materials.) The City also offers a door-to-door program (more on this later in the Report).
- Installation and maintenance of catch basin inlet filter at ongoing problem area directly upstream from beach outfall.

In the City's JURMP, the above pollution prevention methods were expanded for implementation at all City municipal facilities, depending on the type of activities conducted at each facility. To assist in developing appropriate BMPs, the facilities were categorized into the following types:

- Landscape and recreational facilities
- Roads and streets maintenance
- Public buildings
- Public Works Yard

- Parking facilities
- Storm Drain Conveyance System (MS4)

Specific BMPs were then developed for each category type identified and presented in the City's JURMP. For example, BMPs for the Public Works Yard (JURMP, Section 6) include:

- Materials storage alterations
- Visual inspections
- Improved operations and maintenance
- Good housekeeping procedures
- Preventative maintenance
- Spill prevention
- Sediment and erosion control
- Employee training
- Vehicle and equipment maintenance operation alterations
- Waste disposal and recycling
- Vehicle equipment and washing
- Storage tanks
- Outside storage

During this reporting period, the City implemented pollution prevention methods (BMPs) for each facility type based on what was presented in the City's JURMP. Municipal facilities were inspected by City staff to ensure the implementation of BMPs was occurring.

4.5.1 Proactive Approach to Pollution Prevention

Because of the City's proximity to the Pacific Ocean, the City has been proactive in its approach to urban runoff and pollutant mitigation and reduction, not only during this reporting period but also prior to the implementation of the JURMP.

Annual Inspection and Cleaning of Storm Drain System

The City conducts an annual inspection of its storm drain system – citywide. Public Works Staff visit every catch basin in the City and prioritize each based on the severity of sedimentation and trash build-up**.** All catch basins that contain any trash or sediment build-up are cleaned using a Vactor truck. During this reporting period, the City inspected all catch basins. Seventeen (17) catch basins had debris and were cleaned, resulting in three (3) cubic yards of material from the storm drain system (which includes open channels, etc.). The material,

primarily sediment and debris, was properly disposed of as a non-hazardous material. The City had the debris tested by Enviromatrix Analytical Inc and received a five year exemption from the local landfill.

Pet Waste Bag Dispensers

The City actively installs Pet Waste Bag Dispensers and maintains the dispensers to encourage proper pet waste disposal. Several years ago, the City placed these dispensers and signs along both sides of Sierra Avenue to encourage their use to prevent pollutants from entering the MS4(Sierra Avenue is the street closest to the beach, and runs parallel to Highway 101). The City implemented this BMP in response to results from its dry weather and coastal outfall monitoring, which indicated the presence of fecal bacteria at Seascape Sur. In an effort to educate the community about pet waste, the City included a discussion about its Dog Ordinance (Municipal Code 11.12.020X), which prohibits dogs in some locations of the City and on all beaches, in its Summer 2001 City newsletter and recreation guide *Shorelines* Vol. 14. No.1). In addition, City staff met with property managers of the condominiums along Sierra Avenue and educated them on storm water regulations and solicited their help in educating their residents.

The City recently completed its much anticipated Coastal Rail Trail. This trail runs parallel to Highway 101 the length of the City, and has become a popular walking/jogging spot for not only the residents, but their pets as well. The City required the project to include additional pet waste dispensers, and have found them to be used very frequently. In addition, the City recently completed the Fletcher Cove Park project, which is located adjacent to the ocean. One of the many environmental protection measures implemented as a part of this project was the installation of pet waste dispensers. City staff maintains these new dispensers as well. This shows the City's proactive approach to protecting the integrity of the local waterways. This practice of requiring pet waste dispenser's at all new public and private projects will continue as it has been received very well by the community.

As part of the Public Works Department routine tasks, the bag dispensers are refilled daily. The amount of material that is prevented from entering the City's MS4 system as a result of this PPM is unknown and there is no acceptable method of estimating it, however, the City's Public Works Crew refilled approximately 1,116 bags per week during this reporting period. This is down from 1,298 bags per week last reporting period but up from 775 two years ago, 625 the year before that and 550 the first year this was documented. The total

amount comes out to approximately 58,000 total bags at a cost of approximately $2,320 (4 cents per bag). Those numbers are down from 67,500 bags and approximately $2,700 from last reporting period.

Solana Center for Environmental Innovation

The City is proud to be associated with the Solana Center for Environmental Innovation (formerly Solana Recyclers), hereinafter referred to as Solana Center. Due in large part to the efforts of this group, the City was the first city in San Diego County to have a comprehensive *curbside* recycling program. In addition, to help educate the community, the Solana Center routinely writes articles for the City *Shorelines*. Also, Solana Center administers the City's Used Oil Recycling Program, providing education for schools, community groups and City events on the proper disposal of used oil. For a complete listing of articles written in the *Shorelines,* please see Chapter 6, Residential Component.

Recycling Efforts

The total amount of material recycled throughout the City during this reporting period is unknown at the time of this report (numbers will be available after March 15, 2009). However, the last reporting period ending in 2007 showed the City at a 62% recycling rate, which is on the upper tier of cities in the county and well within compliance with the 50% rate required by Assembly Bill 939 (AB939). Additionally, on September 15, 2007, the City hosted its annual beach and lagoon clean-up day and 120 volunteers (up from 118 last year and 71 a year before that) collected over 485 pounds of trash and 120 pounds of recyclable materials that might have otherwise ended up in the landfill or worse, City streets and possibly the City's MS4. The rise in participants and pounds of trash and recycling can be described as successes for the City. The rise in participants and trash/recyclables shows the excitement and pride that the residents have for their City as well as demonstrating that the City's education and outreach programs are successful.

The City also implemented a new residential solid waste and recycling automated single stream commingled collection program in November, 2006. This will be described in greater detail later in this report, but it should be noted that after the first year of implementation, residential recycling increased by 21% (about 950 tons), which is pretty remarkable.

The City Council also adopted a Construction and Demolition Debris Recycling Ordinance in January 2008. This ordinance is discussed in more detail in the

Construction Component of this Report, however it's important to mention because it once again demonstrates the City's progressive commitment to protecting the environment.

Hazardous Materials Management Team

The City's Fire Department contracts with San Diego County Hazardous Materials Management Division and established an Emergency Response Program to contain hazardous materials that result from automobile accidents, spills, illegal dumping or any other activities within the City of Solana Beach. Generally, the County's Hazardous Materials Team handles recovery and disposal of the materials, although work crews from the City's Public Works Department also contain some small spills and are on call 24 hours a day, 7 days a week to respond to all spills that occur within City limits.

Storm Drain Inventory and Stenciling

The City has inventoried all of its storm drain conveyance structures (inlets and catch basins). The inventory list includes addresses, cross streets and a bit-map. This information was then utilized to implement a program that affixed a stenciled tile at each location that reads, *"No Dumping! This drains to the ocean."* The City has successfully completed application of the tiles at *each* storm drain inlet or catch basin. In addition, the City now requires all new or re-development projects that install a storm drain curb inlet or catch basin to include the a stenciled tile. The City constantly monitors the catch basins and if a tile is broken or has been removed, another one is immediately installed.

The City also participated with the non-profit group I Love A Clean San Diego (ILACSD) to sponsor an ongoing Tile Stenciling Program in which the City provides volunteers with a GIS map of all catch basins in the City and a box of tiles so they can compass the City and replace any tiles that are damaged or missing. This was a highly successful program/partnership that the City will continue to ensure all catch basins have tiles permanently affixed to them.

Street Sweeping

The City already had a comprehensive street sweeping program prior to the Permit and the implementation of the JURMP. The residential streets are swept once each month, while major arterial streets are swept once each week. In response to the comments received from the RWQCB on the FY 02/03 annual report, the City developed a form to characterize and measure the amount of

material collected by the street sweeper (Appendix A). The driver of the street sweeper completes the form after every trip and it is verified by the appropriate Public Works employee.

As reported in the City's FY 2005/06 Annual Report, the City was having significant problems with its contracted street sweeping company. The contractor was not performing up to contract specifications, and the City was having a difficult time getting the proper reports from the drivers. A contractual battle ensued and documentation was not submitted. The City eventually relieved the street sweeping company of their duties and selected another contractor. The new contractor has been much more effective and responsive. This reporting year, the amount of debris collected by the street sweeper totals 275 cubic yards, which is an increase over last year's amount of 188 cubic yards and a slight decrease over the two years ago total of 299.1 cubic yards. The lower amount for last year's total can be attributed to the troubles we encountered with our previous street sweeping contractor that was detailed in last year's annual report. The City removed that street sweeper and currently has a company that is performing excellent service for the City.

To demonstrate the City's commitment to documenting the amount of debris collected by the street sweeper, and to ensure that all activities were conducted in compliance with the storm water regulations, the City included specific language in its new street sweeping contract. This language will be used in every subsequent street sweeping contract to ensure all contractors are adhering to all storm water regulations, which was a comment made by the RWQCB in its JURMP Annual Report Review.

As mentioned above, and now required by the new Permit, the City sets sweeping frequencies based on the type of street. The larger, more frequently used by vehicles, are swept more often. The streets are classified based on SANDAG's Vehicle Miles Traveled (VMT) parameters. The lesser traveled streets, like residential streets, are swept once per month. The next street up, arterials, are swept twice per month, and the largest, most traveled streets, called collectors, are swept weekly. A complete schedule can be found on the City's website or upon request.

Spill Prevention

The City's Public Works Department maintains on-site at the Public Works Yard, a 55-gallon drum and specially equipped vacuum to handle small hazardous materials spills. The drum and vacuum are small enough to travel with the work

crews and have been utilized to contain oil from an automobile accident, spillage of work-related materials (paint and debris), and collection of minor hazardous materials. In the event the material exceeds the amount that can be collected by the work crews, the City's Fire Department initiates its spill response plan (discussed above). Currently, City work crews do not have the resources to weigh the amount of material collected or to track and document the amount of material collected. Significant spills for which the work crews responded to are discussed in Chapter 8: Illicit Discharges Detection and Elimination.

Staff Trainings

The City implemented a citywide staff-training program. Each month the City Hall hosts an all-hands meeting, which was determined to be the appropriate location to conduct the storm water training. Employees are educated about the Permit requirements, informed regarding expectations of staff, provided General Housekeeping handouts, facility-specific designated BMPs (from the City's JURMP), and instructed on the use of the Storm Water Hotline (see below). Staff trainings regarding storm water are routinely included in the monthly all-hands meeting when deemed appropriate.

The City anticipates that the new Permit adopted January 2007 will require additional intensive departmental trainings. The City anticipates another series of staff trainings to discuss the new aspects of the Permit and how each one relates to different departments within the City. This will also serve as an opportunity to review and refresh City staff responsibilities as they pertain to elements in the newly adopted Permit.

Storm water Hotline

To assist the public in directing their calls for complaints and service, the City maintains and responds to a storm water hotline 24-hour telephone recording (858) 720-4424. When the number was first established, it was checked twice each day. However, to facilitate a quicker, more effective response time, the City now links all calls to the direct extension of the City's Environmental Programs Manager. Therefore, all calls that are made to the City regarding storm water issues will be handled immediately. This has been proven very successful, as the issues are addressed immediately. This leads to much quicker responses, which result in more efficient spill response and enforcement actions. The City informs the public about the hotline number at City Council meetings, on flyers and handouts at workshops, on business cards, on educational materials and during inspections.

Materials Storage

Although only minor quantities of hazardous materials are stored at municipal facilities (as noted in the City's JURMP), the City stores those materials indoors when feasible. Only non-hazardous materials, such as Class 2 gravel, temporary stockpiles of topsoil, etc., are stored outdoors for short periods of time. When this does occur, City Staff ensures all storm water BMPs are installed around the piles and they are covered, if necessary, to ensure nothing leaves the Public Works Yard.

Sediment and Erosion Control

The City Public Works Department augmented the City's supply of Visqueen as a method to reduce or prevent sediment and erosion control. The Visqueen is utilized at the Public Works Yard on the sand and soil that is kept on-site. In addition, the work crews utilize bio-filter rolls to catch runoff. As added insurance, the City's Operations Manager always orders extra erosion control BMPs before the wet season to store on-site for emergency situations. Most of these practices were instituted as a result of suggestions made by the RWQCB during their inspection in August 2002.

Storm Drain Inlet/Catch Basin Insert

The City is currently participating in an ongoing experimental application of a catch basin insert in one of its MS4 curb inlets. The insert is being studied to determine its effect on the elevated levels of bacteria in the inlet. Although early results from the pilot program are inconclusive regarding bacteria, the catch basin filter has been extremely effective in eliminating large quantities of trash and organic matter from the MS4 system. Public Work Crews empty the filter on a scheduled weekly basis and routinely remove about half a trash bag full of debris. Additionally, inspection of the catch basin insert has revealed occasional violations of the adjacent landscapers as a large amount of grass clippings were found in the catch basin. An investigation resulted in a Notice of Violation (NOV) to the landscaping company and a discussion with the property management company. No additional violations have been reported.

Smoking Ban on Public Beaches and Parks

During a previous reporting period (December 2003), the City of Solana Beach jumped to the forefront of pollution prevention, on a nation-wide scale. The City was the first city in the nation to ban smoking at its public beaches and parks. The ordinance (Ordinance 316, see Appendix B) bans smoking at all public

beaches and parks, and is actively enforced by the Marine Safety Department and Code Enforcement Department. The public has been very responsive to this ordinance, and the City has had many requests from other jurisdictions, as far away as Australia. The City appears to be a trend setter, as the City of Los Angeles and other Orange County cities are following suit with their own ordinances in the works. More locally, the City of Del Mar and San Diego have followed with their own ordinances and other cities such as Oceanside are investigating the possibility. This is a significant pollution prevention action the City has undertaken, as cigarette butts are routinely found as the most abundant type of debris collected in beach clean-ups. The impact on the local beaches will be extremely beneficial, and the City is proud to be the trend setter in another environmental arena (the City was the first jurisdiction in San Diego County to provide curbside recycling).

Recycling/Trash Containers

One of the priorities of the Environmental Programs Manager was to improve the recycling program throughout the City. When the Environmental Programs Manager took over, there were no public recycling receptacles located anywhere in the City. If someone wanted to recycle, they would have to do so at home, but since this is a popular tourist location, it seemed necessary to provide recycling opportunities in high traffic areas. It's well known that people will recycle if it's made convenient and efficient for them, but since there were no opportunities available, it can only be assumed that everything was being discarded into the trash, or worse, finding its way into the storm drain system. This was a high priority for the Environmental Programs Manager, but initially the money was not there to purchase any new receptacles.

However, during a previous reporting period (December 2004), the opportunity presented itself when the City received its Department of Conservation (DOC) grant monies to be used toward the City's environmental programs. In the past, this money was used to purchase public benches and tables made from recycled plastic. The Environmental Programs Manager successfully redirected this grant money into purchasing new dual trash cans that have a separate container attached for recyclable materials. The new receptacles were placed at Fletcher Cove, two bus stops and at La Colonia community center. They have been very well received by the public and are very effective in separating recyclables from trash. The City has been so impressed with the results that the next several rounds of DOC money are already earmarked for more of these receptacles and more money is being sought to purchase as many as possible to be placed

throughout the City.

The Environmental Programs Manager met with a Councilmember to come up with a recycling "master plan" to help prioritize the City's recycling needs. It was agreed upon that the best location for the new recycling containers would be along the recently completed Coastal Rail Trail (CRT). Five (5) new containers were placed out on the CRT and are highly utilized by the community. The City had to add an additional recycling dumpster at the Public Works Yard to accommodate the increase in recyclable materials from these new containers. In addition, the City included nine (9) of these containers to be installed in the new Fletcher Cove Community Park.

Plastic Bag Advertising Ban

Another progressive action the City Council took was passing an ordinance banning the use of plastic bags for advertising. The ordinance bans the use of companies from advertising using small plastic bags because often times it is unsolicited and the bags never get picked up, eventually ending up in the City's MS4. This emerging type of advertising is typically conducted by small residential and commercial support businesses such as landscapers, pool cleaners, housekeepers, and handyman type services. This is another example of the City taking a proactive approach to litter in the MS4. Plastic is the number one pollutant found in the ocean worldwide.

Ensuring Implementation

To ensure that the PPMs are implemented, City staff meets periodically with all Department Directors to review the BMPs, Permit requirements and program expectations. Department Directors are responsible for ensuring that their staff carries out the BMPs for their facilities. The City Engineer meets every Wednesday with the Operation Manager, his public works crew and the City Inspector at the Public Works Yard for safety meetings. It was decided that at these meetings, storm water issues, including BMPs, should be discussed and the Yard will be inspected to ensure compliance. The Environmental Programs Manager will also conduct random compliance inspections. During this reporting period, there were no violations observed at the City's municipal facilities and all appropriate BMPs were being properly installed and maintained.

4.6 Pollution Prevention Strategy Effectiveness

One of the issues that the City faces is developing an appropriate process to determine the effectiveness of the pollution prevention methods and strategies, (BMPs). The City is committed to developing a consistent approach that could be agreed upon by all Copermittees. It is important to collect data and analyze results in a consistent manner – county/region wide – in order to be able to share results and draw conclusions across agencies, particularly given that water is not restricted by jurisdictional boundaries.

To address this issue, the Copermittees met several times in the fall of 2002 and in 2003 to work out a more appropriate strategy. A guidance document was prepared by the Copermittees and submitted to the RWQCB on October 16, 2003, titled *"A Framework for Assessing the Effectiveness of Jurisdictional Urban Runoff Management Programs".* This guideline presents a comprehensive assessment strategy that initially focuses on programmatic assessments and moves toward water quality-based assessments to determine program effectiveness. More specifically, it addresses six levels of assessment:

- Compliance with Activity-based Permit Requirements
- Changes in Knowledge/Awareness
- Behavioral Changes
- Load Reductions
- Changes in Discharge Quality
- Changes in Receiving Water Quality

The City implemented this assessment program during the last reporting period, which is described in more detail in the Effectiveness of JURMP Assessment Component of this report.

4.7 JURMP Comments from RWQCB

The City received one comment on its 2005/2006 JURMP Annual Report regarding the Municipal Section. This comment claims the City did not adequately report on Municipal Separate Storm Sewer System (MS4) maintenance activities. Although the City did not receive comments from the RWQCB on its 2006/2007 Annual Report, the table requested in the comment letter from 2005/2006 is included with 2007/2008 information, and will continue to be included in future Annual Reports.

Table 4-2
2005/2006 MS4 Maintenance Activities

Type	Frequency	Date	Total Number	Number Inspected	Comments
Inspection and Cleaning of MS4	Annual	10/17/05	309 catch basins, 15 unimproved storm drains (brow ditches, channels, etc)	309 catch basins, 15 unimproved storm drains (brow ditches, channels, etc)	All catch basins and unimproved storm drains inspected, 4 cubic yards removed
Inspection and Cleaning of Unimproved Storm Drains (Brow Ditches, Channels, etc)	Monthly	The 30th of every month	15	15	All unimproved storm drains inspected on the 30th of every month and cleaned as needed.

Table 4-3
2006/2007 MS4 Maintenance Activities

Type	Frequency	Date	Total Number	Number Inspected	Comments
Inspection and Cleaning of MS4	Annual	11/29/06	309 catch basins, 15 unimproved storm drains (brow ditches, channels, etc)	309 catch basins, 15 unimproved storm drains (brow ditches, channels, etc)	All catch basins and unimproved storm drains inspected, 35 catch basins cleaned, 7 cubic yards removed
Inspection and Cleaning of Unimproved Storm Drains (Brow Ditches, Channels, etc)	Monthly	The 30th of every month	15	15	All unimproved storm drains inspected on the 30th of every month and cleaned as needed.
Inspection and Cleaning of City MS4 after Rain Events	After Rain Events	10/18/06 1/30/07 2/20/07	15	15	No debris removed, MS4 clean

Table 4-4
2007/2008 MS4 Maintenance Activities

Type	Frequency	Date	Total Number	Number Inspected	Comments
Inspection and Cleaning of MS4	Annual	Ongoing between May-October	309 catch basins, 15 unimproved storm drains (brow ditches, channels, etc)	309 catch basins, 15 unimproved storm drains (brow ditches, channels, etc)	All catch basins and unimproved storm drains inspected, 17 catch basins cleaned, 3 cubic yards removed
Inspection and Cleaning of Unimproved Storm Drains (Brow Ditches, Channels, etc)	Monthly	The 30th of every month	15	15	All unimproved storm drains inspected on the 30th of every month and cleaned as needed.
Inspection and Cleaning of City MS4 after Rain Events	After Rain Events	2/5/2008 – 100 lbs 2/14/2008 – 30 lbs 3/4/2008 – 100 lbs 3/31/2008 – 20 lbs	15	15	250 lbs of dirt, mud and vegetation removed after rain events

The tables above represent the inspection and cleaning activities related to the City's MS4. As you can see, the City conducts the annual inspections of the entire MS4 as the Permit requires, but goes above and beyond the inspection and cleaning requirement with monthly unimproved storm drain (brow ditches,

channels, etc) inspections and “after rain event” inspections. Currently, just the dates that these activities take place are being recorded, but the City will begin recording and documenting the amount of debris removed so that a better assessment can be made on the Municipal Programs. It should be noted that these activities are above and beyond the Permit requirements, but it shows the City’s dedication and pro-active approach in maintaining a functional MS4 system.

4.8 New Activities and Improvements for FY 08/09

The City anticipates continuing the activities of the Municipal Component as specified in the JURMP. However, as noted earlier and what will be a recurring theme throughout this report is the development and implementation of the new JURMP activities in relation to the new Permit Order No 2007-0001. The focus will continue the cooperation among different departments, ensuring municipal facilities are in compliance with the Permit, and collaborating with other Copermittees. The City Department Directors were required to integrate more responsibilities into positions in order to implement the Watershed Urban Runoff Management Program (WURMP) and Standard Urban Storm Water Mitigation Plan (SUSMP). Because of our team approach, this transition occurred rather seamlessly. The Planning Department and Engineering Department worked closely together in implementing the SUSMP requirements.

As mentioned previously in this Report, the new Storm Water Permit was adopted in January 2007. This contained new elements that will require additional/modified requirements/duties of different Departments within the City. Additional staff trainings will be required to ensure that all Staff activities will be in compliance with the new Permit and some job duties will have to be altered. Since the new Permit has now been adopted, the majority of the City’s efforts will be spent developing programs to meet the requirements of the new Permit. A significant amount of time will be spent updating old programs such as the SUSMP, JURMP and WURMPs in anticipation of implementing this new programs beginning March 2008. These changes will have to be implemented on the fly, and will require all Departments within the City to work collaboratively to accomplish the goals within the new Permit. The City is confident that the infrastructure of the City as a whole will allow for a relatively seamless transition to the requirements of the new Permit. Some of the new programs include:

- Minimum street sweeping and priority requirements

- Post-Construction BMP tracking and inspections
- Low Impact Development (LID) development and implementation
- Hydromodification Plan (HMP) development and implementation

4.9 Summary

The City has been successful at implementing the Municipal Component of the JURMP, establishing BMPs for its municipal facilities and providing informative and meaningful staff trainings. The City made significant advancements in the manner in which its storm water program is integrated into the routine tasks of various staff and has developed an effective interdepartmental working relationship. The Environmental Programs Manager position has greatly enhanced the coordination and implementation of the Permit, as well as other environmental programs (solid waste, HHW, etc.)

Highlights of some of the accomplishments of the City's Municipal Program Component include:

- Implementation of two comprehensive WURMPs
- Creation of an effective municipal inspection process
- Implementing storm water issues and inspections of Public Works Yard at weekly safety meetings between the City Engineer and Public Works Supervisor and crew
- Annual inspection and cleaning of the City's storm drains resulting in three cubic yards of debris diverted from receiving water bodies
- Implementation of street sweeping tracking form that allows the City to evaluate the effectiveness of the street sweeping program.
- Provision of public pet waste bag dispensers (58,000 bags were utilized by the community during this year at a total cost of $2,320 (4 cents per bag)
- Addition of new trash/recycling receptacles in high traffic area of City to promote recycling and prevent trash from entering storm drain system
- Enforcement of Smoking Ban on Public Beaches and Parks Ordinance which has significantly reduced amount if pollution on local beaches and parks.
- Implementation of weekly task for Public Works Crew to conduct weekly storm water inspections at the Public Works Yard
- Implemented scheduled cleaning of Fletcher Cove Low Flow Diverter

- Maintenance of Bioswale at La Colonia Community Center
- Maintenance of City-owned CDS units
- Maintenance of filter basket at upstream catch basin of Seascape Sur outfall on a weekly basis
- Routine scheduled inspection and maintenance on unimproved channels on a monthly basis and after all rain events
- Routine scheduled inspection on Fletcher Cove Low Flow Diverter to ensure it is functioning properly on a daily basis.

CHAPTER 5

Industrial And Commercial Component

CHAPTER 5: INDUSTRIAL AND COMMERCIAL COMPONENT

5.1 Introduction

In accordance with Permit Section D.3.b, this section of the report describes the City's efforts to prevent or reduce industrial and commercial discharges of pollutants into the MS4 to the MEP. In compliance with the Permit, the City evaluated businesses within the City and categorized them as commercial or industrial, as noted in JURMP sections 7.0 (Industrial and Commercial Component).

In each Annual Report to the RWQCB, this section will include modifications to the City's inventory of industrial and commercial facilities, pollutant source identification and potential threats to water quality. In addition, this section of each Annual Report will include results from the City's efforts to implement and enforce BMPs at industrial and commercial sites, related accomplishments and activities. Also, a summary of activities conducted post-reporting period may be included if the activity is deemed essential to understanding the City's efforts at reducing urban runoff or permit compliance.

During the last reporting period (July 1 2007 to June 30, 2008), the City conducted a complete evaluation of the commercial and industrial facilities doing business within the City. Facilities were identified as industrial and commercial sites based on criterion required by the Permit, which included activities conducted on site, SIC codes and also included a site visit. The City prepared an inventory of the facilities in order to understand potential sources of pollution, threats to water quality, and to develop a plan to mitigate or eliminate urban runoff and pollution from the facilities by implementing Best Management Practices (BMPs). The City submitted the complete inventory list in the JURMP.

As a result of the new Permit, this chapter now combines two previous Chapters in the old Permit. The old Permit separated the Industrial and Commercial Sections; however, they are now combined. To keep consistency and for ease of readability, the following sections in this chapter separate the two components, so each can be analyzed according to their respective concerns.

5.2 Industrial Facilities Section

5.2.1 Inventory of Industrial Facilities

There is currently one industrial site operating within the City (Baker Iron Works). Table 3-1 presents the City's industrial facility, including its prioritization level. *There is no change in the City's inventory of industrial sites from those submitted in last year's Annual Report. The City's other industrial site, submitted to the RWQCB in the City's original JURMP (February 21, 2002), (Blalock Cabinet Shop) is no longer in business in Solana Beach*. It relocated to the City of Vista.

Table 5-1
Existing Industrial Facilities

Facility Name	Facility Address	Narrative Description	SIC Code	Priority
Baker Iron Works	710 Valley Ave	Iron works / metal fabrication	3441	High

5.2.2 Pollutant Source Identification

To assist the City in identifying potential sources of pollutants in its receiving water bodies, and/or the receiving water bodies of neighboring jurisdictions, City staff evaluated the possible types of pollution that could be generated from each industrial facility. The evaluation included the following:

- Type of materials stored or used on site
- Activities conducted on site
- Proximity to conveyance system, or environmentally sensitive areas
- Watershed location

Results from the evaluation concluded that the City's only industrial facility could be a potential source of pollutants (Baker Iron Works),

The conclusion that Baker Iron Works could be a potential source of pollutant discharge was due to the fact that the facility generally uses metal materials in the fabrication of structural devices; most of their work is performed outdoors, which is exposed to storm water, and runoff from the property can potentially enter the City's conveyance system. However, the City has worked closely with Baker Iron Works to minimize the potential for pollutants to run off their property and into the City's MS4 system. Baker Iron Works has been more than willing to work with the City to ensure compliance with the Permit, and has completed numerous tasks suggested by the City. These include:

- Permanently covering all stock piles of metal materials kept outside to shield it from rain events.

- Cleaning of yard as needed but no less than weekly with a magnetic device to pick up all loose metal shavings.

- Moving all chemicals indoors to ensure that they will not run off the property and into the City's MS4 system.

- Training all staff on proper storm water BMPs and general housekeeping for all activities that may impact the City's MS4 system.

- Installation of low flow sump/infiltration structure at the northwest corner of the facility to handle all low flows from the entire facility. The low flows will enter a small drain that extends across the driveway and enters into a small infiltration well structure to prevent the water from entering the MS4. This structure has worked very well in eliminating all low flows from leaving the site. Baker Iron Works employees routinely monitor and maintain the infiltration well to ensure proper functionality.

- Permanently sealing a trench drain near office building that used to drain directly to street. Now the runoff bypasses the drain and travels down to the low flow sump/infiltration structure mentioned above.

The results of the 2007 dry weather program indicate that no related pollutants were found downstream from this industrial facility. This is consistent with the 2001, 2002, 2003, 2004, 2005 and 2006 dry-weather-monitoring program results which also indicated that no related pollutants were found downstream from this facility. The City will continue to inspect and monitor these locations in the future to further ensure that they are not contributing to downstream pollution. In addition, Baker Iron Works has agreed to forward all results from their required water quality monitoring under the Statewide General Industrial Permit to City staff, upon request, for review during rain events.

The City utilized the information from the 2007 dry-weather-monitoring program, the criteria established by the Permit, and the evaluation of the potential sources of pollutants (discussed in this chapter and Section 7 of the City's JURMP) to develop its 2008 dry weather monitoring program. Similar to last year, one site downstream and one site upstream from Baker Iron are selected for testing. The City will continue to monitor runoff downstream from that facility over the next few

years.

5.2.3 Threat to Water Quality Prioritization

In the City's JURMP, the industrial sites were classified as a high, medium or low priority, based on their potential threat to water quality from storm water runoff. The classification utilized criteria prescribed in Permit Section F.3.a. (3)(a), (b).

There are no changes to report in the City's classification of its industrial facilities from last year's Annual Report. Baker Iron Works is still classified as a high priority industrial site.

5.2.4 Pollution Prevention Methods

The City realized that since Baker Iron Works is the only high priority industrial site in the City, it would be prudent and feasible to monitor their site frequently. Although the Permit requires only annual inspections, the City dedicated more time to ensure that the site was always in compliance. This pro-active approach that occurred in the beginning of this Permit cycle has proved to be well worth the effort. By spending the extra time and effort the first couple of years of this Permit to get this facility into compliance have built a strong working relationship between the owners and the City. This facility has had no violations the last couple of years and continues to stay in compliance.

As reported in last year's Annual Report, this facility was attempting to come into coverage under the statewide General Industrial Storm Water Permit (GISW). The reason they were not already covered was because of a major fire in the office of this facility during the reporting period, and all the documents were lost. However, the City has confirmed that Baker Iron Works is *now fully compliant* with the state GISW and is currently adhering to all requirements.

Baker Iron Works employees use a large magnet to clean their entire yard as often as needed but no less than once per week. This magnet is very effective in cleaning up small steel waste products that result from daily activities. The parking lot is swept and water is never used. All chemicals are kept in a locked storage shed that has secondary containment and is kept above ground, which was a recommendation of RWQCB staff.

5.2.5 Industrial Inspections

During FY 07/08, the City changed its inspection practices. Prior to FY 07/08,

City staff conducted all industrial and commercial facility inspections. However, this year the City hired an independent contractor that specializes in storm water inspections. This change occurred due to limited staff time to conduct the inspections, as well as to provide an increased service to the residents of Solana Beach. By hiring a contractor that specializes in storm water inspections, the City, and residents, can be assured that it is getting the highest quality service. Baker Iron Works was inspected on June 13, 2008 and was found to be in compliance in all areas. City staff will also continue to visually inspect the facility at least once a month, and always before the wet season and during rain events. If the City observes a non-compliant facility, the City will inform its appropriate representative at the RWQCB.

5.2.6 New Activities and Improvements for FY 08/09

City staff will continue to work closely with the proprietors of Baker Iron Works to 1) ensure functionality and maintenance of the filtration device, 2) ensure compliance with the City's storm water regulations and 3) educate the business owners and employees about the importance of protecting the community's water resources. In addition, if any new requirements or activities are developed targeting industrial facilities on a watershed or regional basis, the City will communicate these requirements directly to Baker Iron Works and assist them in coming into compliance.

5.2.7 Summary of Industrial Section

The City has been effective at working with owners of the one industrial site to ensure compliance with Permit and City regulations. The owners have installed and properly maintained the filtration system at the northwest corner of the property to collect and infiltrate all on-site low flow runoff before it enters the MS4 system. The City has established a great working relationship with the owners/operators of the site and they have made drastic strides to maintain compliance. City Staff will continue to monitor and inspect the facility frequently to ensure compliance with the Permit. Baker Iron Works have been very responsive and immediately remedy any problems encountered during inspections. They have gone above and beyond what is required to ensure they are in compliance with the Permit.

5.3 Commercial Facility Section

5.3.1 Inventory of Commercial Facilities

During the process of revising the JURMP, submitted in March 2008, the City updated the inventory of commercial facilities. The City selected locations based on the requirements of the new Permit and JURMP, and placed higher priorities on such facilities as automotive servicing, gas stations, repair and fueling, commercial rental yards, and golf courses (high Threat To Water Quality, TTWQ). The City currently has 77 stationary facilities, of which, 67 are classified as high Threat To Water Quality (TTWQ). The City will continue to update the inventory list as new businesses apply for permits or site inspections reveal changes. In addition, any facility that has the potential to release high priority pollutants into the City MS4 will be added to the list of high priority facilities.

Table 5-2 Inventory Of High Priority Commercial Facilities

Address	Street	Business	Type	Watershed
741	Academy Drive	Academy Animal Hospital	Animal Facility	San Dieguito
435	Cedros Avenue South	KMP Plumbing Company Inc.	Commercial/ Outside Storage Area	San Dieguito
659	Lomas Santa Fe	Henry's Farmers Markets	Grocery Store	San Dieguito
124	Lomas Santa Fe	Subway	Restaurant	San Dieguito
905	Lomas Santa Fe Drive	Baskin Robbins	Restaurant	San Dieguito
124	Lomas Santa Fe Drive	Caffe la Bocca	Restaurant	San Dieguito
705	Lomas Santa Fe Drive	Caspian Petroleum DBA LSF Mobil	Gas Station	San Dieguito
124	Lomas Santa Fe Drive	Chief's Burgers and Brew	Restaurant	San Dieguito
683	Lomas Santa Fe Drive	CVS/Pharmacy #9187	Retail	San Dieguito
663	Lomas Santa Fe Drive	Dixieline Lumber Company	Retail	San Dieguito

911	Lomas Santa Fe Drive	Einstein Bros Bagels	Restaurant	San Dieguito
689 - D	Lomas Santa Fe Drive	Jamba Juice	Restaurant	San Dieguito
280	Lomas Santa Fe Drive	Kings' Garden	Restaurant	San Dieguito
917	Lomas Santa Fe Drive	Lomas Santa Fe Cleaners	Dry Cleaning	San Dieguito
1550	Lomas Santa Fe Drive	Lomas Santa Fe Country Club	Golf Course	San Dieguito
124	Lomas Santa Fe Drive	On the Spot Cleaners	Dry Cleaning	San Dieguito
661	Lomas Santa Fe Drive	One Hour Martinizing	Dry Cleaning	San Dieguito
689	Lomas Santa Fe Drive	Panda Express #1029	Restaurant	San Dieguito
945	Lomas Santa Fe Drive	Pizza Nova Solana Beach LLC	Restaurant	San Dieguito
979	Lomas Santa Fe Drive	Samurai Japanese Restaurant	Restaurant	San Dieguito
124	Lomas Santa Fe Drive	Solana Beach Fish House	Restaurant	San Dieguito
124	Lomas Santa Fe Drive	Solana Donut House	Restaurant	San Dieguito
691	Lomas Santa Fe Drive	Togo's Eatery	Restaurant	San Dieguito
931	Lomas Santa Fe Drive	Vons Companies Inc. #2327, The	Retail	San Dieguito
136	North Cedros Avenue	Bill Smith Automotive	Auto Repair	San Dieguito
146	North Cedros Avenue	CA Auto Tech, Inc. DBA Test-Only Smog	Auto Repair	San Dieguito
128	North Cedros Avenue	D & B Automotive Specialties	Auto Repair	San Dieguito
421	North Highway 101	Clark's Auto Repair and Radiator SVC	Auto Repair	San Dieguito
243	North Highway 101	Java Depot	Restaurant	San Dieguito
435	North Highway 101	Mohawk Car Wash (Parent-CCSB Inc.)	Auto Washing	Carlsbad
369	North Highway	Moreland Choppers	Auto Repair	Carlsbad

	101			
135	North Highway 101	Pizza Port- Grain to Green	Restaurant	San Dieguito
445	North Highway 101	Roberto's Mexican Food Inc.	Restaurant	Carlsbad
435	North Highway 101	Shine Auto Detailing	Auto Detailer	Carlsbad
355	North Highway 101	Solana Succulents	Nursery	Carlsbad
125	North Highway 101	Station Sushi	Restaurant	San Dieguito
271	North Highway 101	T's Cafe	Restaurant	San Dieguito
221	North Highway 101	Tidewater Tavern Inc.	Restaurant	San Dieguito
225	Plaza Street	Solana Sushi	Restaurant	San Dieguito
235	S Hwy 101	El Camino Rental	Rental Yard	San Dieguito
663	San Rodolfo Drive	Panera Bread Solana Beach #4283	Restaurant	San Dieguito
665	San Rodolfo Drive	Top of the Bagel	Restaurant	San Dieguito
106	Solana Hills Drive	Carls Jr./M and N Foods LLC	Restaurant	San Dieguito
154	Solana Hills Drive	Premiere Cleaners	Dry Cleaning	San Dieguito
143	South Cedros Avenue	Belly Up Tavern/Wild Note Café	Restaurant	San Dieguito
330	South Cedros Avenue	Cedros Gardens, Inc.	Nursery	San Dieguito
507	South Cedros Avenue	R F McKenna Construction Company	Commercial/ Outside Storage Area	San Dieguito
132	South Cedros Avenue	Zinc Café	Restaurant	San Dieguito
731	South Highway 101	Bangkok Bay	Restaurant	San Dieguito
159	South Highway 101	Beach Grass Café	Restaurant	San Dieguito
437	South Highway 101	Beachwalk Cleaners	Cleaners	San Dieguito
437	South Highway 101	California Pizza Kitchen Inc.	Restaurant	San Dieguito
201	South Highway	Del Mar Smog	Auto Repair	San Dieguito

	101			
615	South Highway 101	Dynamite Shine	Auto Detailer	San Dieguito
305	South Highway 101	Long Drug Store #593	Retail	San Dieguito
647	South Highway 101	New Paroli Italian Bistro	Restaurant	San Dieguito
315	South Highway 101	Nobu Gourmet Japanese Restaurant	Restaurant	San Dieguito
437	South Highway 101	Pacific Coast Grill	Restaurant	San Dieguito
247	South Highway 101	Rancho Solana Pet Spa	Pet Grooming	San Dieguito
437	South Highway 101	Rubios' Fresh Mexican Grill Inc. #13	Restaurant	San Dieguito
437	South Highway 101	Solana Beach Coffee Company	Restaurant	San Dieguito
731	South Highway 101	Spotless Dry Cleaners	Dry Cleaning	San Dieguito
125	South Highway 101	Waters Fine Foods to Go	Restaurant	San Dieguito
512	South Nardo Avenue	Solana Orchids	Nursery	San Dieguito
106	South Sierra Avenue	Naked Café	Restaurant	San Dieguito
168	South Solana Hills Drive	Beverage and More	Retail	San Dieguito
136	South Solana Hills Drive	Perfect Pet Salon	Pet Grooming	San Dieguito
126	South Solana Hills Drive	Round Table Pizza	Restaurant	San Dieguito
536	Stevens Ave	Solana Beach Body Works	Auto Repair	San Dieguito
524	Stevens Avenue	Anne's Café and Deli	Restaurant	San Dieguito
524	Stevens Avenue	Bongiorno's New	Restaurant	San Dieguito

		York Pizzeria		
524	Stevens Avenue	Rudy's Taco Shop ad Market	Restaurant	San Dieguito
1580	Sun Valley Road	Lomas Santa Fe Ex. Golf Course 408	Golf Course	San Dieguito
637	Valley Avenue	Daniel Morgan's Automotive	Auto Repair	San Dieguito
650	Valley Avenue	Don Chuy's Restaurant	Restaurant	San Dieguito
607	Valley Avenue	Fidel's Little Mexico Inc.	Restaurant	San Dieguito
621	Valley Avenue	Tony Jacal's Inc.	Restaurant	San Dieguito
512	Via De la Valle	Del Mar Bagel Cafe	Restaurant	San Dieguito
640	Via de la Valle	Fish Market Restaurant	Restaurant	San Dieguito
514	Via de la Valle	Pamplemousse Grille	Restaurant	San Dieguito
550	Via de la Valle	Red Tracton's Restaurant	Restaurant	San Dieguito
660	Via del la Valle	AM/PM/ Mini-Market #704	Gas Station	San Dieguito
110	West Plaza Street	Solana Beach Do It Yourself Dogwash	Pet Grooming	San Dieguito

The commercial property inventory was utilized to identify potential sources of pollution (high TTWQ), prioritize the businesses and to develop an inspection frequency program, as noted in the City's JURMP.

5.3.2 Pollutant Source Identification

Eight percent (8%) of the City's 2,211 total drainage acres (roughly 177 acres) are zoned for commercial use. Some of the areas within the City zoned for commercial use drain to environmentally sensitive water bodies and 303(d) listed waters (impaired water bodies), as noted in the City's JURMP. Some of the 303(d) listed water bodies have been identified as having *constituents of concern (COC)* or pollutants that are of particular concern to those water bodies. Table 4-2 identifies the 303(d) water bodies and COCs that are impacted by drainage from the City of Solana Beach. There is *no change* to report in the City's source identification of pollution. As reported in last year's Annual Report, based on water quality data analysis of the past few years, Diazinon has been removed from the San Elijo Lagoon COC list.

Table 5-3 303(d) Water Bodies and COCs

303(d) Water Body	Constituent(s) of Concern
San Elijo Lagoon and Ecological Reserve	Coliform, sediment, nutrients
San Dieguito Lagoon (and its tributary, Stevens Creek)	Coliform, TDS
Pacific Ocean	Coliform

Using the inventory list, businesses were classified by types of activities conducted on the property in order to identify potential sources of pollution in accordance with Permit section F.3.c.(2). The Permit specified 25 possible high-priority businesses for each Copermittee. Upon review of the City's business license inventory, the high priority business categories applicable to the City of Solana Beach include automobile servicing and repair; automobile/vehicle washing; retail or wholesale fueling; pest control services; eating and drinking establishments; mobile carpet, drape, or upholstery cleaning; cement mixing or cutting; landscaping; nurseries; and golf courses.

Potential pollutants for each of the ten (10) categories identified above include, but are not limited to the following.

- *Automobile servicing and repair facilities have the potential to generate pollutants such as heavy metals (Cu, Zn, Cr, Ni, Pb), oil, grease, engine and transmission fluids, antifreeze, brake fluids, suspended solids, phosphates, litter, organic debris, fluids, sediments, paint, solvents, paint chips/dust, sand and broken glass.*
- *Automobile/vehicle washing facilities have the potential to generate pollutants such as suspended solid(s), pH, oil, grease, phosphates, heavy metals, detergents, engine and transmission fluids, litter, organic debris, fluids, sediments, paint, solvents, paint chips/dust and sand.*
- *Retail or wholesale fueling facilities (gas stations) have the potential to generate pollutants such as detergents, oil, grease, engine fluids, suspended solids, phosphates, litter, organic debris, fluids and sediments.*
- *Pest control services have the potential to generate pollutants such as harmful chemicals, pesticides, fertilizers, herbicides, nitrogen salts, and phosphorus and in particular, the chemical "Diazinon."*
- *Eating and drinking establishments have the potential to generate pollutants that occur due to improper waste disposal of oil and grease, improper application of pesticides, litter along sidewalks and parking lots, and sediments from equipment cleaning.*
- *Mobile carpet, drape, or upholstery cleaning businesses have the potential to generate pollutants such as BOD, COD, suspended solids, organic matter, cleaning solutions, animal-related wastes, litter and organic debris along sidewalks and parking lots.*
- *Cement mixing or cutting facilities have the potential to generate pollutants such as suspended solids, oil and grease, heavy metals, hydrocarbons, solvents, and metals*
- *Landscaping and maintenance activities have the potential to generate pollutants such as sediments, oil, grease, organic matter, fertilizers, herbicides, pesticides, nitrogen salts, nitrogen and phosphorus.*
- *Nursery (greenhouse) facilities have the potential to generate pollutants such as sediments, fertilizers, herbicides, pesticides, suspended solids (roof coating), nitrogen salts, phosphorus, oil, grease and organic matter.*
- *Golf courses conduct activities that may produce pollutants associated with landscaping and maintenance activities including litter, BOD, COD, sediment, bacteria/viruses, oil/grease, heavy metals, manure, pesticides, fertilizers and detergents.*

5.3.3 2007 Dry Weather Monitoring Results

Results from the 2007 Dry Weather Monitoring Program (DWMP) were collected and analyzed by the City in September 2007 (but are already outdated at the

time of this report). The 2007 program utilized the criteria established by the Permit (and the Copermittee Monitoring subcommittee). The City reviewed the results from the 2007 Dry Weather Monitoring Program looking for the pollutants listed above, and in particular, COCs described in Table 5-3. The results indicated that the bacterial levels at Seascape Sur outfall (which drains to the Pacific Ocean) continued to exceed the action levels established in the Permit and the IC/ID investigation continued (see Chapter 12).

The City continues the non-point source investigation (See Chapter 12), and utilized the results to help design its 2008 dry-weather monitoring program. The results from the 2008 monitoring program will not be available until after this report is submitted to the RWQCB. *As a result of Addendum 2 adopted by the RWQCB in September, 2008, the dry-weather monitoring results will be submitted in December, 2008.*

5.3.4 Threat to Water Quality Prioritization

The inventory of businesses for the City included identifying those that potentially posed a high threat to water quality (TTWQ) as set forth in the Permit and JURMP. As noted above, the City also categorized its businesses by the potential to generate the pollutants described. A detailed inventory of the high priority commercial businesses was provided in the JURMP, Appendix F.

The City has identified 77 stationary commercial sites, of which 67 are high priority Threat To Water Quality (TTWQ) facilities. *There are changes to report in the prioritization of types of commercial businesses within the City, from the JURMP Annual Report submitted in January 2008.* The re-inventory process that occurred during this reporting period as a result of the update to the JURMP revealed that the number of stationary facilities dropped from 88 to 77. Table 5-4 (below) summarizes the stationary businesses in the City's inventory by the general description.

It is important to note that many commercial businesses change very frequently, especially restaurant facilities. The City will make inventory adjustments as inspections reveal changes are necessary. This is an ongoing procedure that will continue into further reporting periods.

Table 5-4 High Priority TTWQ Commercial Facilities by Type of Business

Type of Business	Number
Animal Services	4
Automobile servicing and repair	8
Automobile/vehicle washing	3
Retail/Grocery Stores	3
Eating and drinking establishments	46
Golf courses	2
Dry Cleaning	5
Iron Works	1
Nurseries	3
Retail or wholesale fueling	2
Total	**77**

5.3.5 Business Community Education Campaign

City staff has implemented an aggressive education campaign for the business community. As stated in previous annual reports, education is conducted during the annual storm water inspections. The City, along with the North County Storm Water Program (the cities of Carlsbad, Encinitas, Escondido, Oceanside, Solana Beach, San Marcos, and Vista) developed two commercial BMP posters. The first is aimed toward automobile repair shops and the second toward restaurants. These posters are distributed by City staff during inspections. The business owners are required to place the posters in a noticeable location for all employees to see. On subsequent follow-up inspections, City staff or contracted inspectors check to see if they comply.

Additional educational/training tools developed to be distributed to the local businesses are the “Green Wrench Guide” and the “What’s Cookin’ Guide” developed by the Regional Outreach Workgroup. These guides are also distributed during site inspections as an extra training tool to help these businesses come into compliance. These guides have room designated in the back for employee to sign after they read the material to show educational compliance.

The City believes that distributing these educational tools directly to the businesses during inspections will have the greatest impact. Not only will we have their undivided attention, but we can also guarantee delivery and track who

has received the informational guides. Therefore, when it comes to compliance issues, we can easily determine who has and has not been informed of the regulations. These education tools will be discussed further in the Educational Component of this Annual Report.

By the time this inspection program was fully implemented, City staff and contracted inspectors found that a majority of business owners were “aware” or had some “basic knowledge” of storm water requirements. The City, along with the other Copermittees in the Carlsbad Watershed, developed a knowledge/awareness rating and included it on all inspection forms. This will help better assess the overall knowledge of the business community in relation to not only other businesses in the city, but in the watershed as well. This will be discussed more in the Educational Component.

Because of all these efforts above, City staff believes the high level of storm water knowledge in the business community is due in large part to the education campaign aimed at business owners. Although the jurisdictional business workshops have been postponed temporarily due to lack of attendance, the City understands the importance of these activities. Therefore, if the demand increases in the business community or if modifications of the Permit regulations or City regulations occur, the City is committed to resuming the business workshops.

5.3.6 Pollution Prevention Methods

Because of the City’s proximity to the Pacific Ocean, the City has been proactive in its approach to reducing urban runoff, not only during this reporting period, but prior to the implementation of this Permit as well. For example, prior to the implementation of the original JURMP, the City had several pollution prevention methods (PPMs) in place for commercial properties, which continues through to the new JURMP during this reporting period and included, but were not limited to:

- Prohibition of all non-storm water discharges to the City’s storm water conveyance system (SBMC 13.10.060).
- Measures to reduce pollutants to the maximum extent practicable (MEP) were required of business owners (SBMC §13.10.090).
- Persons owning or operating a parking lot (or impervious surface) were *required* to “clean those structure thoroughly as is necessary to prevent the discharge of pollutants to the City of Solana Beach storm water

conveyance system to the maximum extent practicable, but not less than once prior to each wet season" (SBMC 13.10.090).

- The City maintained by municipal code the authority to inspect business properties for compliance with the provisions of Solana Beach Municipal Code, Chapter 13 (SBMC 13.10.110).
- Required maintenance of commercial property (trash cans covered, litter removal, etc.) and appropriate waste disposal.
- Routine articles in the citywide community newsletter, *Shorelines* to educate the community about pollution prevention (see Chapter 9).

5.3.7 New Pollution Prevention Methods

In the City's JURMP, the above pollution prevention methods were expanded for commercial facilities, depending on the type of activities conducted at each business. Numerous activity-specific BMPs were also developed for each business type identified. Complete tables describing the BMPs in detail were included and presented in the City's original JURMP, submitted to the RWQCB on February 21, 2002. ***There are changes*** *to report with respect to BMPs designated for existing commercial properties in the new JURMP submitted in March, 2008.* The changes were necessary to comply with the increased requirements of the new Permit Order No. 2007-0001 and can be found in the recently submitted JURMP.

A) Common Commercial Property BMPs

Many of the BMPs provided to commercial property owners/managers were activity-specific to the type of business conducted on-site. However, there are several BMPs common to all commercial properties, which are described below.

- *Employee Training*: The training of employees on proper business practices to prevent or reduce urban runoff is listed as a BMP for all businesses. Knowledge of pollution prevention methods requires instruction from one person to another, particularly as the requirements are new to many employees and given that employees handle the majority of tasks at a commercial business, staff has explained to proprietors the importance of adequate employee training.

- *Good housekeeping* pollution prevention BMPs are required of most commercial facilities. Good housekeeping includes the proper disposal

of waste materials and proper coverage over waste dispensers, dry sweep outdoor areas, keeping the facility in generally good repair and maintained in good operating condition to prevent deterioration of materials.

- A *Spill Response Plan* (SRP) is required of most commercial facilities as noted in the JURMP. An effective SRP should prevent on-site hazardous materials from leaving the private commercial property and entering the City's storm drain conveyance system. Commercial property proprietors are being educated about an SRP and are now required during inspections by City staff.

- *Minimize Use of Water for Washing / Cleaning:* The BMPs associated with a reduction in the use of water for washing and cleaning is suggested for most commercial facilities operating within the City. It has been common practice for many years to use power-washing methods to clean the outside of buildings, windows, and out-door eating areas at restaurants. In addition, it has been common practice by commercial property owners (and their contractors) to hose-down the sidewalks in front of their businesses to collect trash, debris, and landscaping remnants. These types of cleaning procedures use a lot of water and it is likely that the water will run off of the property and into the City streets or storm drain system, bringing with the water a significant amount of pollutants. For that reason, commercial property owners are requested to find new methods of cleaning, reduce the amount of water used, and prevent the runoff from leaving their property.

- Various other activity-specific BMPs are required or suggested to commercial property owners and are listed in the City's JURMP.

B) Other Pollution Prevention Methods Affecting Commercial Properties

Municipal Code and General Plan Amendments

There were no changes to the Municipal Code or General Plan that affect the Industrial and Commercial Section of the Permit.

Brochures

The City worked collaboratively with other North County cities (see Chapter 9, Education Component) to jointly develop brochures in order to provide a

consistent message to the community, and in particular, commercial property owners/managers. The brochures were utilized by City staff to inform and educate the community, including commercial businesses. Public works crews, Code Enforcement Officers, Planning and Engineering staff passed out brochures when an educational opportunity presented itself. Staff also visited many businesses and distributed the brochure, "*Only Rain in the Drain"* and spoke to business owners about the need for pollution prevention.

5.3.8 Ensuring Implementation through Commercial Property Inspections

During this reporting period, the City decided to slightly modify its inspection process. In the past, City staff had conducted the inspections, but this reporting period the City decided to contract out the services to a company that specializes in storm water and grease management device inspections.

The City decided to contract out the services to ensure that the inspections were being conducted thoroughly and also to further enforce the City's grease management regulations. City staff was being stretched very thin with all the new requirements, so in order to ensure that the proper time and effort was being utilized on these important inspections, the City decided to contract out the services. In addition, the City wanted to begin enforcing its grease management regulations to ensure that all required eating establishments had the proper grease management devices installed and were being properly maintained. It is well documented that the number one cause of sewer spills is grease build-up, so the City is taking a pro-active approach to ensure that grease is being properly managed at all eating establishments.

The City hired Environmental Compliance Inspection Services (ECIS) to conduct the inspections in accordance with the new JURMP. According to the JURMP, the City has 77 stationary facilities, of which 67 are identified as a high "Threat To Water Quality" (TTWQ). 50% (as required in the new Permit) of the high TTWQ is 34 sites required for inspection this first year. The City, through its contractor, inspected 35 sites, two of which were no longer in business. The results are described below.

5.3.9 Enforcement

As mentioned above, the City hired ECIS to conduct the facility inspections. However, the City is still responsible for the follow-up enforcement actions, if necessary. The inspection protocol consisted of ECIS conducting an initial

inspection and then one follow-up if the site was out of compliance for a minor violation (trash dumpster lid open, training logs incomplete, etc.). If there is a major violation, ECIS would contact the City immediately for proper follow-up actions. If the facility was still out of compliance after the second visit, then ECIS would notify the City and City staff would follow-up from there, taking increased enforcement actions including fines, if necessary. The results are as follows:

Total Inspections: 33
Facilities in compliance after first inspection: 14
Facilities in compliance after second inspection: 19

The remaining 14 facilities were still out of compliance after the second inspection and were handed over to the City for follow-up. The violations were all minor infractions consisting of missing grease trap and interceptor receipts and one situation where the property managers were not providing enough trash service and the enclosures for a shared complex were out of compliance. The City followed up with meetings with the property owners and managers, and all facilities have since come into compliance. No citations were issued as a result of the inspections.

The complete database of commercial and industrial inspections is available upon request. The City maintains the database and will build on it as the new Permit cycle continues.

5.3.10 Mobile Businesses

The new Permit requires regulation of mobile businesses within each jurisdiction, which is a new requirement. The new Permit states that each Copermittee shall develop and implement a program to reduce the discharge of pollutants from mobile businesses to the Maximum Extent Practicable (MEP). The mobile business program is being addressed on the regional level, and the City is participating in the development of the program. However, the City has always taken a proactive approach in dealing with mobile businesses, especially mobile car detailers and carpet cleaners. The City has issued several citations in the last few years to mobile businesses that do not have the necessary BMPs in place to prevent pollutants from entering the City's MS4. These violations will be described in the IC/ID Chapter of this Report (Chapter 7), which will be submitted in December, 2008.

5.3.11 New Activities and Improvements for FY 08/09

The City is confident that the new inspection process for commercial facilities, initiated during this reporting period, is a significant improvement for this program. The City anticipates continuing to budget for consultant inspection services to focus on storm water and grease management device inspections. In addition, the City will continue to update the commercial facility inventory as new business licenses and inspections reveal changes.

A major new requirement of the Permit requires the City to develop a mobile business program. As mentioned above, the new Permit requires all Copermittees to develop and implement a program to reduce discharges of pollutants from mobile businesses to the MEP. Since this affects all Copermittees, the region decided to address this on a regional scale. This has become a primary focus and the subject of its own subcommittee, of which the City is involved with. The City will continue to work with the region to develop this program and implement it during the next reporting period.

The City will also look to improve educational materials for commercial facilities, include mobile businesses. The City is committed to working with the other North County Cities (as well as the Regional Outreach Workgroup) to collectively put together educational materials with a consistent message. Additionally, the City will work with the respective Watershed Groups to alter inspection forms or processes if a consensus is met within the group. One new addition that was agreed upon by the Carlsbad Watershed Group was the inclusion of two assessment questions at the end of the inspection to gauge the knowledge and/or behaviors of the facility owner/manager. This was included to gain a better understanding of the level of knowledge of the responsible employees and see if their behavior changes over time. Hopefully, this will give the Copermittees a better assessment tool to analyze program strengths and weaknesses.

5.3.12 Summary of Commercial Section

The City has successfully updated its JURMP and respective commercial inventories. As a result, the City has identified commercial facilities that pose a high threat to water quality and developed an inspection frequency per its new JURMP. The City has also developed an effective enforcement process and notified all high-priority businesses of required BMPs. For the most part, the businesses in this community have willingly adapted their practices to meet the storm water regulations of the Permit.

The City has successfully updated its JURMP to reflect the new requirements of Permit Order No. 2007-0001. As such, the City has successfully developed a program to comply with all aspects of the new JURMP, and is committed to continually improve on the program in the coming years.

The City's proactive approach of patrolling the City daily and stopping at sites where potential violations may occur before there are discharges has greatly reduced the amount of NOVs and citations issued. The City has discovered that it is much more efficient and worthwhile to put forth the effort to stop a potential violation before it occurs rather than wait and deal with the consequences. So far, this proactive approach has been very successful, as most businesses appreciate City staff working with them, instead of the normal practice of enforcement.

CHAPTER 6
Residential Component

CHAPTER 6: RESIDENTIAL COMPONENT

6.1 Introduction

In accordance with Permit Section D.3.c, this section of the report describes the City's efforts to prevent or reduce residential discharges of pollutants into the City's MS4 to the MEP and to prevent residential discharges from the MS4 from causing or contributing to a violation of water quality standards.

In each Annual Report to the RWQCB, this section will include any proposed modifications to the City's JURMP (Section 8.0, Residential Component) including prioritization of residential areas and pollutant source identification. Results from the City's efforts to implement BMPs will also be included. A summary of activities conducted post-reporting period may be included if the activity is deemed essential to understanding the City's efforts at reducing urban runoff or permit compliance.

The City conducted numerous community education discussions, distributed flyers and door-hangers and published articles in the City newsletter. The City also operated a 24-hour hotline for the community to be able to report any suspected violations or contact City staff. In addition, the City conducted its Household Hazardous Waste (HHW) collection and recycling program, which includes door-to-door services.

6.2 Pollution Prevention Methods

Polluted urban runoff in residential areas stem from activities associated with the following: automobile use, maintenance, cleaning, and repair; home and garden care (pesticides, herbicides and fertilizers); disposal of trash, pet waste, and household hazardous waste; outdoor washing activities; landscaping and home maintenance. The pollutants that can be generated by these activities (bacteria, detergents, heavy metals, grease, oil, herbicides and pesticides) are important to prevent from entering the City's MS4 to the maximum extent practical.

6.3 BMP Implementation

The City continued several pollution prevention methods that reduce, prevent or mitigate the harmful pollutants in urban residential runoff. The City continued its HHW collection program, operated a 24-hour hotline for reporting violations, sponsored community events and developed flyers, brochures and newsletter

articles. In addition, the Copermittees decided to develop regional programs to address the residential requirements of the new Permit.

6.3.1 Hazardous Waste Collection and Recycling

Under the 1989 California Integrated Waste Management Act (AB939), cities are required to provide Household Hazardous Waste (HHW) collection programs to residents in order to limit the volume of HHW (paint, household cleaners, pesticides, car batteries, automobile waste) that might otherwise find their way into a landfill, or worse, illegally dumped. For San Diego County, the HHW program had been funded by a tipping fee until 1997, when the County of San Diego sold the landfill system to private companies.

During the FY 07/08, the City of Solana Beach continued its partnership and the reciprocal use agreements with the cities of Vista, Poway and Escondido to provide permanent HHW drop-off service to City residents at a cost of $55 per vehicle. To encourage participation, the entire cost is picked up by the City. During this reporting period, the permanent facilities were utilized by 157 participants, up from 118 participants last reporting period. Additionally, the City operates a door-to-door program where, for a small co-payment of $10 per visit, a service will come directly to the resident's house to pick up the Household Hazardous Waste so that residents do not have to drive to Poway, Vista or Escondido. The door-to-door home pickup program was utilized by 259 participants, slightly down from 261 participants last year, and the permanent facility was used by 157 participants, for a total of 416, up from 379 total participants last year. The City also has a program for senior citizens and homebound residents where the door-to-door service is provided free of charge, with the City paying for the service. These programs are offered to encourage the proper disposal of hazardous wastes to prevent it from entering and polluting our sensitive waterways. The program also includes the disposal of e-wastes, including TVs, computers, VCRs, etc.

The City keeps records of how many people utilized the program throughout the FY07/08. Records indicate that 416 participants utilized this program in FY07/08. In addition, a questionnaire is provided to the participants at the time of disposal to acquire useful information such as how they heard of the program and what types of wastes were disposed. Many respondents listed local programs such as the City's newsletter "*Shorelines*" and educational brochures as the source of their knowledge of this program. Other sources include the two local trash haulers (EDCO and Coast Waste), Solana Center for Environmental Innovation, searching the internet, and basic word of mouth. Obviously, this bodes well for

the educational work of City staff and is a good indication that the City's educational program is effective at getting the word out to the community about environmental concerns, water quality, and opportunities to participate as the program continues to grow. Additionally, it shows the beneficial cooperation efforts between the City and its contractors. .

The City is a member of the Regional Solid Waste Association (RSWA). As a member, the City participates in a multi-city agreement with EDCO Waste and Recycling Services, Inc. (EDCO). As reported earlier, the agreement resulted in a very successful program for elderly and homebound City residents to dispose of HHW at their door, *at no charge to the residents*.

This agreement is necessary because the City of Solana Beach does not have the capacity to operate its own HHW facility within its jurisdictional boundaries. Without this RSWA agreement, the residents would have very limited options in dealing with the proper disposal of HHW. This would ultimately lead to the improper disposal of HHW, which would threaten the local waterways and sensitive environment. However, due to the foresight of the City government, the formation and participation in groups such as RSWA lead to increased opportunities for the community to protect the local environment. It also allows the City to subsidize the costs of disposal to assist the residents in properly disposing their HHW.

Recycling

As noted in the Introduction of this report, the City is a proactive agency working to improve the environment along with its partner in this effort, Solana Center (formerly known as Solana Recyclers). The City was the first city in the county to initiate a curbside recycling program.

Assembly Bill 939 (AB 939) requires cities to divert at least 50% of their total solid waste away from landfills, and the best way to accomplish this is through recycling. The percentage of waste that the residents of Solana Beach recycled in 2006 (the latest known total as of this reporting period) is 62%, the highest in the county. This shows that the City's programs are working and the awareness of the residents is very high, as many of the cities in the region failed to reach 50%. The process of writing the 2007 AB939 report is underway, but not completed before this report was submitted. These numbers will be included in next year's report.

One significant recent modification to the City's solid waste and recycling

collection occurred in November, 2006. As stated in last year's Annual Report, the City participated in a pilot study to determine the feasibility of transitioning from manual trash and recycling collection to automated collection. Studies have shown that automated collection drastically improves recycling rates by providing more efficient "single stream commingled recycling." The large-scale transition resulted in a 21% increase in residential recycling (or approximately 950 tons), which is a huge success.

In addition, the residents received new trash and recycling containers that are more durable and have lids attached. This has drastically cut down on the amount of loose trash that frequently escaped the old resident supplied containers that were much lighter and easier to tip over, and frequently had no lids. This allowed for the animals and birds to get into the cans and spread trash around the neighborhoods, which can enter the City's MS4 system. This has been a significant load reduction BMP, as City Public Works Crews have reported less loose trash around the community.

6.3.2 Annual Bulky Item Clean-up Day and Coastal Clean-Up Day

Each October, the City hosts an Annual Bulky Item Clean-up day. The City's waste hauler provides roll-off containers for the collection of large appliances, yard waste, excess trash and scrap metal. Residents only need to bring their large bulky items and excess trash to La Colonia Community Center to drop off anything that they have, to save them a trip to the landfill, and it's *free of charge*. Additionally, Solana Beach residents can call the City's trash hauler to set up an appointment for *free curbside pick-up* and disposal of up to three bulky items up to three weeks prior to the event. It is well documented that the easier and more efficient it is for people to recycle or dispose of large items the more often they will do it. By offering this convenient, local and free of charge event, the less likely residents will dispose of their large items illegally, and keeping them out of our local waterways.

Each September, the City of Solana Beach participates in the annual Coastal Clean-Up Day sponsored by the California Coastal Commission and I Love A Clean San Diego. The City hosted two sites again this year, one at Fletcher Cove and one in the San Elijo Lagoon, where residents came and spent the morning beautifying the local community. This event was another huge success with a combined 120 volunteers collecting 485 pounds of trash, and 120 pounds of recyclables.

6.3.3 24-hour Hotline

To assist residents in obtaining information, reporting suspected storm water violations or to report illegal dumping, the City operates a 24-hour "storm water hotline" during this reporting period. The hotline (858-720-4424) is available 24 hours a day, seven days a week, 365 days a year. The hotline is linked directly to the voice mail of the City's Environmental Programs Manager to increase efficiency and ensure prompt responses. This way, calls can be immediately fielded and handled in the appropriate manner.

6.3.4 Pet Waste Bag Dispensers

The City installed and maintains Pet Waste Bag Dispensers to reduce the potential of pollution stemming from residents (and visitors) not collecting waste from their pets while walking. This was a measure added to hopefully help the high levels of fecal coliform detected at the Seascape Outfall revealed during wet and dry weather monitoring. The City has posted dispensers and signs to encourage their use. The program appears to be working very well because, during this reporting period, approximately 67,500 waste bags (up from 37,800 last year, 30,000 the year before that and 26,400 the first year this was documented) were utilized by the community.

6.3.5 Education and Outreach

The City's entire education and outreach program is provided in Chapter 8 of this report. Activities associated with the educating of residents are addressed in this section, which may also be repeated in Chapter 8.

Shorelines articles:

The *Shorelines* is the City's Newsletter and Recreation Guide for community information. The newsletter is now distributed four times a year (Spring, Summer, Fall and Winter) to each resident and business within the City (up from twice annually in the past). It is one of the best methods to get information to the public about a variety of issues.

In the *Shorelines* for Summer 2007 (Appendix D), the City published a variety of issues relating to environmental education and storm water activities. These articles included:

- "The City of Solana Beach Water Quality Program"

- "Sewer Forcemain Replacement Project"
- "City Streets Make A Clean Sweep"
- "Residential Automated Trash and Recycling Program Update"
- "San Elijo Lagoon Lecture Series"
- "City of Solana Beach Department of Parks and Recreation Summer Day Camps"
    - Oceans Week
    - Ecology and Our Environment
    - Rainforest Exploration

In the Winter 2007 issue (Appendix F), the City published a variety of issues relating to environmental education and storm water activities. These articles included:

- Environmental News and Programs
    - Water Conservation News
- Storm Water Hotline
- Solana Beach Clean and Green Committee
- Coastal Clean-Up Day
- Restoration of San Dieguito Lagoon

In the Spring 2008 issue (Appendix G), the City published the following articles relating to environmental education and storm water activities:

- Update on Solana Beach Clean and Green Committee
- Construction and Demolition Debris Recycling Ordinance

- Plastic Bag Advertising Ban
- San Dieguito River Valley Conservancy

In the Summer 2008 issue (Appendix H), the City published the following articles relating to environmental education and storm water activities:

- Environmental Sustainability Update
- "City of Solana Beach Department of Parks and Recreation Summer Day Camps"
    - Under the Sea
    - Ecology and Our Environment

Brochures and Door hangers

In 2002/2003, the City collaborated with neighboring Copermittees (the cities of Del Mar, Encinitas, Oceanside, Vista, San Marcos, Escondido and Carlsbad) to develop several educational brochures. One particular brochure is referred to as the "door-hanger." The door-hanger is an excellent tool to inform groups or individual residents about pollutants that were found in their area, but may or may not have been contributed by them specifically. The door-hanger has a place for staff to leave their business card, indicate the types of pollution found (from landscaping to pet waste) and lists various specific BMPs for eliminating street and gutter debris in their area. Staff hopes that by placing the brochures around the entire neighborhood, residents will report to the City where the discharge came from or alter their behavior to prevent the discharge from occurring again.

Also in 2002/2003, the City collaborated with the other North County cities and created a brochure "*Only Rain in the Drain*," which is distributed at local community events and to visitors at City Hall, the Fire Department and Community Center. The brochure is also available at many community businesses. The brochure reviews Best Management Practices for residents and the need to prevent or mitigate pollution to the best extent practical. The brochure also provides a consistent message because all cities in the North County use it.

Staff distributed the door hangers and brochures to residents and business owners throughout the community. These educational materials have been used by Public Works staff, Code Enforcement Officers, and others and have been found to be an informative and effective tool. This includes those given out to neighborhoods during IC/ID and source tracking investigations, those given out individually during routine rounds around the City and any community fairs (Fiesta Del Sol) or regional workshops/events (about 2 a week on average for all activities, totaling approximately 104 distributed).

School Presentations

The Solana Center conducts school presentations for the City to local schools within the City's jurisdiction. As part of both trash haulers' contracts (EDCO and Coast Waste) with the City, they are required to provide funds for public outreach and education. Both haulers have chosen to contract out this work to Solana Center. Therefore, Solana Center provides school presentations regarding storm water issues to the local schools. These presentations include discussions about the importance of preventing pollution from entering the streets, gutters and storm drains. The Enviroscape model is also used during these presentations. Details regarding the school presentations that Solana Center conducted during this reporting period can be found in Chapter 10, Public Participation.

Additionally, the City's Park and Recreation staff conducts a summer "ecology camp" for local children to educate them on various environmental issues, including stormwater and recycling. The children go on field trips and have classroom discussions. It is a very interactive classroom setting where the children are encouraged to participate and really engage in the various activities. The ecology camp is an annual program that will be utilized to educate the children in all environmental issues.

The City's Marine Safety Department also conducts school presentations that focus on ocean awareness/safety as well as being environmentally aware and responsible. The presentations focus on water quality and the benefits of protecting this valuable asset.

These are reported on in further detail in Chapter 8, Education Component.

Tile Stenciling

All storm drain catch basins in the City currently have tile markers already installed. The construction standard described in the City's JURMP, with respect

to the requirement that all curb inlets have a tile marker permanently affixed on the face side, continues to be enforced. All new development/construction projects are required to install tile markers on all new curb inlets. City staff also document broken or missing tiles when detected in the field and report back to the Environmental Specialist to install.

Web site

The City's Web site (http://www.ci.solana-beach.ca.us/) is another tool that can be utilized by residents to obtain information about the City's storm water programs. The Web site address is printed on most educational and outreach materials, printed in the City's newsletter, and linked to other storm water programs (such as thinkblue.org; ProjectCleanWater.org; and the County's Department of Environmental Health).

6.4 Threat to Water Quality Prioritization

During this reporting period, the City re-evaluated the drainage areas to identify those areas that potentially posed a high threat to water quality as set forth in the Permit section D.3.c(1). The areas are defined in Section 8.2.1 of the City's new JURMP.

*There are **no changes** to report in the City's prioritization of high-priority residential areas from those submitted to the RWQCB in the City's new JURMP (submitted March, 2008).*

6.5 Implementation of BMPs

As noted in Section 6.1 (Pollution Prevention), the City has implemented various methods to prevent pollution to the Maximum Extent Practical (MEP) standard from entering the City's MS4. The City indicated in its JURMP (Submitted March, 2008) the designation of several BMPs for the High Priority Residential Areas and Activities (see JURMP, Appendix B).

One of the most significant differences between the City and other local agencies, is that runoff from residential automobile washing *is strictly enforced* by Solana Beach Code Enforcement Officials. City staff is often dispatched to reports of people washing their cars, and City procedures allow for several warnings before a citation is given, except in the case of mobile car-washing businesses. In that instance, mobile car detailers are informed to cease their

activity and immediately clean up the resulting discharge. Mobile detailers are cited for failure to comply if they refuse to discontinue or remedy the discharge. City staff records all violators and if they encounter them violating the Permit again within the City, they are immediately given an administration citation and fine.

6.6 Construction BMPs

In addition, the City is taking a proactive approach to construction projects along the perimeter of the City. The City is in a unique geographic situation, bordered to the north and south by ecologically sensitive lagoons and to the west by the Pacific Ocean, Therefore, all construction projects along the perimeter of the City are scrutinized even more to ensure no pollutants leave the site and enter the ecologically sensitive lagoons and ocean. This will be described in more detail in the Construction Component of this Report.

6.7 Enforcement Actions

Violations of the storm water Permit and any necessary follow-up actions taken by the City are described in Chapter 7.0, Illicit Discharge Detection and Elimination (IC/ID) Component. Since violations in the residential sector oftentimes are discovered during an IC/ID investigation, it is appropriate place to discuss the actions.

6.8 New Activities and Improvement for FY 08/09

The City is actively developing and implementing the activities described in the Residential Component of the City's new JURMP. The focus will continue to be education through brochures, flyers, public announcements, community fairs and one-on-one contact. The City will look for ways to generate interest in community workshops although the results of a recent survey indicate that a very high proportion of residents are knowledgeable about storm water issues.

The new Permit adopted in January 2007 contains increased requirements for the residential sector. This is one key area that the Permit focuses on; so new programs will have to be developed by the City to address these requirements. There is also a focus on watershed and regional programs to address the residential sector, so the City anticipates working with the other Copermittees to develop these programs cooperatively to express a consistent message. The City will be working to develop these programs for implementation in FY 08/09. These programs will be discussed in more detail in the Unified Urban Runoff

Mitigation Program

6.9 Summary

The City has been successful at implementing the Residential Component of the JURMP including among other things:

- Provision of public pet waste bag dispensers (approximately 58,0e00 bags were utilized by the community during this year).
- Collaborating with neighboring jurisdictions (NCSWP) to develop several brochures, which have been distributed at local events, to City Hall visitors, and in neighborhoods.
- Collaborating with all Copermittees to develop regional educational programs as required by the new Permit Order No. 2007-0001.
- Using the City's Web site to post informative information about the City's storm water programs.
- Operating a 24-hour, 7 day a week storm water hotline that residents can report any storm water violations.
- Operating a community-wide used oil and hazardous waste collection program that offers door-to-door service for all residents.
- Implementing a new community-wide curbside single stream commingled recycling program for all residents.
- Providing opportunities for local school presentations regarding storm water issues.

CHAPTER 7

Illicit Discharge Detection and Elimination Component

CHAPTER 7: ILLICIT DISCHARGE DETECTION AND ELIMINATION COMPONENT

This is a placeholder for Chapter 7, which as a result of Addendum No. 2 adopted by the Regional Water Quality Control Board on September 10, 2008, extended the reporting component of this Chapter to December 15, 2008.

CHAPTER 8
Education Component

CHAPTER 8: EDUCATION COMPONENT

8.1 Introduction

In accordance with Permit Section D.5, this section of the report describes the City's educational program that is intended to us all media as appropriate to measurably increase the knowledge of the target communities regarding MS4s, impacts of urban runoff on receiving waters, and potential BMP solutions for the target audience and to measurably change the behavior of target communities and thereby reduce pollutant releases to the MS4 and the environment.

In each Annual Report to the RWQCB, this section will include a description of the City's efforts during the reporting period and possibly post-reporting period if the activity is deemed essential to understanding the City's efforts at reducing urban runoff or Permit compliance. In addition, this section of the report will include the City's planned educational efforts for the following fiscal year.

During this reporting period, the City continued the comprehensive Education Component of the JURMP (Section 9) that was developed and implemented during the last five reporting periods. The activities were expected to increase knowledge among the residents, business owners, and those who do business (such as contractors) within the City. The City developed the program based on the requirements of the Permit and continued implementation during this reporting period.

In addition, the City began developing programs for the new requirements of the new Permit. These programs are being developed on a watershed and regional level, and the City is an active participant in these workgroups. A major focus of the new Permit is on developing a regional education program, with the idea of forming a "brand" for the region where people can identify with the program as a whole. By developing and implementing a regional program, the messages will be consistent and easier to identify with.

During this reporting period, the cities of Carlsbad, Del Mar, Oceanside, Escondido, Vista, San Marcos, Encinitas and Solana Beach continued the North County Education Group that was formed to develop strategies and programs to provide consistent messages to the communities of San Diego North County. This basis for this group is to have a more effective educational program than would be if the cities offered divergent messages. The group consists of storm

water program managers, assistants and staff members who all bring individual talents, experience and interests to the program. While this watershed group will continue developing educational materials and activities, it will also work with the regional group as mentioned above. This group will ensure that the Copermittees represented will participate with the “regional” message and program as required by the Permit.

As a collaborative, the group is able to obtain lower cost for educational tools (such as brochures, flyers, handouts, small tokens [pens, keys, etc.]), which provides a financial benefit to the agencies and thus, the community.

The North County Education Group has continued meeting through this reporting period, in which the City has been an active participant (for a summary of meeting dates, jurisdictions in attendance, and topics discussed, please reference the Carlsbad WURMP Annual Report).

The group has been able to assist each other in developing a consistent message incorporating the interests and concerns of each agency. When brochures and handouts have been created, flexibility among the agencies was required.

The collective decision-making process has also generated cooperative working relationships among the agencies, which was extremely beneficial when the development of the Watershed Urban Runoff Management Program(s) began and in working together to complete various storm-water-related tasks. The community also benefits from the consistent “one message” approach rather than six or seven different rules and regulations.

8.2 Pollution Prevention through Education – Jurisdictional Activities

The City’s storm water program is comprehensive. Not only are there many components to administer, there are many different programs going on simultaneously throughout the County. The City participates in jurisdictional, watershed and regional activities. Each of these has separate and distinct educational components; however the challenge is to ensure that the same message is being spread throughout the County. The watershed activities have been recently defined and are in the early stages of implementation; since this is a jurisdictional report, there will not be much discussion about those in this Annual Report (For more detailed information on WURMP related activities, please see the WURMP Annual Reports for Carlsbad and San Dieguito). The

regional activities have been primarily described in the Copermittee *Unified Urban Runoff Management Program Annual Report for Fiscal Year 2007-08,* which has been submitted by the County and incorporated herein by reference. However, some of the activities will be summarized in this section of the report (see Regional Activities).

8.2.1 Staff Training

One of the most important aspects of the City's educational program is to educate its staff members. This turns out to be a relatively easy task for this City in that there are only about 70 full time staff members. All staff members are required to attend an all-hands citywide staff meeting each month. Staff determined that the best opportunity for training would be at the monthly staff meetings.

The City's Environmental Programs Manager prepared several different training sessions. These include:

- Delivered presentations at City Council meetings regarding several different aspects of the storm water program. Council meetings are televised throughout the City and meeting minutes and action agendas posted online and available at the City Clerk Department.

- Delivered Sewer Overflow Response Plan training to the Public Works Staff to emphasize proper detection, prevention, clean-up and reporting practicing to reduce number of sewage spills that enter the City's MS4 System.

- Distributing handouts describing general BMPs.

The City believes that all current staff are adequately aware of the storm water issues, and all new staff will be trained as appropriate upon arrival. However, due to the constantly evolving storm water field, the City will continue the periodic educational trainings at future City all-hands staff meetings and department specific trainings as appropriate.

8.2.2 Annual Beach Cleanup Days

Based on the results of the baseline survey; workshops, brochures, flyers, and articles were developed to promote understanding about storm drain pollution.

The City of Solana Beach, in cooperation with I Love a Clean San Diego County, Inc. coordinates an annual "Coastal Cleanup Day". These events are volunteer beach clean ups. As noted in this report, in September 2007, the City hosted its annual clean-up day and 120 volunteers collected 485 pounds of trash 120 pounds of recyclable glass and plastic materials that might have otherwise ended up in the landfill or worse, local waterways.

8.2.3 Storm Drain Tile Marker Installation

The City inventoried all of its storm drains (inlets and catch basins) and has the locations in GIS format. The inventory list includes addresses, cross streets and a GIS bit-map. Stenciled tiles are affixed to each storm drain inlet or catch basin location, which reads, *"No Dumping! This drains to the ocean."* The City now requires all new or re-development projects that install a storm drain curb inlet or catch basin to include the stenciled tile. An extra supply of tile markers is kept at the City's Public Works Yard for all City projects as well as for private contractors to install on their projects to provide a consistent message throughout the City.

8.2.4 Local Community Events

The City of Solana Beach hosts an annual block party called Fiesta de Sol. Each year at the block party the City has a booth promoting to the participants no dumping or littering and to keep our beaches clean. The City also coordinates with Solana Center with their booth promoting proper disposal of HHW and recycling (oil included) in the City. The City passes out "*Only Rain in the Drain*" brochures, community surveys, and displays the watershed poster, "We All Live in a Watershed…" Staff discusses with residents the importance of protecting the water resources and educated them on the new storm water regulations. This reporting year's Fiesta Del Sol occurred on June 7 and 8, 2008. There were approximately 60,000 visitors during this year's event, and City staff distributed storm water brochures and informational flyers to those who visited the City's booth.

The City also partnered with a local community group to put on the third annual Beach Blanket Movie Night on 9/25/2007 (Appendix R). This was the third year this community event was held and was once again a huge success. The City worked closely with the event organizers and provided recycling containers, environmental educational material pertaining to storm water issues, and used oil recycling information. The City also shared a booth with Solana Center to provide environmental education to the attendees. It is important to note that this was the only booth allowed by the organizers because they want to promote a relaxed,

friendly environment. However, because the environment is such a popular thing in Solana Beach, they allowed the City to have a booth to promote the environmental programs. The event was very well attended and a huge success, and will continue to occur annually. This is a great way to promote environmental awareness at a free event to the community.

A new item that was distributed at this year's event was doggie-bag dispensers that attach onto a leash. These dispensers had the City logo and the message, "The City of Solana Beach Reminds You To Please Pick Up After Your Pets." The City wanted to emphasize the importance of eliminating pet waste from the MS4, as it can be a major contributor of harmful bacteria. These dispensers were very well received and the City plans on distributing them at every community event.

8.2.5 School Programs

The Solana Center is a local organization that writes articles for the City Newsletter (*Shorelines*) and presents educational programs in the City schools regarding storm drain pollution using the watershed model (Enviroscape) and fun handouts and items for the kids. Solana Center is paid through the City's solid waste contract, as well as a HHW grant, to provide educational opportunities to the community. City staff is in regular contact with the Solana Center and is confident that their program(s) is educational and informative for the children. The presentations are provided free to the local schools, and the information provided is invaluable.

The following table shows what school/community education has taken place during this reporting period:

School / Adult Community Education

Date of Event(s)	Event Title	Estimated Audience	Specific Audience	Location	Jurisdiction
July 16-20, 2007	Ecology and our Environment	25	Grade 1-Jr High	La Colonia Community Center (Field Trips Included)	Solana Beach
July 30-August 3, 2007	Rainforest Exploration	25	Grade 1-Jr High	La Colonia Community Center (Field Trips Included)	Solana Beach
June 23-27, 2008	Ecology and Our Environment	20	Grade 1-Jr High	Fletcher Cove Community Center (Field Trips Included)	Solana Beach

April 16, 2008	Storm Water Watershed Presentations	48	Grade 1-Jr High	Santa Fe Montessori School	Solana Beach
April 21, 2008	Storm Water Watershed Presentations	15	Grade 1-Jr High	Solana Beach Girl Scout Troup	Solana Beach
May 5, 2008	Storm Water Watershed Presentations	17	Grade 1-Jr High	La Colonia Community Center	Solana Beach
May 12, 2008	Storm Water Watershed Presentations	15	Grade 1-Jr High	Solana Beach Boys and Girls Club	Solana Beach
May 19, 2008	Storm Water Watershed Presentations	15	Grade 1-Jr High	La Colonia Community Center	Solana Beach

8.2.5.1 Marine Safety Department Educational Presentations

A new educational program was developed and implemented by the City lifeguards in the Marine Safety Department during this reporting period. The lifeguards began an outreach program to the local schools to educate the students on ocean safety and awareness as well as environmental education. This was a natural fit, seeing how the lifeguards provide a safe environment for the community to enjoy the valuable coastal resource, and they want to ensure that the community becomes environmental stewards to help protect this resource. The presentations focused on water quality, trash and litter control and the ecosystem as a whole. These presentations have been very well received by the schools and the lifeguards plan to continue them into the future.

Marine Safety Department Education

Date of Event(s)	Event Title	Estimated Audience	Specific Audience	Location	Jurisdiction
February 8, 2008	Ocean Awareness/Safety and Environmental Stewardship	40	Grade 1-Jr High	Marine Safety Department	Solana Beach
February 27, 2008	Ocean Awareness/Safety and Environmental Stewardship	13	Grade 1-Jr High	Marine Safety Department	Solana Beach
March 13, 2008	Ocean Awareness/Safety and Environmental Stewardship	40	Grade 1-Jr High	Marine Safety Department	Solana Beach

March 15, 2008	Ocean Awareness/Safety and Environmental Stewardship	6	Grade 1-Jr High	Marine Safety Department	Solana Beach
March 23, 2008	Ocean Awareness/Safety and Environmental Stewardship	13	Grade 1-Jr High	Marine Safety Department	Solana Beach
May 12, 2008	Ocean Awareness/Safety and Environmental Stewardship	60	Grade 1-Jr High	Marine Safety Department	Solana Beach
May 14, 2008	Ocean Awareness/Safety and Environmental Stewardship	60	Grade 1-Jr High	Marine Safety Department	Solana Beach
May 23, 2008	Ocean Awareness/Safety and Environmental Stewardship	10	Grade 1-Jr High	Marine Safety Department	Solana Beach
June 19, 2008	Ocean Awareness/Safety and Environmental Stewardship	40	Grade 1-Jr High	Marine Safety Department	Solana Beach
June 20, 2008	Ocean Awareness/Safety and Environmental Stewardship	5	Grade 1-Jr High	Marine Safety Department	Solana Beach

8.2.6 Educational Brochures

The City has participated with the North County Educational Group to develop many effective educational materials. The handouts and brochures are included in the Carlsbad WURMP Annual Report.

- "*Only Rain in the Drain*!" describes the importance of protecting the valuable water resources and the problems that can be caused by storm water pollution. It also provides a list of BMPs to help prevent pollution. The brochure also provides valuable resource numbers: *a direct number for each jurisdiction* is provided, as well as the County's Storm water hotline. The brochure is available at City Hall, the City Fire Department and Marine Safety, each staff member was provided a brochure and brochures were personally distributed to local businesses. The City's Public Works Crew and Code Enforcement Officers deliver these every day to the community when small

violations are observed. Since these staff members are out in the community every day, this has proven to be an effective means of public education. Larger infractions are reported to the Engineering Department or Code Enforcement Department for follow-up.

- The door-hanger *"Help!"* provides a method for staff members to indicate to residents that pollutants were found near their home. The brochure is in English and Spanish, which is helpful to residents. It is typically hung on a resident's door, provides a place for business cards and under the cards, (should they become misplaced) the brochure lists a contact number for *each jurisdiction*. The back of the brochure provides BMPs for vehicle maintenance, car washing, hazardous materials handling, recycling, litter, and sidewalk/driveway debris.

- To assist the public in directing their calls for complaints and service, the City operated a 24-hour storm water hotline telephone recording (858) 720-4424. The number is connected directly to the Environmental Specialist's voice mail (so it can still remain anonymous, if necessary), so that violations can be investigated immediately and the proper action taken *while the violation is occurring*. The City informs the public about the hotline number at City Council meetings, on flyers and handouts, and on business cards and on brochures.

8.2.7 City Newsletter (Shorelines)

Chapter 2 contains all the information regarding the *Shorelines* newsletter and gives a brief description of the articles included during this reporting period. The articles are also included in Appendices D, E, F, G and H.

8.2.8 Web Site

The City continues to utilize all the benefits of recent technological breakthroughs to educate the community about the various environmental programs, including the storm water program. On the City's Web site (www.ci.solana-beach.ca.us), there is a page "Environmental Services" that is dedicated to the environmental programs in the City, including storm water management.

As mentioned in last year's Report, the complete overhaul of the City's website has been finalized. The website is much more user friendly and staff has the ability to make instantaneous changes to individual web pages as necessary. This allows City staff to update the storm water page as things develop and

documents/forms become available. This is much more efficient and effective than the previous design as requests to the IT department do not have to be made and processed, greatly reducing waiting time. Additionally, important forms can be accessed online by the public reducing the need to come to City Hall to pick up documents and forms.

In local articles in the North County Times, the City's *Shorelines* Newsletter, all brochures and handouts and on all business cards, the City's Web site is listed. Although the educational success of the Web site it not measurable at this time, staff is certain that the community has opportunity to learn about the various requirements of the Permit.

8.2.9 Business Community

The City has initiated several methods to educate the business community about storm water pollution prevention.

First, the City prepared a letter explaining BMPs, storm water regulations, and business community responsibilities. The letter has been sent to each high-priority business in the City, along with the appropriate business-type BMPs. During inspections, Staff checks to see that the BMP list and/or the BMP poster are posted in a highly visible area. If not, then Staff will reissue the list and require it to be posted at all times. Businesses are subject to enforcement if the list is not posted during re-inspection.

Second, the City conducts annual compliance inspections (see Commercial Component, Section 4.4.3, for more details). Through the inspections, the City's inspection consultant educates the business owners about the requirements of the Permit and the City's various storm water programs. Given the City's close proximity to the Pacific Ocean and sensitive lagoons on either side, inspectors are able to show a direct link between commercial activities and impact on water quality. Next, after the initial inspections are conducted by the consultant, City staff conducted follow-up enforcement inspections, to ensure that the businesses are using the proper Best Management Practices to protect the City's waterways. These follow-up inspections were often conducted through scheduled meetings with the property owner and/or manager, to ensure the decision makers were present and can be held accountable. Often times, the initial inspections were conducted without prior warning, and various staff members at the facility were held responsible. Just to ensure that the right people were informed of the infractions/violations, follow-up inspections were pre-scheduled.

During this reporting period, *all* businesses that were inspected were deemed in compliance without any citations issued. Although some businesses had minor issues (trash lids not closed, parking lot not swept, etc.), follow-up inspections revealed no major infractions to report and no fines were issued.

However, there is one property that the City will continue to monitor throughout the year based on their trash situation. The site was out of compliance on the first inspection and follow-up inspection, although not one tenant in the complex could be singled out for violation. The property management was not providing adequate trash service for the businesses in the complex, therefore trash was allowed to pile up on the ground and lids were open due to over-flow. The City and its inspection consultant met with the various tenants and the property management to work out a solution. The property management agreed to increase the number of weekly trash pick-ups, and the problem appears to be resolved. However, the City will continue to spot check the property periodically throughout the year to ensure compliance.

Finally, the staff members have visited various businesses and left brochures, including door hangers, when pollutants have been found. In addition, staff members, including Code Enforcement Officers target educational messages (letters, visits, etc.,) to businesses when pollution is found in their area. Staff has been proactive in their approach to educating the business community.

8.2.10 Additional Signage at Seascape Sur Outfall

As reported in last year's Annual Report, the City was notified by the Marine Safety Department that people have been washing their hands in the discharge from the Seascape Sur Outfall. Since this outfall has had historically high levels of bacteria, the City wanted to prevent this from happening for public health/safety reasons. The outfall already had a warning sign attached to it; however, the City Engineer ordered another warning sign be placed directly in front of the outfall sticking out of the sand. This will hopefully prevent people from doing this again, and it appears to be working so far, as there have been no more reports from the Marine Safety Department. This is the type of quick response the City is dedicated to in order to ensure the public's health and safety, and other conditions will be treated in the same manner.

8.2.11 Special Events Permit

As reported in previous Annual Reports, the City adopted a Special Events

Permit that is required for group events (Triathlons, Block Parties, Birthday Parties, etc.) of over 25 people on public property. A storm water section is included in the Permit, with requirements regarding the event and adhering to all storm water regulations. This has proven to be a great educational tool, as most applicants tend to ask questions about this. It is a great tool to educate the public about storm water regulations. For an example of the Special Events Permit Conditions of Approval see Appendix S.

8.3 Pollution Prevention through Education – Regional Activities

The regional activities of the Copermittees of Order 2007-0001 are for the most part, described in the Regional Unified Annual Report. However, for purposes of completeness, some of the activities that the City has participated in are described in this section of the report. As mentioned above, the new Permit added significant requirements for regional education, some of which is described below. The City has been in cooperation with the other Copermittees to begin developing a regional educational program. Implementation will most likely begin during Fiscal Year 2008-2009 and will be reported on in next year's Annual Report.

8.3.1 Regional Monitoring

The City participated with the Copermittees in conducting a region-wide wet-weather monitoring program. Although no mass loading stations were located within the City, one of the testing sites (San Dieguito Lagoon) is a receiving water body from the City's drainage.

The 2007/08 program is described in detail in the Regional Unified Annual Report and in the report issued by the consultant, MEC Analytical. MEC's report will be submitted with the Unified URMP, and any data collected will be reported and discussed in that report.

8.3.2 Model Programs

One of the most important regional educational components is the ability the Copermittees have developed to help educate each other. This has been accomplished through routine meetings, sharing of project assignments, and most significantly, the development of model guidelines for the new JURMPs, SUSMPs, and WURMP(s). Not only have the model guidelines produced a fairly consistent message to educate the community, the model guidelines have

established collaborative working relationships among municipal, county, and state agencies, which is remarkable.

8.3.3 Linking to Regional Resources

The City posts links on its website to the regional Web sites (Project Clean Water and Think Blue). In addition, the City posts information on reporting storm water violations to the City as well as County's Regional Storm water Hotline on various educational materials. Linking the community together provides continuity, extension of resources, and economies of scale for the community and the agencies, and contributes to a greater understanding that we are all one-part of impact on water quality. It's important to educate the community that water-quality program should not and do not stop at jurisdictional (or watershed) boundaries.

Through the www.projectcleanwater.org Web site, San Diego County has been able to link many community members to various storm-water/urban-runoff-related programs of interest. In addition, the website contains information (dates, times, agendas) on meeting's that are open to the public if interested.

8.4 Pollution Prevention through Education – Watershed Activities

In accordance with the Permit, each municipality is required to participate in the development and implementation of a Watershed Urban Runoff Management Program (WURMP) for each hydrological unit in which the City's jurisdictional boundaries lie. The northern portion (~10%) of the City resides within the Carlsbad Hydrological Unit and the rest of the City resides within the San Dieguito River Hydrological Unit. As such, the City is required to participate in the development and implementation of two WURMPs addressing the runoff concerns of each watershed.

During this reporting period, the City actively participated in the development and implementation of the Carlsbad and San Dieguito WURMPs, as well as developed two new WURMPs to comply with Permit Order No. 2007-0001. The WURMP Annual Reports will be submitted in January 2009, and detail all the activities and programs being implemented by the respective Copermittees to address watershed issues.

In short, each WURMP contains the following 1) a time schedule for developing a comprehensive map of the entire Watershed including all land uses, the storm

drain systems, and inventories of all commercial, construction, industrial, municipal and residential areas, 2) a plan to ascertain the types of pollutants that exist in the water bodies throughout the watershed and a prioritization schedule to eliminate the pollutants; 3) a program to educate the entire community about issues related to urban runoff; 4) methods to provide the community opportunities to participate in the program; 5) plans to collaborate with Copermittee agencies to strategize, review and analyze information; and 6) an effective program effectiveness strategy and methods to conduct annual evaluations. A significant addition to the responsibilities of all WURMPs is the requirement to actively implement two (2) activities each year aimed at sources to reduce high priority pollutant loading into local waterways. This will be described in greater detail in the WURMP Annual Reports (submitted in January), but mention of it here in the JURMP is appropriate.

The City has been actively involved in the implementation of both WURMPs, and has brought materials developed in each WURMP to the residents of Solana Beach. The Carlsbad WURMP workgroup has been extremely effective in implementing almost all aspects of the WURMP, and are way ahead of the schedule developed for the WURMPs. The following list is a brief description of all the notable accomplishments of the Carlsbad WURMP workgroup during this reporting period:

- Developed materials for public distribution providing a consistent message to all residents in the North County Watershed.

- Pursued funding for projects involving multi-agency participation that assist us in raising watershed and storm water pollution prevention awareness.

- Maintained inter-jurisdictional collaboration focused on creation and implementation of cost effective watershed awareness and storm water pollution prevention education projects.

- Distribution of an informational door hanger on storm water pollution prevention for residents.

- Storm water “click message” pens.

- Put Toxic Waste in its Place booklet.

- Pet Waste Bacterial Load Reduction Survey and pet waste bag dispenser distribution to target high priority pollutant – bacteria.

- Integrated Pest Management Landscaping and Gardening Workshops.

- SUSMP development workshop.

- Revised education/awareness surveys.

The San Dieguito WURMP has also been very effective in implementing the required activities established in the WURMP. The following is the four-pronged education and outreach approach developed during the reporting period:

- Incorporate core watershed principles into existing educational programs.

- Promote watershed stewardship in communities.

- Develop educational strategies to target priority pollutants within the watershed.

- Achieve milestones as determined through annual assessments.

For more information on these particular activities, please refer to the City's individual WURMPs Annual Reports.

8.3.2 Cable Access Television

Another activity that occurred during this reporting period was the development of a City operated cable access television channel that will be utilized by City staff to inform the community about upcoming events and educate the community on various topics. City staff will take this opportunity to place educational material on storm water issues/regulations to be broadcast through the television community-wide. The channel will run 24 hours a day, 7 days a week and has become a significant public outreach and educational tool. Each month, City staff submits information to be displayed on the channel and it is incorporated into the live feed.

8.5 New Activities and Improvements for FY 08/09

The City will continue to educate the community through participation in the North

County Education Group, the San Dieguito WURMP group, the Regional Education Group, and using brochures, flyers, the *Shorelines*, and community/regional events. The City will also use the results from its DWMP to inform residents in areas that the data showed elevated levels of constituents of concern or materials that degrade the quality of water. The City plans to develop additional educational brochures collectively with the region that will be industry specific. As a result of the 13267 Directive Letter discussed above as well as the new Permit, the Copermittees have changed their approach to watershed issues and plan on taking a more direct approach in implementing activities that address specific pollutants of concern and their respective sources within the watershed. Following the direction of the RWQCB, the watersheds have changed their approach to integrate more pollutant based activities in an attempt to reduce COCs in the watershed and improve water quality. This appears to be the direction the RWQCB wants to go and the Copermittee's are eager to work with the RWQCB to improve the water quality throughout the region.

The adoption of the new Permit and Memorandum of Understanding (MOU) between the Copermittees required extensive outreach to educate the City Council and community on the benefits of the storm water program. City staff conducted many presentations and workshops for the City Council and community that educated them on pollution issues. As discussed earlier in this Report, the City had to revise and add sections to the Municipal Code as a result of the new Permit. City staff took this opportunity to educate the Council and community on the storm water regulations and the benefits of implementing this program,

8.6 Summary

The City has been successful at implementing a jurisdictional program, collaborating to implement a regional program, and developing a watershed-focused educational program. The City is certain that with its strong messages, meaningful content and integrated programs, the community will become more knowledgeable about pollution prevention methods. The City eagerly anticipates working collaboratively with the RWQCB in developing and implementing the educational component of the new Permit, which will guide the next five years of the program.

The City generally relies on educational material developed by the watershed and regional groups, as it has been agreed upon that a consistent message should be implemented whenever possible. However, much like the differences

in the watersheds throughout San Diego County, there are slight differences in how individual cities implement and enforce the Permit. Therefore, it will always be necessary to develop some jurisdictionally specific educational materials for the benefit of the community. The types of jurisdictional educational information/activities are described throughout this Report, but a few examples include:

- BMP specific guidelines for unique construction projects, such as the Underground Utility Program (undergrounding power poles)
- The "Construction Site Supervision in Solana Beach: Code Requirements and Good Neighbor Practices"
- Construction and Demolition (C&D) Debris Recycling Guide
- Classroom Presentations
- Summer Camp Presentations
- Marine Safety Presentations

CHAPTER 9
Public Participation Component

CHAPTER 9: PUBLIC PARTICIPATION COMPONENT

9.1 Introduction

In accordance with Permit Section D.6, this section of the report describes the City's efforts to develop mechanisms for public participation in the implementation of the JURMP and obtain the committed participation from the community. Public participation comes in two forms; participation in implementing the program and the necessary public feedback for improving the program.

In each Annual Report to the RWQCB, this section will include modifications to the City's plans to provide opportunities in which the public can participate. In addition, this section of the Annual Report will describe the City's efforts during the reporting period. Also, a summary of activities conducted post-reporting period may be included if the activity is deemed essential to understanding the City's efforts at reducing urban runoff or Permit compliance.

Prior to the implementation of the original JURMP (February 2002), the City did not have a specific "public participation program." However, many members of the community have taken an active role in environmental issues over the years, which is most likely due to the City's proximity to the Environmentally Sensitive Areas (ESA) such as the ocean and lagoons. As a result, the City was the first city in San Diego County to have curbside recycling. The City has also been proactive in its approach to urban runoff and pollutant mitigation and reduction, by implementing a strict Municipal Code regarding Storm Water Management (adopted in 1993) and Grading and Excavation regulations to prevent erosion during construction.

As a result of Order 2001-01 (Permit), the City was required to design a specific program to ensure that the public had ample opportunities to learn about controlling urban runoff and assist the City in "spreading-the-word." The new Permit Order No. 2007-0001 further emphasizes the necessity of a strong public participation program.

The Public Participation Component is closely related to the Educational Component. However, while the educational program describes activities the City engaged to educate the public, public participation will describe activities the Public engaged in (or were provided an opportunity to do so).

During this reporting period, the City continued the comprehensive Public Participation Component for the JURMP (Section 10) developed during the previous reporting periods and began developing new programs to comply with the new Permit Order No. 2007-0001. The programs included activities that complemented the educational program with a goal of providing opportunities to ensure that residents, business owners, and those who do business (such as contractors) within the City, have an opportunity to learn about the negative impacts of urban runoff, understand the City's regulations relating to protecting the environment, and participate in the development of storm water program involving the community. The City developed the program based on the requirements of the Permit(s) and continued implementation during this reporting period.

9.1.1 Chapter Content

It is important that the reader understand that much of the public participation program is integrated into other program components and as such, much of the information within this chapter has been presented elsewhere in this report. However, to provide consistency in reporting, to ensure Permit compliance, and to present stand-alone chapters in this report, this section will include all opportunities for public participation, even if those same events were described in other chapters. However, for purposes of reducing redundancy, some events may be summarized in this chapter with a reference to other chapters for details.

9.2 Community Events

9.2.1 Fiesta Del Sol

The City of Solana Beach hosts an annual block party called Fiesta de Sol. Each year at the block party the City has a booth promoting no dumping or littering and keeping our beaches clean. The event was held on June 7 and 8, 2008 (see Appendix E). The City also passes out "*Only Rain in the Drain*" brochures and talks with residents about the importance of protecting the water resources. Solana Center also hosts a booth through the City of Solana Beach and promotes environmental stewardship, including used oil recycling and HHW information. Approximately 60,000 people attended the event this year and City staff handed out storm water educational brochures and doggie-bag dispensers to those that visited the City booth.

9.2.2 Beach Clean Up Opportunities

During this reporting period, Coastkeepers and the nonprofit group I Love A Clean San Diego (ILACSD) hosted the 23nd Annual California Coastal Cleanup Day in September 2007. The City hosts two locations, one at Fletcher Cove to clean the beach, and another at San Elijo Lagoon to clean up the lagoon.

9.2.3 Adopt-A-Beach Program

The City works collaboratively with I Love A Clean San Diego in the Adopt-A-Beach Program. The Program consisted of local businesses sponsoring a beach and agreeing to clean up the beach at least 3 times a year (1 time for schools). The City thought this was a great idea and extremely beneficial to the community, so approved our beaches being included in the program. Four (4) beaches (Tide Beach Park, Fletcher Cove, Del Mar Shores and Seascape Sur are all “adopted” and are cleaned at least three times a year. The signs are updated each year with new “adoptees” and City staff installs the new placards on the signs. This has been a very positive experience, as the City’s beaches are each cleaned three times a year, resulting in at least 12 beach cleanups per year, in addition to the annual Beach Clean-Up Day.

9.2.4 Beach Blanket Movie Night

As mentioned in the previous Chapter, the City co-sponsors, with a local community group, a free community event called the Beach Blanket Movie Night. This event consists of placing a large movie screen at Fletcher Cove and showing environmentally themed movies for the community to enjoy. City staff took this opportunity to distribute storm water educational materials, promote recycling efforts and distribute doggie-bag dispensers to members of the community. Additionally, Solana Center attends and has educational material for the community as well. This was a very well attended and received event and will continue in the years to come. The City’s “environmental booth” is the only booth allowed at this event, as the organizers recognize the importance of educating the community on environmental awareness. This is a great opportunity for the City to promote its programs as it has the community’s undivided attention.

9.2.5 San Elijo Lagoon Day

San Elijo Lagoon Day (Appendix U) is an event sponsored by the City, the San Elijo Lagoon Conservancy and the County of San Diego Department of Parks and Recreation and it’s a full day of educational activities where residents can

learn about the ecological reserve and how to protect the local environment. There are two main locations, one at the North Rios Trailhead and the other at the Santa Carina trailhead, both in Solana Beach. The City provided educational materials to distribute at the event and spread the word through our resources. It was a very well attended event that is scheduled to be held on an annual basis. This year's event was held on May 10, 2008.

9.2.6 Paws in the Park

"Paws in the Park" is an annual event put on by the City at the La Colonia Community Center Park. This community event is very well attended and the City took the opportunity to staff a booth and showcase the City's environmental programs. At this year's event, held in February 2008, City staff took advantage of the dog event to promote the importance of picking up after your pet and distributed customized "Dogs on Board" doggie-bag dispensers. These items were a huge success because it targeted the pet community, those most likely to have the potential to release bacteria into the environment. The dispensers had the City logo on it and the slogan, "The City of Solana Beach Reminds You To **Please Pick Up After Your Pet**." This is an annual event and the City will continue its environmental education campaign every year.

9.3 City Council Meetings and Workshops

The Solana Beach City Council meetings are televised, which provides an excellent opportunity for the public to participate in local government. In addition, the City's Agenda is published *online* (available on its Web site), which provides the public an opportunity to readily access the upcoming Council reports.

Another highly successful educational opportunity is the implementation of scrolling messages during televised City Council Meetings. Staff has taken advantage of this new tool to place storm water messages and notifications for upcoming presentations, events, etc. This has proved very valuable and will continue to be utilized by City staff.

The last tool available to City staff is the new cable access channel that scrolls information 24 hours a day, 7 days a week. The City has a dedicated channel on local cable that staff can place information on for the community. The environmental information is often requested by the community and therefore has a dedicated spot. Staff takes full advantage of this technology to educate the community on environmental programs, upcoming events, and general

education.

9.4 Copermittee Meetings

Most Copermittee meetings are open to the public to provide them an opportunity to participate in the process of developing the regional and local programs. Most Copermittee meetings are announced on the Project Clean Water Web site (projectcleanwater.org) and the City's Web site also links to the regional sites.

9.5 Collaborative Community Partnerships

The City has developed collaborative partnerships with various local organizations, which provide the public an opportunity to participate in improving water quality and/or the City's storm water program(s).

The City works closely with the Solana Center, which provides instruction to local school children on the harmful effects of pollution, the positive impacts of pollution prevention and the need to keep pollution out of the City's storm drains. Solana Center is contracted by the City's waste haulers through their exclusive Franchise Agreements. Solana Center also provides the following services for the City:

Referral Phone Calls:

Solana Center staff provided recycling telephone referral services for residents on the Cities of Carlsbad, Del Mar and Solana Beach. Solana Center staff spent time educating the community about CRV updates, composting information, and how they easily incorporate recycling activities into their daily lifestyle. Community phone inquiries included:

- The locations of local recycling centers and hours of operation.
- Redemption values of materials.
- Basic information of what materials can be or cannot be recycled in curbside recycling programs.
- General recycling information for commercial businesses.
- Services on commercial recycling carts.

- RotLine – Answering community questions regarding composting and vermicomposting.

Less Toxic Yard and Garden Workshops:

Solana Center staff conducts presentations throughout the community on alternative gardening tips that reduce the use of pesticides and herbicides. These workshops also promote the benefits of composting, further reducing the amount of trash generated and shipped to landfills as well as reducing the need for harmful chemicals/fertilizers.

Community / Recycling Events

Event Dates	Name of Event(s)	Attendance at Event(s)	Description and Summary of Event(s)
June 6 and 7, 2007	Fiesta Del Sol	60,000	Annual event for the City of Solana Beach. Recycling services were coordinated in conjunction with Coast Waste Management and EDCO Disposal Inc. Solana Center also provided education on used oil recycling as well as watershed presentations,
August 25, 2007	Beach Blanket Movie Night	1,000	Annual event put on by a partnership between the City and local community group to provide a free night of environmentally themed movies. Educational materials were distributed at event.

School / Adult Community Education

Date of Event(s)	Event Title	Estimated Audience	Specific Audience	Location
July 16-20, 2007	Ecology and our Environment	25	Grade 1-Jr High	La Colonia Community Center (Field Trips Included)
July 30-August 3, 2007	Rainforest Exploration	25	Grade 1-Jr High	La Colonia Community Center (Field Trips Included)
June 23-27, 2008	Ecology and Our Environment	20	Grade 1-Jr High	Fletcher Cove Community Center (Field Trips Included)
April 16, 2008	Storm Water Watershed Presentations	48	Grade 1-Jr High	Santa Fe Montessori School
April 21, 2008	Storm Water Watershed Presentations	15	Grade 1-Jr High	Solana Beach Girl Scout Troup
May 5, 2008	Storm Water Watershed Presentations	17	Grade 1-Jr High	La Colonia Community Center

May 12, 2008	Storm Water Watershed Presentations	15	Grade 1-Jr High	Solana Beach Boys and Girls Club
May 19, 2008	Storm Water Watershed Presentations	15	Grade 1-Jr High	La Colonia Community Center

Community Workshops

Date of Event(s)	Event Title	Estimated Audience	Specific Audience	Location
February 4, 2008	Irrigation Principles & Adjustments and Repair	35	Business/ Residential	Fletcher Cove Community Center
February 11, 2008	Irrigation System Troubleshooting	35	Business/ Residential	Fletcher Cove Community Center
February 18, 2008	Controller Programming	35	Business/ Residential	Fletcher Cove Community Center
February 25, 2008	Irrigation Scheduling	35	Business/ Residential	Fletcher Cove Community Center
March 24, 2008	Plant Identification	35	Business/ Residential	Fletcher Cove Community Center
October 18, 2007	Basic Landscape Design	35	Business/ Residential	Rancho Santa Fe
October 25, 2007	California Friendly Plants	35	Business/ Residential	Rancho Santa Fe
November 1, 2007	Efficiency Irrigation Systems	35	Business/ Residential	Rancho Santa Fe
November 8, 2007	Soils, Fertilizers and Watering	35	Business/ Residential	Rancho Santa Fe
March 8, 2008	Mini Residential Class	35	Business/ Residential	Rancho Santa Fe

The above workshops are conducted by the City's private water company Santa Fe Irrigation District (SFID) in conjunction with the City. The City provides the space to conduct the workshops and promotes the workshops at City Hall and with the landscaping contractors known throughout the community. All classes are taught in English and Spanish, and the classes taught in Rancho Santa Fe are promoted to Solana Beach residents/businesses as well. The City requires the municipal landscaping contract company to attend the workshops for educational purposes. This shows another great collaborative success between the City and its private water company. There is a great relationship between the two entities which extends beyond these workshops. The City and SFID work together to combat residential over-watering and ensure daily tasks and repair work are conducted in compliance with the Permit. In addition, pre-construction meetings for CIP projects include SFID and storm water issues are discussed. The City and SFID are committed to working together and maintaining this great working relationship since most of the work conducted by SFID (trenching, pipe laying, water testing) are all done within the City limits.

Articles for the City of Solana Beach's newsletter:

Solana Center writes regular articles for the City of Solana Beach on a wide range of topics, including E-waste, recycling, composting and buying recycled. The topic is coordinated between the City's Environmental Programs Manager and the Executive Director of the Solana Center. The articles are included in the Appendices and described in more detail in other sections of this Report.

9.5.1 Solana Beach Clean and Green Community Committee

During this reporting period, the City brought together active and willing community volunteers to form the Solana Beach Clean and Green Committee (Committee). This committee was formed to discuss environmental issues and develop programs to bring to City Council for implementation. City staff meets monthly with the group to discuss the City's environmental programs and to brainstorm activities that would benefit the community as a whole. The group has evolved from a few interested residents to a steady group of about 20 members from the residential and business sector of the community. The group has assisted in the development of the Construction and Demolition Debris Recycling Ordinance, the Plastic Bag Advertising Ban Ordinance, the Plastic Bag Recycling program and the development of the new "Green Flash" website. The group is currently working on the following items:

- Green Building Program

- Over-Irrigation Reduction Program
- Solar Panel Installation Incentive Program
- Development of a Climate Action Plan

The committee is also heavily involved in the water quality activities of the City and the NPDES program. The committee attends all community events and disseminates educational materials. This group has been extremely valuable and provides a direct link to the community, both residential and commercial. It allows all community members the opportunity to participate in City government.

9.6 Other Opportunities

9.6.1 City Storm water Hotline

The City operates a storm water hotline, (858-720-4424) which is dependent on public participation to report suspected violations of IC/IDs and to inquire about workshop information or other storm water-related needs. The hotline provides 24/7/365 access to the public so that they can report potential violations and/or call for information as soon as they are thinking about it, rather than having to wait for normal business hours. The hotline is sent directly to the Environmental Program Manager's voice mail (it can still be anonymous) to ensure quicker and more efficient response to the public inquiries, as well as providing an outlet for the public to discuss issues directly with City staff.

9.6.2 Web Site

In this day of high-technology, the City uses its Web site (www.ci.solana-beach.ca.us) to provide opportunities for the public to get involved, learn about the various storm water programs, or send email messages to the Environmental Programs Manager (stormwater@cosb.org). The City also provides links to www.projectcleanwater.org, the City of San Diego's Think Blue Campaign, the San Diego Regional Water Quality Control Board, the San Elijo Lagoon Conservancy and others.

During the writing of this Report (post-reporting period), the City has begun developing a more comprehensive environmental webpage on the City's site. The new page is tentatively titled "Green Flash" and will encompass all the City's environmental sustainability programs. Water quality and the City's NPDES programs will be prominent and expanded as a result of this new web page. This will be fully implemented during FY 2008/2009 and reported on in next year's

Annual Report, but it's worth mentioning here. It shows the City's proactive approach to engaging the public and keeping them educated on the new environmental programs throughout the City as well as providing links to relevant web pages.

9.6.3 Local Media

As described in detail in Chapter 8 (please refer to that chapter for more information), the City utilized the local media to inform and educate the public. Although this is not a public-participation activity, the information provided in the articles describes the ways in which the public can get involved, if they so choose. The City has a great working relationship with the local newspapers (Solana Beach Sun and Coast News) and has many articles published with environmental themes, including storm water related issues.

The City also published several articles in the *Shorelines* Newsletter (also described in Chapter 9) inviting the public to get involved, providing details on how they can participate in protecting the region's water resources.

9.7 New Activities and Improvements for FY 08/98

The City will continue to implement the elements of the public participation component as described in the City's new JURMP. The focus will be on expanding the collaborative partnerships to include more frequent opportunities for public involvement (clean up days, sampling days, etc.). Staff will continue to look for more opportunities to work with neighboring cities to host pollution prevention community events through its watershed programs (Large HHW event). Additionally, the City is working with the other Copermittee's in possibly putting together more large scale community educational events.

With the adoption of the new Permit, there is an added emphasis on developing a Regional Educational Program. This will be a main focus for the Copermittees during FY 08/09, and will be expected to implement a comprehensive regional program that will provide a consistent message to the entire region. As most of the new programs are geared towards improved watershed programs, this is one key area that was identified as a Regional program. Copermittees have already begun developing activities through the Regional workgroup, such as the mobile business education campaign. These programs will continue to be developed and implemented throughout the five year cycle of the new Permit.

9.8 Summary

The City has been successful at implementing numerous methods to encourage public participation. The City makes every effort to encourage the public to participate in improving water quality, recognizing that it's up to all of us.

Key opportunities for public participation included the following:

- Regional Copermittee Outreach Events
- Fiesta Del Sol
- Coastal Clean Up Day
- Regional Workshops
- City Council Meetings
- Copermittee meetings
- Collaborative community partnerships (SFID)
- Contacts through the City's Storm water hotline, City Web site
- Beach Blanket Movie Night
- San Diego County Fair
- San Elijo Lagoon Day
- Paws In The Park Community Event
- Formation of the Clean and Green Community Committee

CHAPTER 10
Fiscal Analysis Component

CHAPTER 10: FISCAL ANALYSIS

10.1 Introduction

In accordance with Permit Section J.1(k), this section of the report describes the resources that the City utilizes to finance the various storm water programs. Effective programs require adequate funding to implement planned activities. The fiscal analysis will evaluate the expenditures necessary to accomplish the activities of the Program.

In each Annual Report to the RWQCB, this section will report on any changes in the revenue sources that finance the City's storm water programs, a *general* description of the expenditures during the reporting period, the budget adopted for the following reporting period and any changes known at the time of the writing of the report (to keep the document as current as possible).

10.2 Revenue Sources

The City finances its Storm Water Management Department via revenues from an NPDES solid waste fee. The City recently went through a long, arduous process to establish a long-term funding source to ensure the program would be sufficiently financed. This is an area that the Copermittees have struggled with and the City is very proud of the fact that it has secured a voter approved fee to ensure the long term future of the program. The City believes it is the only Proposition 218 voter approved fee in the State, and that further shows the commitment level of the community to preserve and protect the local environment. The City was sued by the Howard Jarvis Taxpayer's Association (HJTA) and the fee was put to a vote of the community. The community responded and supported the fee, so now the City has a long-term funding source to maintain and enhance the NPDES program. The following is a brief history and timeline of significant events that led to the vote and approval of the City's NPDES Solid Waste Fee:

- June 15, 2004- Council Authorization of Consultant to Develop NPDES Fee Report
- May 3, 2005- City-Wide Mail Out Announcing Community Workshop and Background for the NPDES Solid Waste Fee
- May 11, 2005- Introduction of NPDES Solid Waste Fee-City Council Meeting
- May 11, 2005- Scroll Information About Community Workshop on Television Broadcast During City Council Meeting

- May 19, 2005- Community Workshop
- June 15, 2005- First Reading of NPDES Solid Waste Fee Ordinance- City Council Meeting
- June 22, 2005- Second Reading (Adoption) of Ordinance- City Council Meeting
- September 1, 2005- Included Insert in both WM and EDCO Bills That Explained Extra NPDES Solid Waste Fee
- December 12, 2006- Staff Report to request Public Hearing to present updated NPDES Fee Study and rate structure – City Council Meeting
- January 2007- Proposition 218 notifications for Public Hearing sent out City-wide to all property owners – City-wide mail-out
- February 28, 2007- Public Hearing to consider adoption of updated NPDES Fee Study Report (protest hearing) and introduce Ordinance 362 implementing new rate structure– City Council Meeting
- July 11, 2007- Staff Report to set Public Hearing on September 26, 2007 to announce results of Mail-In Ballot Election

For more information on the City's NPDES Solid Waste Fee, please see the City's website at www.ci.solana-beach.ca.us.

10.3 FY 2007/2008 Expenditures

The storm water budget for the FY 07/08 Environmental Services Department and other departments that support the storm water program are shown on Table 12-1. In addition to the budget below, the City also incurs significant costs associated with tasks that supplement pollution control such as routine street cleaning (trash pickup) performed by the public works department, cleaning of the parks and community centers, and beach clean ups.

Table 12-1 FY 07/08 Storm Water Budget

Expenditure	**Amount**
Salaries[1]	$153,000
Cleaning of Storm Drain System	$ 15,000
Permit Fees (County of S.D., RWQCB. SWRCB)	$ 40,500
Public Education, Investigations	$ 6,000
HHW Program	$ 25,000
Lab Testing	$ 16,000

[1] *Salaries for City personnel that handle storm water responsibilities were divided between various departments, depending on the amount of staff time allocated to that department. Salaries include anticipated overtime and benefits.*

Professional Services (Consultants)	$ 20,000
Maintenance of Steven's Creek Channel	$ 15,000
Training(Travel, Conferences, Meetings)	$ 1,800
Small Tools	$ 2,000
Misc. Items	$ 20,200
Seascape Storm Drain Cleaning	$ 15,000
WURMP Shared Costs	$ 12,000
Total	**$ 341,500**

10.4 FY 2008/2009 Proposed Budget

Table 12-2 presents the City's Proposed Budget for the FY 08/09 Environmental Services Department.

Table 12-2 FY 08/09 Storm Water Management Proposed Budget

Line Item	Budgeted
Salaries	$ 170,200
Storm Drain Cleaning	$ 15,000
Permit Fees Paid to County & RWQCB	$ 34,000
Lab Testing	$ 10,000
Investigations, brochures, public education	$ 6,000
Steven's Creek Cleaning	$ 10,700
HHW Program	$ 25,000
Watershed URMP Shared Costs	$ 12,000
State Water Control Board Fees	$ 7,000
Training (Travel, Conferences, Meetings)	$ 1,850
Misc. Items (Including small tools)	$ 20,350
Seascape Storm Drain Cleaning	$ 10,000
TMDL Investigation	$ 10,000
Commercial/Indust Facility Inspections	$ 15,000
Construction Inspections	$ 10,000
JPA Sediment Drying Pad	$ 6,000
Total	**$ 374,250**

New Additions to Budget

There are a few significant additions to the budget for FY 08/09 as a result of new programs and requirements of the Permit. As can be seen in the table above, the following items have been added to the Environmental Services Budget:

TMDL Investigation	$ 10,000
Commercial/Indust Facility Inspections	$ 15,000
Construction Inspections	$ 10,000
JPA Sediment Drying Pad	$ 6,000

The Total Maximum Daily Load (TMDL) Investigation is budgeted for the ongoing investigation in the San Elijo Lagoon. The City is listed as a responsible party and is actively implementing the program with the other responsible parties.

The Commercial/Industrial and Construction Inspections were added to this budget as a result of the increased requirements in the new Permit. Under the old Permit, City staff conducted the necessary inspections; however, since the responsibilities have increased under the new Permit, the City wanted to ensure the highest possible service to the community and decided to contract out the services. This will free up limited staff time to concentrate on other aspects of the Permit while at the same time getting expert consultants to provide high quality service and inspections. The City sees this as a win-win situation, and plans to continue this process throughout the life of the new Permit.

In addition, the City worked with the San Elijo Joint Powers Authority (SEJPA), who is responsible for sewer service for the City of Solana Beach and parts of Encinitas, to work out an agreement where storm drain material collected in the City's MS4 can be treated and disposed of at the Waste Water Treatment Plant (WWTP). Prior to this agreement, the City would have to dry out the material collected, test it and then wait to receive permission to dispose of in a specially lined portion of the landfill since storm drain material is considered non-hazardous special waste. In order to streamline the process and potentially turn the material into useful fertilizer, the City developed an agreement with the SEJPA to dispose and treat the material at the WWTP. This is another win for the City because the process is streamlined and material can be reused and not disposed of in the local landfills.

10.5 Summary

The City is committed to allocating enough resources to effectively implement the components of the Permit. During the NPDES Solid Waste Fee Study analysis, a complete assessment of the program was conducted to determine how much money is being spent performing the duties of the Permit. This was the basis for the NPDES Fee, and the City is committed to reassessing the Program on a continuous basis to ensure the NPDES Fee is collecting enough money to offset the costs of the Program. The City must take special care to ensure the NPDES Fee is not collecting more than the costs to run the Program, so this reassessment is necessary for this reason as well.

The City will periodically assess the costs of the Program and make necessary adjustments to the NPDES Fee to ensure the City is recovering the costs of implementation. This will ensure a long term funding source which is paramount to a successful program. The City anticipates a significant increase in costs to develop and implement the new programs adopted with the new Permit, and will reassess the NPDES Fee in future years to reflect the increases in the Program. The City has already responded to the new requirements of the Permit by allocating additional money into the FY 08/09 budget, and anticipates adding additional money as more programs are developed and implemented, especially on a watershed and regional level.

CHAPTER 11
Effectiveness Assessment Component

CHAPTER 11: EFFECTIVENESS ASSESSMENT COMPONENT

11.1 Introduction

In accordance with Section J.3.(l) of the Permit, each Copermittee is required to develop a long-term strategy for assessing the effectiveness of the various components of its Jurisdictional and Watershed Urban Runoff Management Programs (URMPs). The City will perform an annual effectiveness assessment to specifically assess:

1. Each significant jurisdictional activity/BMP or type of jurisdictional activity/BMP implemented;
2. Implementation of each major component of the JURMP (Development Planning, Construction, Municipal, Industrial/Commercial, Residential, Illicit Discharge Detection and Elimination and Education); and
3. Implementation of the JURMP as a whole

During this reporting period, the City has continued implementation of all components of the Permit. This section will assess the effectiveness of the JURMP, and discuss all strengths and weaknesses of the City's program. Since the City's JURMP was submitted more than half way through this reporting period (March 2008), it will be very difficult to assess the new programs required of the new Permit. Most of the new programs are still in development, therefore this section will report on the programs implemented under the old Permit Order No. 2001-01 and any programs that have been developed in the short time frame of Permit Order No 2007-0001.

11.2 "A Framework for Assessing the Effectiveness of Jurisdictional Urban Runoff Management Programs"

During FY 03/04, the Copermittees developed an assessment document titled, "A Framework for Assessing the Effectiveness of Jurisdictional Urban Runoff Management Programs." This document was prepared after discussions with the RWQCB in which the Board stated that the Copermittees needed a better method to assess the effectiveness of the JURMP. This document was approved by the Board and will be used to assess all future programs, or until another method is agreed upon. The document addresses six levels of assessment:

1. Compliance with Activity-Based Permit Requirements

2. Changes in Knowledge/Awareness

3. Behavioral Changes

4. Load Reductions

5. Changes in Discharge Quality

6. Changes in Receiving Water Quality

The levels of assessment have been combined into three rather than six categories for this reporting period because it is easier to assess the programs when they are combined into these three categories. Level 1 includes modified assessment tables from the JURMP. Level 2 and 3 are combined and discuss the program strengths (accomplishments and outcomes) for each component. Level 4, Load Reductions, is still being assessed as to the proper way to address this (possibly TMDLs) and so is only briefly discussed, and Level 5 and 6 are combined to attempt presenting a water quality assessment.

The strategy uses both quantitative and qualitative measures of program effectiveness.

In addition, during the development of the WURMPs, the cities worked tirelessly to develop a meaningful method to assess *that* program for its impact on water quality – not just whether or not the program components were implemented, but more importantly, the ability to find a way to measure the link between activities and improved water quality, if it exists.

The WURMP program effectiveness strategy incorporated all of the elements of a meaningful method to assess impact, incorporated public comments, collaborative writing, thinking and designing, and in the end, is a good start at learning how to meaningfully determine the value of the storm water program activities. The City anticipates that over time, the results of a well-thought-out meaningful assessment will provide the region important information from which program activities can be designed and modified, rather than implementing program activities and hoping the activities have the expected impact. The individual WURMP program assessments can be found in the upcoming WURMP Annual Report submittals (January 2009).

11.3 Level 1: Compliance with Activity-Based Permit Requirements

A table that summarizes the activities tracked by City staff, which demonstrates compliance with the requirements of the Permit, can be found in Appendix Z, Additionally, narratives explaining the City's efforts regarding compliance can be found in the individual components of this Annual Report.

11.4 Levels 2&3: Changes in Knowledge/Awareness and Behavioral Changes

This section is broken up into each component of the JURMP and presents a summary of the changes in knowledge/awareness and behavioral changes. Each section discusses the accomplishments for the component and discusses future improvements.

The assessment forms (worksheets) developed by the Copermittees were created to establish a consistent method of tracking program actions and accomplishments between agencies. The City's JURMP included the expectation that the forms would be utilized and as a result, the City will report the information as requested in the following sub-sections. However, some of the information is best reported in a narrative format, while some is best presented in tabular. All relevant information will be reported. For complete discussion of each program component, please refer to its corresponding Chapter of this Report.

Municipal Component

Program Strengths: During this reporting period, City staff again inspected *all the City's catch basins* and cleaned every one that appeared to have trash or sediment accumulated in the basins. Public Works staff removed approximately 3 cubic yards of material from its storm drains. The City also manages an active Beach Cleaning Schedule and maintains several different permanent BMPs throughout the City (the most significant structural BMPs being the bioswale located at La Colonia Community Center, the Low-Flow Diverter and CDS Unit at Fletcher Cove and the CDS Unit at the north end of North Cedros).

For a discussion regarding the qualitative accomplishments of the City's Municipal Component (major accomplishments, educational and outreach activities, new activities or improvements to be implemented next year) see Chapter 2 of this report.

Table 11-1 Municipal Inspections

Activity	Quantity	Units	Comments
Number of high priority municipal facilities (*buildings*)	1	n/a	Inspected high priority facility (PW Yard) weekly at Engineering Safety Meeting held at Public Works Yard. Annual inspection conducted on 6/25/08 and facility also inspected prior to rainy season. See Chapter 2 of this Report, and Section Two of the City's JURMP.
Number of high priority municipal facilities (*parking lots*)	6	n/a	Visually Inspected weekly by PW staff. Cleaned monthly by street sweeper. See Chapter 2 of this Report, Section Two of the City's JURMP.
Number of high priority municipal facilities (*other*)	3	n/a	One park (inspected 6/25/08), all city streets and roads (daily), and the MS4 (annually).
Number of high priority municipal facilities targeted for inspection (buildings and parking lots)	10	n/a	See above.
Number of high priority municipal facilities inspected	10	n/a	The Public Works Yard and all parking lots.
Number of medium and low priority municipal facilities inspected	5	n/a	Fire Department, Marine Safety Center, Fletcher Cove Community Center, City Hall and La Colonia Community Center inspected annually. All inspections occurred on 6/25/08.
Quantity of material removed from MS4 and beach	3	Cubic Yards	This is the amount of material the City collected from its annual cleaning of the MS4 and the beach. All catch basins were inspected, 17 were cleaned
Quantity of debris removed that had potential to enter MS4 (i.e. street sweeping, litter removal)	275	Cubic yards	This information provided by daily reports from street sweeping contractor.

The City's Public Works Crew is immensely knowledgeable when it comes to storm water issues. Since the crew is only five people, it is very easy to educate them on an ongoing basis. They are all very aware and conscientious of the storm water regulations and are eager to report any violations in the field to the appropriate staff. The Public Works Crew is a vital part of the Storm Water Team,

because they are always out in the field, and they have become the eyes and ears of the program. They have weekly meetings with the City Engineer, City Inspector and Environmental Programs Manager at the Public Works Yard where they discuss, among other things, the storm water regulations and they visually inspect the Yard.

The amount of cooperation between the various City departments has proven to be very successful, with each department willing to implement the storm water regulations into their program.

As reported in last year's Annual Report, one of the improvement areas for this component would be to conduct more department specific educational presentations. This will continue to be a high priority activity and an area to improve upon. This has proven to be very successful and is highly encouraged by the Department Directors. It is anticipated with the development and implementation of the new Permit that more education of City staff will be required. This will most likely occur with more department specific presentations to detail any changes or additions to department specific activities required in the Permit. Most new programs included in the new Permit will not be required to be implemented until after this reporting period to allow for proper development, the department specific trainings will most likely occur in FY 08/09. The Environmental Programs Manager will analyze the new requirements and develop appropriate presentations to City staff, and will report on these in next year's Annual Report.

Additionally, as a result of the RWQCBs response letter to FY 03/04 Annual Report, the City now calculates and tracks the total amount of material collected by their street sweeping activities. The City contracts out the street sweeping to a private company, but after some discussions with both the RWQCB staff and the contractor, a solution was worked out. The amount of loads is now documented weekly by the street sweeper, and is verified by the City's Public Works Crew. This information is reported in this Annual Report and will be documented in the years to follow to see if a trend can be verified to assess the effectiveness of the program. Additionally, as reported in last year's Annual Report, City staff ensured that the new street sweeping contract contained language that mandates that this be done on a continuous basis. So far, the activity has been very successful as data that is quantifiable is now collected and will be useful in load reduction calculations in the future (as enough data is collected).

Improvement Areas: City staff is confident that all aspects of the Municipal

Component are being adequately addressed, although they realize that things could always be improved. Some improvement areas may be additional educational sessions with City staff, to reinforce the importance of the Permit and how it affects their everyday activities (especially with the adoption of the new Permit). Increased inspections on Municipal facilities may be conducted to ensure compliance at all times. And lastly, a more detailed look at the "problem" catch basins, if any, which may require cleaning every year. If any of these catch basins exist, then a more aggressive litter/trash campaign may be conducted to nearby residences or businesses in hopes of a load reduction in the catch basin. Additionally, the Environmental Programs Manager will commit to ensuring all new employees are educated as soon as they start employment. This will help them in adjusting their daily activities immediately to comply with the requirements of the Permit.

Industrial Component

Program Strengths: Since the City has only one industrial site (down from two originally reported in JURMP), it had been decided that a strong pro-active approach to compliance would be adopted. The one site (Baker Iron Works) has been incorporated into the routine inspection schedule of the commercial sites dictated in the Permit, thereby allowing the City to ensure that the site is up to code on all storm water issues. This is an increased activity over the requirements of the Permit as inspection of this industrial site is only required bi-annually (it meets all the requirements of the Permit for bi-annual inspection). Since the one site was elevated to a high priority site, the City has taken an active approach in ensuring that the site will be in compliance at all times.

The City has developed a strong working relationship with the owners of Baker Iron Works. City staff have visited the site multiple times and worked cooperatively with them to come into compliance. The owners have responded well to the City's educational efforts and compliance requests. The City has successfully worked with Baker Iron Works to help them come into compliance by instituting several BMPs throughout the property. Although there are no indications from any of the Dry Weather Programs throughout the years that this site has contributed to pollutants to the City's MS4, the mere fact that there is a possibility of this occurring in the future prompted the City to request that a few BMPs be installed onsite. A couple of very successful accomplishments occurred that are worth noting.

1. The first accomplishment was the sealing up of a small storm drain

located on the property that drained directly away from the property and into street.

2. The second BMP installed was the daily dry sweeping of the property to ensure that no sediment/gravel got into the street by automobile traffic.

3. The third BMP integrated into their normal routine was the use of a magnet on the grounds outside where some work is conducted using steel. The magnet is used to sweep the entire yard and collect miscellaneous scrap metals that may have collected on the ground. This activity is conducted on an as needed basis, but no less than once per week.

4. The fourth, and most important, BMP was the installation of the storm drain sump/infiltration pit at the northwest corner of the property that was designed to catch all low flow dry-weather runoff from the property and filter it before it left the property. These BMPs have been successfully implemented by the owners and are currently in place and functioning.

An improvement area listed in previous annual reports involves ensuring that Baker Iron Works is complying with all requirements of the State Industrial General Permit, even though this is not a requirement of the storm water Permit. However, Baker Iron Works asked for the City's assistance in compliance and so City staff has worked with Baker Iron Works to implement the necessary elements for compliance. This has further helped the relationship grow between the City and its industrial partner, furthering the great working relationship.

As mentioned in last year's Annual Report, a devastating fire broke out in the office of Baker Iron Works (during FY 06/07). Most documents were destroyed, making it very difficult to send in all necessary paperwork to the State under the General Industrial Storm Water (GISW) Permit. Baker Iron Works staff worked directly with staff from the State regarding this issue and is in compliance. Additionally, the employee training manual was destroyed, however this year's inspection confirmed that another one was developed and is available onsite.

City staff also worked with Baker Iron Works to come into compliance under the GISW. Baker employees requested help with the monitoring requirements so City staff trained them in the proper sampling techniques and offered options on where to take the samples for analysis. This just proves the healthy working relationship between City staff and Baker Iron Works.

Improvement Areas: The City is confident that it is fulfilling all requirements of the Industrial Component. City staff is committed to inspecting Baker Iron Works annually as part of its high priority facility inspections due to the potential to release pollutants into the City's MS4. City staff believes that this industrial site is working well within the regulations of the Permit and is satisfied with the current situation. City staff will look to continue the open communication with Baker Iron Works and conduct further inspections to ensure that all new employees are aware of and compliant with the storm water regulations. Also, City staff will ensure that Baker Iron Works is aware of any new regulations coming down from the State (new Permit) and work with them to ensure compliance.

Commercial Component

Program Strengths: During this reporting period, the City decided it would be more effective to concentrate on the high priority sites to ensure compliance, as they would be most likely be the highest contributor of high priority pollutants. This approach is more aligned with the watershed and regional approach of targeting high priority pollutants, and more specifically, their respective sources. The City also re-inventoried the commercial facilities as part of the JURMP revision and set minimum inspection frequencies per the new Permit. The facilities were inspected by an independent consultant specializing in storm water and FOG inspections, with follow-up being conducted by both the contractor inspector and City staff.

As mentioned in previous reports, all the commercial sites were scheduled to be inspected on an annual basis, which is above and beyond what the old Permit requires. However, the City decided to be more aggressive with the thoroughness of inspections at high priority facilities, since all commercial facilities have been inspected at least once during the life of this Permit. The new Permit sets minimum inspections frequencies that have been incorporated with the new JURMP submittal, and the City inspected the required amount of facilities during this reporting period.

As stated in the new JURMP, the City currently has 77 stationary facilities, of which 67 are identified as high Threat To Water Quality (TTWQ). The JURMP states that at least 20% of all inventoried stationary businesses will be inspected in the first year of program implementation, meaning 16 sites are required for inspection. In addition, the JURMP states that at a minimum, 50% of all sites (excluding mobile sources) determined to pose a high threat to water quality will be inspected in the first year of implementation, increasing the number of facility

inspections from 16 to 34. The City, through its contractor, inspected 35 facilities, two of which were no longer in business. Only one facility required more than a follow-up inspection and no major violations were detected. A summary of the follow-up actions can be found in the Commercial Component of this Report.

Another program strength is the implementation of the City's grease management ordinance. The City is happy to report that a grease management ordinance was passed by City Council on September 7, 2004. Staff introduced the proposal to City Council on February 17, 2004, and got the approval to move forward with the education of local restaurants and the public about the pending ordinance. A condition of the resolution once the proposal passed was to give restaurants 18 months to install a grease trap/interceptor, or receive an approved waiver from the City. Therefore, all restaurants in the City (even existing restaurants) must have a functioning grease trap/interceptor by March 2006. This is a huge accomplishment by City staff as it is well documented that most major sewer spills are the result of grease related problems. Inspection of the grease traps and maintenance will be accomplished in conjunction with the storm water inspections. As mentioned above, the contractor the City hired to perform facility inspections also specializes in grease management device inspections. The contractor included grease management inspections into the storm water inspections and check for such things as proper cleaning and maintenance, record keeping, duct cleaning, screen cleaning and hood cleaning. These are all important aspects of storm water management, as grease can have an extremely detrimental environmental effect.

Improvement Areas: In previous annual reports, one improvement that was mentioned was the inspection of 100% of all high TTWQ commercial facilities in one reporting period. All commercial facilities have been inspected during the previous five year Permit cycle, however not in the same reporting period. Staff decided to focus more efforts on those commercial facilities that have a higher potential to discharge pollutants of concern into the watershed. As mentioned before, this approach is more aligned with the watershed and regional approach of targeting high priority pollutants, and more specifically, their respective sources. If the City had unlimited resources for facility inspections, 100% of them would be inspected annually. Until that time, inspections will be conducted in accordance to the frequencies established in the Permit.

Residential Component

Program Strengths: The City provides a wide range of programs for its residents to allow for convenient implementation of pollution prevention activities. Among the many programs the City provides are:

- Curbside recycling (first in the County to provide this service)
- Greenwaste collection
- Aggressive and convenient Household Hazardous Waste collection program (described in detail in Residential Component)
- Community Education Program (described in Residential Component)
- The development and maintenance of the City's website regarding the Storm Water Program

The City Council meetings are also televised to all the residents of Solana Beach. Many times storm water issues are discussed during these meetings. Other positive aspects of the program are the direct mailings of education materials and the articles placed in the community newsletter, "*Shorelines*." Tallying the amount of phone calls to the City's Storm Water Hotline does not appear to be a good assessment of the City's program. The City, because of its relative small size, prefers to conduct business on a more personal level. This has proven to be a much more effective way to work with the public. Therefore, although the hotline is still publicized, City staff distributes their direct telephone numbers to the public when dealing with storm water issues. This allows direct, immediate contact with a Staff member, which ensures immediate, effective response to storm water issues.

As stated in last year's Annual Report, the Environmental Programs Manager documents contacts (phone call, visit to City Hall, etc.) with the public regarding storm water issues to help assess the effectiveness of the program over time. The only calls documented are ones that required staff action on some level. The community of Solana Beach is very unique in that the residents are actively involved. Staff receives numerous phone calls every day that must be addressed immediately. Therefore, it would be unreasonable to document every contact made by the public, only the ones that pertain to storm water and where action is needed.

The table is substantial, so a brief summarization of the data is below. The complete table listing the caller, date, problem/issue, mode of contact (email, phone, counter, etc), and City action, is available for review at City Hall upon request.

- There were 77 contacts made from the public that required follow-up activities
- There were 28 phone contacts
- There were 4 direct contacts from the community
- There were 6 emails received from the public
- There were 1 calls from the City's hotline number
- There were 38 contacts made by the City's Code Enforcement Department through various methods. The new part time Code Enforcement Officer would make daily rounds to patrol for violations, and even worked off-peak hours and weekends.

Another area of improvement mentioned in previous annual reports was to develop additional educational materials for the residential community. This activity is constantly being addressed by the North County Storm Water Program (NCSWP) discussed previously in Chapter 8. The City feels that it is much more effective and efficient to address these issues collaboratively with the cities in the NCSWP. This allows for a consistent message to be disseminated to a large population of people throughout the North County, as well as resulting in a significant cost savings for the City. As for requirements/projects unique to Solana Beach, Staff will continue to develop materials as the situations arise. A few examples of these specialized educational materials are listed in Chapter 8 of this Report.

Additionally, as discussed previously in this report, a major program component of the new Permit is to establish a Regional Educational Program in collaboration with all other Copermittees. This regional program will hopefully provide a more consistent educational message for the entire County, so that conflicting messages will not be disseminated throughout the region. This should drastically improve the educational outreach materials developed regionally; however watershed specific materials will still need to be developed based on high priority

COCs and their sources within the watershed.

Improvement Areas: For the next reporting period, City staff will evaluate this component and make any necessary alterations to the program. The City will continue to develop educational materials for the residential community. All educational activities and materials that were produced by the NCSWP are described in detail in the Carlsbad WURMP Annual Report as well as summarized in Chapter 8 of this report.

Land-Use Planning for New Development Component

Program Strengths: The City continued its implementation of the original local Standard Urban Storm Water Mitigation Plan (SUSMP) program as well as participated in the development of the new SUSMP. The City has successfully implemented the SUSMP review into all plan check processes. Although there will not be many projects within the City subject to this new requirement (the City is 95% built-out), the appropriate departments are still very aware of the requirements. In addition, the new model SUSMP was developed and approved by the City during this reporting period and the City is now implementing the requirements of the new SUSMP program.

The Planning Department is actively involved in the City's Storm Water Program, and often notifies the Environmental Programs Manager when a proposed project may have storm water implications, including possible SUSMP projects. Although, as mentioned above, the City is almost completely built-out, the Planning Department has, as a result of this Permit, developed a list of possible proposed projects that may require a SUSMP. These projects have not been approved, but Planning Department staff have surveyed the City and put this list together to warn other staff as these projects may be proposed soon. This gives staff a "heads up" before the projects are submitted that they will probably be subject to the SUSMP requirements and so the process can begin when, if ever, these projects are proposed.

Another extremely important activity that was implemented during this reporting period was the relocation of the City's contract Building Department from the City of Encinitas City Hall to the Solana Beach City Hall. The cities of Encinitas, Solana Beach and Del Mar all share a private building department (EsGil) and until this reporting period, it was housed full time in Encinitas. This made it extremely difficult to work collaboratively with and communication was relatively non-existent. During this reporting period, EsGil staff spends half their day at the

Solana Beach City Hall, and files for Solana Beach projects are kept onsite. This has helped keep the communication lines open and greatly assisted the coordination of post-construction inspections by City staff. Now, before final occupancy approval is given by EsGil, they can check with City staff to ensure all post-construction BMPs were installed correctly. This is an extremely significant development as now Staff has an opportunity to ensure that all post construction BMPs are installed according to plan, before they are covered up in the construction process, which occur a majority of the time.

Improvement Areas: The City will continue to educate prospective applicants regarding the SUSMP if their respective projects will be subject to the new regulations. The City is very confident that its Land Use Planning component is very effective; however, it will continue to be modified in the future when necessary. As mentioned in the Development Component of this report, the City is expected to initiate an update to its General Plan sometime during 2009. This will have a major impact on the storm water program and City staff will make certain that elements of the Permit and JURMP are incorporated into the new General Plan.

Construction Component

Program Strengths: The City Inspector and Environmental Programs Manager are responsible for conducting construction site inspections. The City Inspector is responsible for all public CIP projects, whereas the Environmental Programs Manager deals with all private projects. However, they often team up and visit all sites together, which have proven to be very successful as they both bring in special expertise to the inspection process.

All construction sites were inspected for storm water issues based on the frequencies described in the City's JURMP. Since there are relatively few construction sites in the City, staff often times can visit the higher priority sites more frequently. Additionally, since the City only has one "City Inspector" for the whole City, he is responsible for monitoring all construction sites for all various issues. Therefore, he spends his whole day out in the field, and upon visits to construction sites for any issue (storm water related or not), he is able to monitor the BMPs on a daily basis. If the City Inspector notices a problem related to storm water, he notifies the Environmental Programs Manager immediately. The Environmental Programs Manager then investigates further, taking any necessary corrective or enforcement actions. This program has worked very well due to the already established relationship between the contractors and the City

staff. Because of this pre-established relationship, the transition into storm water compliance was virtually seamless. The Inspector keeps a daily log of all his activities, and storm water related issues are included. The City also mailed out a wet-season reminder to all active construction sites reminding them of their obligations under the Permit. Therefore, the City is assured that all contractors are aware of the regulations, making enforcement much easier for the City.

Additionally, for CIP projects, the applicant/contractor is required to have a Pre-Construction Meeting with City staff in which storm water issues are discussed. At these meetings, contractors are required to sign a Pre-Construction Inspection Checklist, are given a sample copy of the Site Inspection Checklist, and they are required to fill out a Wet-Weather Triggered Action Plan. All of these measures are taken to ensure that all contractors are aware of the storm water regulations, and it helps the enforcement aspect of the Permit as staff can be assured that all contractors have been educated and cannot claim ignorance of storm water issues. Appropriate enforcement actions (corrective, stop work, fines, etc.) can be enforced without fear of being challenged by violator.

Another activity that has proven very successful in regards to construction activities was the distribution of a colorful, informative BMP Construction Brochure. This brochure was developed by the NCSWP and delivers a consistent message for all North County Cities. The brochure is a tri-fold that gives background information on the storm water program and regulations and on the reverse side is a large diagram of a common construction site with the general BMPs shown and described. This brochure has been a huge success with the construction/developers world as they can post this brochure at their site to remind their employees of proper BMPs. These brochures are attached to all building and grading permits.

The City believes that any opportunity to educate the community should be taken advantage of. So, during this reporting period, 470 BMP Brochures were distributed to the community, as compared to 521 during FY 06/07, 509 during FY 05/06 and 416 during FY 04/05, further verifying the City’s commitment to education.

As discussed in last year’s Annual Report, the City developed and now tracks the SUSMP long-term BMP maintenance agreements. In addition, the City has implemented a new Long Term BMP Maintenance Agreement that requires the applicant to submit a recorded document from the County of San Diego which includes the maintenance activities required and gives the City the legal authority

to inspect the BMP to ensure compliance. This is an extremely helpful tool in ensuring that the post construction BMP is not only installed, but is being properly maintained to remain effective. This is also required in the new Permit, so the City is already in compliance with this new requirement.

As mentioned in last year's Annual Report, there are significant new construction requirements in the new Permit. The significant additions to the new Permit include the development and implementation of the Hydromodification Plan (HMP) and the update to the SUSMP model. The City is pleased to report that these new programs have been developed and the City participated in the process. The HMP program is not expected to affect the City, however the City still contributed funds to the program development as part of its Copermittee responsibility to the region. The City also revised its Municipal Code to adopt the updated model SUSMP in compliance with the new Permit regulations.

Improvement Areas: During the next reporting period, the City is committed to improving and modifying the construction program if any deficiencies are detected. The City is also committed to developing more educational materials to distribute to the public, and contractors in particular. The Construction BMP Brochure has been a major success, and the contractors/developers are constantly looking to us for more information and guidance.

With the adoption of the new Permit, additional construction activities and programs need to be developed and implemented in the years to come. The City will continue to work with the Copermittees to develop these programs for implementation. One area of improvement that the City is looking at is possibly hiring a specialized contractor to conduct construction inspections. This is similar to the City's decision to hire a contractor to perform commercial/industrial inspections, this will free up limited Staff resources while providing increased service to the community. The City Council approved $10,000 in FY 08/09 specifically for construction inspections, further strengthening the City's commitment to protecting the local water quality. The new Permit contains significant additional requirements for the Construction Component, so the City felt it was prudent to strengthen its program as well, and hiring a specialized consultant is a first step in the right direction.

Illicit Discharge Detection and Elimination Component

Place Holder – This will be submitted with Chapter 7 on December 15, 2008 as a result of Addendum No. 2 adopted by the RWQCB

Education Component

Program Strength: The City feels very strongly that the current education program being implemented by City staff has been very effective. The amount, and quality, of educational materials developed by the City and through collaboration with the other Copermittees, has proven to be very successful. The complete educational program is discussed thoroughly in the Educational Component of this report.

Improvement Areas: The City is very satisfied with its current educational program. The North County Storm Water Group has gone above and beyond the requirements of the WURMP's educational component, and has delivered many quality items to the resident's of Solana Beach. The only area of improvement could potentially be the City working more diligently on promoting the free classroom presentations provided by the Solana Center. The City, through its local contacts, will be more aggressive in contacting the schools to set these valuable presentations up. This is an area that has been somewhat underutilized, and is a focus point for improvement in the future.

Also, as required by the new Permit, the City will participate in the development of the new regional educational program. The new Permit requires the development of a regional educational program, and the City is committed to working with the other Copermittees to develop a successful and comprehensive program. Also, the new Permit requires Watershed based education based on the activities chosen by the participating Copermittees, and the City is committed to working with the Copermittees in its two watersheds to develop and implement the educational activities to support the watershed activities.

Public Participation Component

Program Strengths: The residents of Solana Beach have multiple opportunities to interact with City staff through the hotline, website, and direct interaction. All City staff are available to discuss any issues with the community if they come into City Hall, and most all literature distributed currently has the Environmental Programs Manager's direct telephone number listed on it. The City staff prides itself on dealing with the community on a personal basis, and as a result has established many key relationships with members of the community. The City continued to host the annual Coastal Clean-Up Day that allowed the community to get involved as well as distributing educational brochures at the local community events, Fiesta Del Sol and Beach Blanket Movie Night. Some additional

opportunities include:

- *Numerous Copermittee meetings*
- *Adopt-A-Beach Program*
- *Fiesta Del Sol*
- *Paws in the Park*
- *Beach Blanket Movie Night*
- *Shorelines Articles*
- *Opportunities to work with local Partnerships/Collaborative's*
- *City Hotline*
- *City Web site*
- *Clean and Green Community Committee*

Improvement Areas: The City realizes its responsibility to get the community involved in the storm water program. The City has given the residents ample opportunity to get involved in implementing the program, however the City is committed to resuming the community workshops if the demand is great enough. City staff is very visible throughout the community on a daily basis and routinely has discussions with residents regarding storm water issues. The feedback given to City staff has been overwhelmingly positive, and the City looks forward to continuing this personal relationship with the community.

In addition to the JURMP public participation opportunities, the community has public participation opportunities through the WURMP process. More information on the WURMP process is available in the WURMP annual reports submitted in January.

11.5 Level 4: Load Reductions

Level 4 load reduction is a key assessment measure for the storm water program. Ultimately, the goal of the storm water management programs are to reduce pollutant loads and by doing so, improve the discharge and receiving water quality. However, load reductions are very difficult to quantify, and the Copermittees as a whole are struggling to develop methods to achieve this task. This being said, the City will continue to analyze any data received that may be able to show a load reduction with the hope that it will somehow be linked to improvements in discharge and receiving water quality.

As a result of the Regional Water Quality Control Board's comments on the City's FY 02/03 Annual Report, the City has adapted its street sweeping

program. The City now requires the private street sweeper to document all load information on a weekly basis. This includes an estimated amount of debris collected. This information was collected initially in FY 05/06 and continued into this reporting period as well. The total amount of street sweeping debris collected in FY 05/06 was 299.1 cubic yards and it was reduced in FY 06/07 to 188 cubic yards. The total amount of debris collected in FY 07/08 increased to 275 cubic yards. This increase bodes well for the performance of the new street sweeping contractor. As mentioned previously in the Report, the City recently encountered a difficult time with the previous street sweeping company. The City had concerns with the performance of the previous company, and random inspections of the routes taken and the GPS reports given to the City indicated that the contractor was not performing up to the contract standards. That could be a good indication of why the amount of debris dropped so drastically from FY 05/06 to FY 06/07. The City terminated the contract with the underperforming contractor and now has a street sweeping contractor that appears to be doing a quality job.

Tracking cubic yards of street sweeping debris may be an effective way to calculate load reductions, which would be a good assessment of the program's effectiveness. Although, most of the debris collected by the street sweeper in the City of Solana Beach is organics (leaves, grasses, etc.), so therefore, this may not be a good indicator of load reductions. However, the information will be collected and analyzed and any trend will be documented for future use.

Another possible load reduction calculation could be documenting the amount of material collected and removed from the various BMPs throughout the City. These BMPs include:

- Annual inspection and cleaning of MS4 system
- Maintenance of CDS Unit(s)
- Maintenance of detention basin adjacent to San Elijo Lagoon
- Load reduction calculation for the Low Flow Diverter at Fletcher Cove and the filtration basket located upstream from Seascape Sur Outfall
- Load reduction calculation for the Bioswale maintained at La Colonia Community Center

- Maintenance records of permanent treatment BMPs required as part of SUSMP projects (privately owned)

All of these activities may not be feasible, however they all warrant further consideration. It has been generally agreed upon the Copermittees are not capable at this point to perform complete load reduction calculations and assessments, but we are committed to working towards this goal. The Copermittees have decided that this Level (4) should be attacked at a regional level, and not jurisdictionally. A significant regulatory program that should force us in this direction is the TMDLs that have been developed and are now being implemented by the Copermittees in several watersheds. The City is currently involved in the San Elijo Lagoon TMDL Investigative Order, and as relevant information is received from the monitoring they will be discussed in upcoming Annual Reports.

11.6 Levels 5&6: Changes in Discharge and Receiving Water Quality

The City has been collecting and analyzing jurisdictional monitoring data received through the dry-weather and coastal monitoring programs. The City will continue to analyze the data to better understand the collective water quality picture in the City. The data will be assessed to determine the potential water quality problems within the City. Data collected by the City will be analyzed independently as well as collectively with the regional monitoring programs. Although it is generally accepted that it will take many years to develop a trend in water quality, the City will nonetheless analyze its data on a continuous basis to see if anything develops. There are no glaring deficiencies in the water quality in the City, but the situation at Seascape Sur will continue to be monitored to ensure that the storm drain does not have an impact on the quality of the receiving water (Pacific Ocean).

The Regional Monitoring Program currently conducts trend analyses for the Wet Weather Monitoring Program. The goal of the WWMP is to collect data and analyze the data to determine if there are in fact improvements in the receiving water quality throughout the region. The City participates in this workgroup and will continue to assist the Copermittees in determining if we have obtained levels 5 and 6 of the assessment strategy.

11.6.1 Dry Weather Monitoring Data

2007 Summary

Place Holder for 2007 Dry Weather Monitoring Program – Will be submitted in December 2008 as a result of Addendum No. 2 adopted by RWQCB

11.6.2 Coastal Water Quality

The Pacific Ocean is the ultimate receiving water for the City although there are other intermediate receiving waters, such as the San Elijo Lagoon and the San Dieguito Lagoon. To measure the quality of the coastal receiving waters and assess the JURMP effectiveness, the City has monitored its one coastal storm drain outfall (Seascape Sur). The City used to monitor another outfall at Fletcher Cove; however, a low-flow diverter was installed in 1998 to divert dry-weather flows into the sewer system. This was done because of historically high levels of bacteria detected in that area.

Coastal and Lagoon Storm Drain Outfalls

The coastal outfall monitoring program reporting period is a little different than the reporting period for this report. The coastal monitoring program reporting period runs from November through October. All cities with flowing coastal storm drains meet regularly (Coastal Monitoring Workgroup) to develop and implement this program to promote regional consistency.

The Coastal Monitoring Workgroup developed an adaptive monitoring approach. This approach was developed to allow the individual cities to adapt their program to concentrate their limited resources on problematic locations and ease up on consistently non-problematic areas. The City had *no receiving water exceedances* for bacteria during this reporting period, which was consistent with the results of last reporting period. So, it appears that the increased educational and oversight of the vendors at the Fiesta Del Sol was successful as there were no exceedances after the event for the fourth year in a row. City staff again made this a priority during this reporting period to meet with the event organizers and discuss BMPs with them to relay to the individual vendors and provided them with more educational materials. In addition, City staff monitored the Food Court during the event to ensure all vendors were abiding by the storm water regulations. This was mentioned in previous annual reports as an improvement area because of the consistent exceedances after the Fiesta Del Sol that had occurred in the past.

The storm drain at Seascape Sur had multiple exceedances for total coliform, fecal coliform and enterococcus. This is a storm drain that has a history of high bacteria counts and is currently the focus of an IC/ID investigation. The program is being implemented by City staff, and the complete results are presented in the Coastal Monitoring Annual Report.

The Copermittees had to modify the Coastal Monitoring Program due to the new requirements of the Permit. The Coastal Monitoring Program workgroup made the necessary changes and additions to the program and are currently implementing the new model. The City is confident that it has met the requirements of both the old Permit and new Permit.

Beach Posting Data

The County Department of Environmental Health has monitored beach water quality for bacteria since the 1950's. This sampling is used to assess the health of the beaches. When bacteria levels exceed State standards, the County posts the beaches with signs warning and advises the public not to enter the water. In 2000, there was a significant change in protocol as a result of the passage of AB411, which required additional testing, incorporating testing for enterococcus, and required the beach be posted when only one sample exceeded the standard.

During this reporting period, there were ***no beach closures,*** which bodes well for the overall effectiveness of the City's program.

CHAPTER 12
Special Investigations

CHAPTER 12: SPECIAL INVESTIGATIONS

12.1 Introduction

In accordance with Permit Section J.3.a.(3)(k), this section of each Annual Report will expand on the City's efforts to prevent and eliminate illegal connections and illicit discharges (IC/ID) into and from the City's MS4 as discussed in Chapter 7. The City's IC/ID program is designed to identify, prohibit, and eliminate discharges that are a significant source of pollutants with the goal of protecting receiving water quality. This section of each Annual Report will provide the results of any special investigations conducted during the reporting period. However, the City also responded to many other complaints of possible IC/IDs, which resulted in rapid compliance, but did not warrant or require a comprehensive special investigation.

Although this Report does not contain a completed Chapter 7 due to the extension granted in Addendum No. 2, this Chapter will remain as many activities related to this Special Investigation can be reported on. Any additional information gathered from the 2008 Dry Weather Monitoring Program will be included in the December 12th submission.

"The Mystery of the Bacteria at Seascape Sur…"

12.2 Introduction

As reported in FY 2002/2003 Annual Report, there has been as ongoing, historical problem occurring at one particular storm drain in the City. The location, Seascape Sur, has had historically high levels of bacteria, often times exceeding limits at the storm drain and occasionally in the receiving water (*no exceedances during this reporting period*). Previous annual reports go into deep detail regarding the history of this problem and the City's efforts to remedy it. Since the history is important in describing the situation, this report will include much of what was written last year. Any added information that was discovered during this reporting period will be included in this report. Next year's report will include the City's additional efforts that were undertaken during the FY 07/08.

Prior to and during this reporting period, the City began a concerted effort to determine what was causing the elevated levels of bacteria at Seascape Sur outfall (based on results from the Dry Weather and Coastal Monitoring

Programs). The problem was thought to be resolved early on, but then monitoring results in subsequent years indicated the problem had either returned or persisted. In 2000, the City Engineering/Public Works Department was fairly certain that the problem had finally been corrected; particularly when the 2001 DWMP indicated the bacteria elevated levels had *decreased* (although they were still elevated above the normal range).

However, preliminary results from the 2002 DWMP revealed that the bacterial levels had risen from the previous year to a troublesome level (see 2002 DWMP, available at City Hall upon request). As a result, the City "went back to the drawing board," and with the help of MEC Analytical (consultant for the 2002 DWMP), began an upstream investigation that continued through the end of calendar year 2002.

12.3 Background

The City began its DWMP in 1993, with no significant problems reported until 1996 when elevated bacteria levels were noted at the Fletcher Cove Outfall. Subsequently, the City constructed a low flow diverter (in 1998), which corrected the problem by diverting dry weather flow to the City's sanitary sewer system.

Between 1997 and 1999 results from the DWMP revealed some minor issues that were readily resolved, but nothing significant at Seascape Sur or Fletcher Cove Outfalls.

However, results from the 2000 DWMP identified two locations with high levels of coliform bacteria, which was of significant concern because both locations flowed directly to the beach via the Seascape Sur Outfall and were in fact, just a short distance from the outfall. The City conducted an extensive investigation and eventually found an old leaking sewer lateral that was buried under the ground near the site of the catch basins used for testing. The lateral was dug up, examined, and staff determined that cementing over the pipe would be the best method to ensure it was completely sealed off (investigation confirmed that the pipe was no longer in use). Because the leaking lateral was located quite close to the curb inlet, City staff, plumbing contractors and the consultant were fairly certain that the pipe was the cause of the elevated bacteria counts.

To confirm that the pipe was the cause of the suspected pollution, the City contracted with Kinnetic Labs to provide additional testing, which showed reduced counts during several follow-up tests. At that point, staff was optimistic

that their efforts had been successful.

The 2001 DWMP included ten sites for testing. To ensure the problem from the previous year had been corrected, the program included the same two sites that had elevated bacteria counts in 2000. Surprisingly, the site had elevated bacteria levels, but because they were much lower than the previous year, staff believed that the problem might be residual bacteria. As a result, the City ordered that the line between the curb-inlet and the outfall be televised in 2002 (the report for the 2001 program was delivered to the City in January 2002). The televising of the lines was scheduled during the routine cleaning of the storm drains later that year. Due to various issues, the televising of the lines did not take place prior to the implementation of the 2002 DWMP, which was under the regulations of the new Permit.

The City requested proposals from consultants to design and conduct the 2002 DWMP. The contract was awarded to MEC Analytical in late spring, early summer 2002. The City requested that the same two monitoring sites from 2000 and 2001 be included in the program, regardless of the new sampling procedures required of the Permit. The City included those sites to ensure continual monitoring of the area.

12.4 The 2002 Investigation

Samples for the 2002 program were collected on August 6th and 7th, 2002 throughout the City by MEC Analytical (MEC). Shortly thereafter, MEC contacted the City and informed the Storm Water Coordinator that significantly high levels of bacteria had been found at the locations of the year 2000 and 2001. As shown on Table 13-1, the amounts were troublesome.

Table 12-1 DWMP Initial Results (Sampled August 6-7, 2002)

Site	Site Location	Total Coliform	Fecal Coliform	*Enterococcus*
1	West Side of Sierra Ave	700,000	30,000	24,000
2	Manhole between sites 1 and 2.	900,000	50,000	28,000
3	Seascape Sur Outfall (downstream from sites 1 and 2)	800,000	21,000	35,000

Results are reported in MPN/100 mL.

Based on the above results, it appeared that the problem, whatever the cause,

was more pronounced at Site 2, the manhole, than at either Site 1 or 3. Therefore, the City immediately requested that the conveyance system be televised. At the same, the City authorized MEC to conduct an upstream investigation, accompanied by City staff. MEC indicated to staff that the elevated levels of bacteria, combined with the results from previous years, were a sign that an illegal sanitary wastewater connection may be the cause of the problem. However, subsequent inspection by City staff (including public works crews that inspected various locations of the line) did not reveal any expected accompanying waste solids. A somewhat consistent drip was noticed, which was traced back to nearby condo complex that was discharging their pool (the process was discontinued and the complex changed their procedures to drain into the sewer system). Other causes of the slow drip appeared to be over-watering of the many condominium complexes on Sierra Avenue.

Staff sent letters to all HOAs on Sierra Avenue that drain to the Seascape Sur outfall to eliminate the slow drip. Staff received calls from some of the HOAs in response to the letters and discussed the issue in more detail and received positive responses.

The results of the televised line were viewed by the City Engineer, which revealed a dip in the line approximately at the location of the manhole (with the elevated bacteria) and two possible illegal connections just west of the curb inlet. However, additional investigation indicated that the connections were not a problem, but staff thought that the dip in line could be harboring residual bacteria, and possibly re-growth.

12.4.1 More Testing

In an attempt to pinpoint the source of the contamination, MEC and City staff began the upstream investigation on August 19, 2002. Samples were collected from Site 1, and at a curb inlet catch basin on the *eastside* of Sierra Avenue, directly upstream from Site 3 (named Site IE).

Staff was surprised when the results of the second round of sampling revealed *higher levels of total coliform (2,400,000), fecal coliform (50,000) and Enterococcus (500,000)* at Site 1E, than the previous results from Sites 1 and 3. Further, the results were surprising given that the dip in the line at Site 2 was thought to be the source of the contamination. *The results seemed to indicate that the source of the bacteria was coming upstream from Site 1E.*

12.4.2 Traveling Further Upstream

The curb-inlet catch basin on the east side of Sierra Ave (Site IE) receives street runoff and runoff from the Beachwalk Business Complex (Beachwalk). Beachwalk is a collection of various businesses located at 437 South Highway 101 in Solana Beach. Beachwalk businesses, at that time, included several restaurants (Pacific Coast Grill, California Pizza Kitchen, Rubios), several small food facilities (ColdStone Creamery, Solana Beach Coffee Company, VitaFit, etc.,) several professional offices, a bike shop and others. Beachwalk was constructed approximately 13 years ago and at the time of construction, an on-site storm drain system, that collects on-site runoff from the property, was lawfully connected to the City's MS4.

Based on the results of the second round of testing, City staff thought that the source of the contamination must somehow come (or significantly contribute) from Beachwalk. Upon speaking with the Management Group that oversees the property, staff made several visits to look for possible non-point source explanations and speak with business owners to discuss BMPs (see Timeline below for more details).

On August 27th, 2002, City staff went to Beachwalk and personally delivered educational brochures to *all of the businesses,* educating business owners about storm water regulations and BMPs. To ensure that all the businesses were addressed, door hangers were left at the businesses that were not open at the time of the visit and additional property visits were scheduled. City staff also spoke with the person responsible for maintenance of the property and provided detailed information about pollution prevention, storm water regulations, and BMPs and how to report violations. Many of the business owners were extremely helpful and all were cooperative. Some business owners went out of their way to show staff potential problem areas, discuss BMPs and provide access to private restroom facilities (staff were looking for overflow problems and unusual construction or evidence of recent repairs).

Staff conducted another visit on September 3rd, 2002 in response to a call from one of the business owner's that staff had contacted on August 27th, 2002. City staff confirmed that foul smelling odors were coming from catch basins on-site. Further inspection revealed excess watering occurring on the patio of the Pacific Coast Grill restaurant. A manager at the restaurant was contacted and educated regarding BMPs and the new storm water regulations. During this visits, staff determined that samples were needed at various storm drains throughout the complex to try and pinpoint and eliminate the problem. City staff identified several locations that should be tested and requested permission to collect the samples

from the property owners.[2]

On September 4th, 2002, City staff accompanied MEC to conduct additional testing and investigation. The process confirmed staff's suspicion that the bacteria levels were coming from Beachwalk. Various samples were collected at locations throughout the complex. An outdoor floor drain just outside the kitchen of Pacific Coast Grill appeared to have dark brown, stagnate water in it. On-site ammonia tests were also consistent with elevated bacterial numbers (60 mg/L). A sample (Site 32) was then collected for further lab analysis. Sites IE and 3 were also sampled again for additional information. As shown on Table 13-2, Site 32 confirmed that the contamination was coming from Beachwalk and most likely, the source was near or in, the floor drain outside Pacific Coast Grill Restaurant.

Table 12-2 Upstream Testing Results

Site	Site Location	Total Coliform	Fecal Coliform	*Enterococcus*
32	Beachwalk floor drain	>16,000,000	300,000	>241,960
1E	East Side of Sierra Ave	3,000,000	50,000	3,550
3	West Side of Sierra Ave	800,000	70,000	24,950

Results are reported in MPN/100 mL.

12.4.3 Just When We Thought the Problem was Solved…

After the lab results came back and confirmed what was suspected, the property owners were notified of the severity of the situation and were eager to remedy the problem and work with the City to find a solution.

The property owners worked together with the City's Public Works Supervisor and a local plumber experienced in storm drain cleaning to correct the problem. The east side catch basin was temporarily sealed, the pipe was flushed and a specially equipped trucked was placed at the catch basin to vacuum out the resulting sludge for proper disposal. As soon as the procedure was complete, on September 18th, 2002, City staff collected additional samples from all three sites (32, 1E and 3), *expecting the results to show a decrease in bacteria levels*. The residual water in the pipes was clear of the brown, stagnate water, which also contributed to the hope that the problem was *surely* resolved. However, while

[2] *Although the City's Municipal Code does provide sufficient legal authority to order testing of the sites, rapid remedies are more likely to occur through solving problems in collaborative manner. For that reason, City staff requested permission from the property owners to conduct some testing and received immediate access and cooperation.*

results from Site 32 indicated *reduced bacterial levels*, downstream sample *again* indicated *high bacteria levels*! (the sample on the west side of the street).

12.4.4 Brainstorming

At first, these results seemed a bit perplexing (maybe it was the dip in the line?, etc.), but then, while staff continued to brainstorm ideas to solve the problem, some engineers thought was that the flushing of the system might have loosen some bacteria, which escaped collection by the Vactor truck. The City decided to wait a few weeks to see if the problem was alleviated after the system had time to completely flush out.

In the meantime City staff met with the property owners and 1) reviewed old construction plans for the property to look for potential areas of cross contamination; 2) discussed possible options that may help alleviate the situation, including training and education of business owners, television activities that might occur near the catch basin; and 3) it was decided that a temporary cap would be placed on the floor drain of Site 32 to secure it from contamination for 30 days (the cap could be removed during rain to prevent flooding).

After 30 days (and two rain events), staff requested that the plumbing contractor remove the temporary cap to allow further testing, which was agreed to.

12.4.5 Not again!

Surprisingly, results from this last round of testing indicated that there was still a significant problem on the property. An immediate meeting was scheduled with the property owners, who were informed of the test results and that the City now required them to remedy the problem through televising the lines, locating the illegal connection and reconstruction, or face serious fines by the RWQCB and the City. The property owners were concerned, responsive, cooperative and resolute in their attempts to do just that.

In addition, the City agreed to purchase a storm drain inlet filter to be placed in the catch basin just downstream from the complex, leading to the ocean outfall. It was installed the first week of December, and is maintained by the City's Public Works Staff. Although it does not filter the water passing through from Beachwalk, it does help alleviate the problem by filtering out the water coming from the street. The City hopes that this will help reduce the high bacteria

numbers found in the catch basin.

12.4.6 Action Taken By Property Owners During FY 03/04 Annual Reporting Period

By the end of December 2002, Beachwalk property owners had done the following to remedy the problem.

While attempting to televise the lines, a significant amount of sludge built up in the pipe prevented the camera from penetrating the pipes (which is likely the source of the problem, City staff also reviewed the small amount of footage that was performed in the pipes)

- An extensive flushing out of the entire system was conducted, which took quite some time to accomplish amidst the rain events in December and the amount of material in the pipes.

- The lines were televised and detected a large dip in the pipe where sediment and sludge were building up, possibly providing a breeding haven for re-growth of bacteria.

- No illegal connections or sanitary waste connections were detected. There were a few pipes connected to the outfall pipe coming from the adjacent condos, however these lines were proven to be outdoor area drains. Beachwalk property owners and condo associations are completely aware of the responsibility to rectify the situation.

The City decided that they must increase their efforts to rectify this continuous problem to ensure the integrity of the receiving waters at Seascape Sur. The bacteria levels were still consistently high, often exceeding standard limits for the outfall, but, fortunately, not yet affecting the receiving waters. Growing increasingly frustrated, City staff decided that an increased effort, and the high costs that come with it, were necessary to finding the cause, and solution, to the problem at Seascape Sur.

On March 4, 2004, City staff televised the Seascape Sur storm drain line for maintenance purposes. The video showed a significant amount of sediment accumulated at the end of the pipe coming from the Beachwalk Business Complex. Staff met with the Beachwalk property management and mandated that they clean the sediment from the line. The Beachwalk management

complied to our request and immediately cleaned the pipe, and City staff supervised to ensure all Best Management Practices were used and abided by at all times.

Laboratory results were still coming back consistently high, so the City decided to take on the cost of completely cleaning the storm drain pipe with the hopes that it would remove any residual bacteria that may be contributing to the problem. The problem the City faced was that this had never been done before, and the dimensions of the pipe made it very difficult to develop a plan of attack. The pipe starts at the curb inlet on Sierra Avenue, then travels completely underground and slopes downward until it empties out onto the beach. The distance from the street to the outfall is approximately 550 feet and dips to 30 feet below the surface, so access is very difficult. The City was able to gain access from the neighboring condominium complex to place a vactor truck to ensure that no excess water would escape containment and empty onto the beach. The project took 5 entire days to complete (ending on Friday, May 5, 2004), with City staff working with its private contractor, and cost approximately $10,000. The City removed 4 cubic yards of sediment from the pipe, and used over 5,000 gallons of water. The City was confident that the next lab results would come back spotless.

12.4.7 What Happens Next…?

On the following Monday (May 10, 2004), City staff received a phone call from the County of San Diego Department of Environmental Health advising them that samples they took in the receiving water adjacent to the Seascape Sur outfall had failed AB 911 standards. The exact opposite had happened from what staff was expecting. It appeared that all the effort and money spent to clean the pipe had actually made it worse. However, Staff immediately began an IC/ID investigation and discovered that an adjacent condominium complex had a sewer spill that weekend and raw sewage had entered into the Seascape Sur storm drain. City staff was relieved that they found the cause of the high bacteria, but highly disappointed that all of their work, time, and money had been wasted by a small sewer backup, and it was back to square one.

Because the sewage was traced back to a private lateral, the City was determined to put the pressure on the condominium complex to clean the pipe again. Staff met with the HOA representative and a deal was worked out to have the pipe cleaned again, at the HOA's expense. Additionally, the City took this opportunity to once again educate the HOA and wrote an article regarding the proper handling and disposal of grease for the HOA's monthly newsletter The

City then set the HOA up with a plan of attack and supervised the process, but the effort was stepped up a bit. Staff worked with the Regional Water Quality Control Board to allow the City to use a small concentration of bleach mixed with the water to make sure that the pipe was completely sterilized at the end. This cleaning was done on September 24, 2004.

12.4.8 Where We Were in FY 04/05

The results of the cleaning performed on September 24, 2004 proved it to be very successful. The bacteria levels were reduced significantly and the City hoped that the sterilization would be a permanent fix. However, the results in the resulting few months showed that the bacteria was slowly increasing back to its historical levels, further frustrating City staff. This may be due to City staff's worst fear that the dip in the pipe could be harboring and resulting in re-growth of bacteria that may enter by way of decomposing organic debris and/or illegal dumping.

Since this did not permanently solve the problem, the City continued to explore other options. In March 2005, the City was discussing the situation with its contract lab, Weston Solutions, and jumped at the opportunity to participate in a pilot study aimed at refining a new lab analysis that would potentially categorize the generic coliform and enterococcus bacteria indicators as deriving from human or animal origins. This would be an extremely significant discovery because the City could further identify where the bacteria was coming from, human (IC/ID) or from animals (dogs, possums, raccoons, etc.), to help direct what steps to take in the future. The City could further refine its source identification and, in theory, stop wasting limited resources on sources that don't exist.

The pilot program is completed; however, the results did not come back revealing anything substantial. Only one sample came back positive for human bacteria (and this was somewhat inconclusive), and samples collected after this positive result all came back negative. Therefore, the City can conclude with relative certainty that the source of the bacterial contamination is not human. This one positive result may be caused by a single illegal dumping occurrence or by laboratory error. The resulting negative results show that there is not a continuous inflow of sewage, as would result if there were an illegal connection. Although the pilot program is complete, one early, important conclusion would be that the bacteria is not coming from human origins, which would allow the City to eliminate this from source identification and focus its efforts on non-human

origins.

12.5 Timeline of Significant Actions

August 27, 2002- City staff distributed storm water brochures to all the businesses located in the Beachwalk complex. Staff toured the mall, visually inspected on site catch basins, outdoor floor drains, restroom facilities, and inspected several restaurants and discussed pollution prevention BMPs.

September 4, 2002- Based on feedback from the testing, staff spoke with the managers of Pacific Coast Grill, reviewed the storm water regulations, spoke about prohibited activities and distributed storm water brochures.

September 4, 2002- City staff and an employee from MEC conducted upstream investigation. A small outdoor floor drain contained brown, stagnate water with a very pungent odor. The drain cover was removed and the material was sampled. MEC called a few days later and reported that the results were consistent with the numbers for raw sewage for total and fecal coliform and *Enterococcus*.

September 18, 2002 - The Beachwalk storm drains were flushed out using clean, fresh water and the sludge was vacuumed out into a Vactor truck at Site 3. Results from follow-up samples indicated that a problem still existed.

October 24, 2002- Additional samples were taken to see if the problem had been eliminated. Results from the lab showed that the problem had not been solved. City staff continued to meet with property owners to pinpoint the source.

November 2002- The City installed a specialized catch basin filter unit that is designed to catch all debris (trash, organics, etc.) from the street before it reached the MS4 system. It also has specialized bio-filter rolls to filter out the hydrocarbons.

November 13, 2002- a semi-permanent cap was placed on the floor drain that seemed to be the source of the bacteria. A follow-up sample was scheduled for 30 days.

December 13, 2002- Samples were taken after the cap was removed and preliminary results indicate that the problem has not been resolved. More extensive investigation was ordered.

December 14-31, 2002- All property drains were cleaned and televised.

January through June- Increased monitoring and sampling through Coastal Monitoring Program to try and determine if the steps taken previously had successfully remedied the problem. An intensive educational program to the HOA's and the Business Complex was also implemented to assure compliance under the Permit.

March 4, 2004- Mandated and required the Beachwalk Business Complex to clean out storm drain system that leads to the City's Seascape Sur storm drain due to accumulation of debris (sediment, trash, etc.).

May 5, 2004- Completed cleaning of entire Seascape Sur storm drain line from Sierra Avenue to the beach outfall. A sewer spill occurred that following weekend from a private lateral connected to the Seascape line.

May 20, 2004- Wrote two articles for *Seascape Sur News,* the monthly newsletter distributed to the Seascape Sur condos, educating the residents on activities that may reduce bacteria that could be a possible source into the problem at Seascape Sur outfall. The first article was titled, "Sewer Clean-Outs," and it describes the proper way to dispose of grease (not down sink) to prevent sewer blockages and spills. The second article was titled, "Walk Dogs Off The Property and Clean Up After Them," which is pretty self-explanatory.

September 24, 2004- Completed cleaning again with the addition of bleach to counteract the sewer spill that occurred on May 5, 2004. Access issues during the summer months prevented the cleaning from occurring earlier.

November 2004- Samples showed a dramatic decrease in bacterial indicators, proving the cleaning was successful. However, future results showed the bacteria increasing back to historically high numbers.

March 1, 2005- Started participating in contract lab's pilot program to differentiate bacteria into human and animal origins.

May 30, 2007 – Conducted a thorough investigation with our lab (Weston) to detect any possible sources of the ongoing pollution (see below). Results of the investigation revealed that bacteria levels were in fact higher at the outfall than the catch basin; further reinforcing what City staff believes is a structural deficiency in the pipe that is leading to bacteria re-growth.

March 30, 2008 – Initiated a pilot study with lab to determine if the correct analytical analysis was being conducted

June 18, 2008 – Installed a catch basin inlet guard to prevent organic material from entering into catch basin on the east side of Seascape Sur storm drain. This was done to hopefully prevent the organic matter from decomposing inside the storm drain pipe and providing an area for bacterial regrowth.

August 10, 2008 – City contracted a company to place concrete inside the catch basins to fill in a one inch gap at the bottom where stagnant water would sit. The City thought this might be contributing to the bacteria load at the end of the pipe. By filling in the gap, water and organic matter would not have a place to stagnant and harbor bacteria.

September 29, 2008 – City hired a contractor to clean the entire Seascape storm drain from street to outfall.

12.6 Where We Are Now

The City continues to struggle with this ongoing situation, and is running out of options to try and eliminate the high bacteria counts. The budget continues to include money for cleaning out the line once per year, but this is merely a temporary band-aid to the problem, whereas the City is looking for a permanent fix. The one positive to take from this is that the discharge is not affecting the water quality of the receiving water (Pacific Ocean) yet, but there is no guarantee that this will not change in the future. Here are some options the City is now looking at to hopefully solve this reoccurring situation:

- Repairing sag in the outfall pipe: This option is being actively researched as re-growth in the pipe is now the most suspected culprit. Our Public Works Operation Manager is researching this option with other City staff. In addition, City staff is looking into other options such as re-lining the pipe or "pipe-blasting", which may help reduce the sag and improve flow through the pipe.

- Blocking off connections from adjacent residential complexes and making them drain to street so that discharge can be sampled: This option is seen as a last ditch effort, as it would be very expensive and politically charged. This would only be considered if outfall started affecting receiving water quality.

- Installing permanent BMP such as a low flow diverter: This option is also seen as a last ditch effort as it would be expensive and has not been fully researched to check the feasibility. City engineers would have to check the locations of the sewer main and the capacity to determine if this would be feasible. Funding may be available through grants for water quality, but again this option is a long term effort. City staff will continue to look into various funding options, one being the recent grant that allowed the City of Imperial Beach to install a low-flow diverter. Staff will monitor that project closely and may seek the same grant to place a diverter in this location.

- Conducting further tests to determine if source of bacteria can be pinpointed: This option is most feasible at this point. Our lab, Weston Solutions, contacted the City to be a part of a pilot program that will hopefully give us more results than the previous study (more information below). At this point, the City is open to any study that may assist us in finding the elusive source to the bacteria problem.

- The City's lab (Weston Solutions) did come out and visit the site again on 5/30/07 with City staff to investigate the surrounding areas to see if they could detect anything that may be contributing. Weston has performed similar investigations in other cities with very positive results. They are as interested in finding the source as the City, as we have been partners now for years on this. The results were very interesting and reconfirmed the City's belief that there is substantial re-growth occurring in the pipe as the bacteria results were much lower in the catch basins than at the outfall. The results are as follows:

	East Side Catch Basin (MPN/100mL)	Outfall (MPN/100mL)
Total Coliform	700,000	16,000,000
Fecal Coliform	80	50,000
Enterococci	41	483

12.6.1 Special Pilot Program

The City and Weston Solutions partnered for a unique pilot study with the hopes of finally determining the source of the bacteria. The specialized studies were

conducted to further analyze a unique phenomenon called "pseudofluorescence." This phenomenon first was detected in some samples from Seascape in the summer of 2007, when using the Enterolert method there were some false positives, or "pseudofluorescence." The lab noticed that the tests became to increase in frequency, and brought it to the attention of City staff after the March 31, 2008 samples were analyzed. The City and Weston then developed a plan to determine why this phenomenon was occurring, and if this could bring us any closer to solving the mystery.

Starting on April 30, 2008, Weston began testing the samples using the IDEXX method (SM 9223B) side by side with the Multiple Tube method (SM 9230B) for Enterococci in order to determine if the different methods yielded different results. Parallel analyses were carried out only on the outfall samples, as the paired ocean samples never exhibited pseudofluorescence. The following are the results:

Date	IDEXX Results (MPN/100mL)	Multiple Tube Results (MPN/100mL)
4/30/2008	<10	170
5/29/2008	<10	300

Analyzing the results, it is easy to confirm that something is causing interference with the IDEXX method. Because of this, PCR analyses were also performed, with results ranging between 1,000-10,000 (PCR includes viable and non-viable cells, as it only looks for specific DNA markers, regardless of cellular viability), which validates the Multiple Tube results by showing a definite presence of the target bacteria.

There is some concern that detergents may be the cause of the interference and pseudofluorescence. Enteroalert (IDEXX) analysis from both months displayed pseudofluorescence wells, so both were tested for detergents using an MBAS kit. The results are as follows:

Date	MBAS Results (ppm)
4/30/2008	15
5/29/2008	25

The 5/29/2008 sample had a larger number of pseudofluorescent Quantitray -

2000 wells, which seems to confirm the relationship between pseudofluorescence and the amount of detergent in the sample.

As a result of this pilot study, an official method change for enterococcus was instituted beginning with the 6/28/2008 samples. Using the Multiple Tube method, MPN for enterococcus was determined to be 3,000 per 100mL, while results from Enterolert (performed as a continued comparison) were found to be 63 MPN/100mL, with a continued pseudofluorescence.

This pilot study will continue into FY 08/09, and will be reported on in further depth in next year's Annual Report. In addition, continued upstream investigations will focus on detergents as the presence has been recorded a couple of different times.

The City will continue cooperating with Weston and their professional staff to investigate this ongoing mystery until a resolution is found.

12.7 Future Activities

The City is committed to finding the solution of the bacteria problem at Seascape Sur. During last reporting period, the City was involved with its lab, MEC Analytical Systems, in investigating upstream to find potential sources of the bacteria (see above). Although this investigation has not given the City the results it had hoped for yet, it nonetheless was an attempt to solve the dilemma. As discussed above, the City is now looking at other structural options with its engineering staff to hopefully look at another angle in this seemingly unending battle. Also, the City will continue the pilot program with Weston to compare the Enterolert (IDEXX) method with the Multiple Tube method, and continue to investigate the presence of detergents in the discharge. The investigations and studies have proven inconclusive so far and the City will continue investigating other more expensive options, more specifically fixing the structural deficiencies in the pipe.

The City has committed to setting money aside in its CIP budget to undertake some major projects to help solve the problem. As stated in the Fiscal Analysis Chapter, the FY 07/08 budget has $10,000 set aside specifically for the Seascape Sur storm drain cleaning. The next scheduled cleaning is for August 29th, 2008. The City is committed to thoroughly cleaning the pipe annually if need be, or until a long-term solution is found. The City is currently investigating other structural options and may find it better financially to undertake a large CIP project than continually spending $10,000 a year for a temporary fix. However, the location and depth of this particular pipe make it very difficult to work on, so it

is taking some time to develop a sound engineering plan to fix the pipe or divert the flows. If this is the option the City ultimately takes, it will be very prudent to take the time to do it correctly, so the City is committed to taking the time to develop a plan to ensure its effectiveness.

Additionally, the City actively monitors the outfall pipe and all surrounding areas for any unusual occurrences, and the Marine Safety Department will continue to notify the Environmental Programs Manager whenever there seems to be unusual spikes or odors coming from the outfall pipe, as one of the lifeguard towers is located directly in front of the outfall (during summer months). Lastly, City staff will continue to work with the neighboring condo associations to educate the residents as well as perform inspections of upstream businesses.

12.8 Summary

The City has thoroughly utilized the results from its DWMPs during the last several years to identify and attempt to eliminate the source of bacteria that was exposed through testing and upstream investigations. With the efforts of City staff, and the cooperation of the Beachwalk property owners/managers and neighboring condominium complexes, the sources of these unknown and pesky bacteria has almost been solved. Unfortunately, with the structural deficiencies (the sag) in the pipe, it may only take a small amount of bacteria entering the pipe to remain in the sag and promulgate (re-growth). Fortunately, the elevated bacteria levels do not seem to be affecting the receiving waters (no exceedances the past three years) yet, but the City desires to stay ahead of the game and wants to take care of the situation before it becomes a problem. Therefore, the City is currently examining other options such as re-lining the pipe, "pipe-blasting" or installing a low-flow diverter. In the very near future, the City is confident it will close the book on the *Mystery of Seascape Sur Bacteria*.

CHAPTER 13
Non-Emergency Fire Fighting

CHAPTER 13: NON-EMERGENCY FIRE FIGHTING

In accordance with Permit section J.3.a.(3)(l), this section of the report describes the City's efforts to control Non-Emergency Fire Fighting events. The City understands that the health and safety of its residents supersedes the storm water regulations when it comes to emergency situations, such as a fire. However, for non-emergency fire fighting activities such as routine maintenance and training, the release of water into the City's MS4 is not permitted. Therefore, the City's Fire Department trains at two special facilities, one in San Marcos and the other in Rancho Santa Fe. Both facilities have BMPs installed to properly handle the excess water, and comply with all regulations of the storm water Permit. ***No training exercises that involve water are conducted within the City limits.***

Routine maintenance of the City's fire trucks and apparatus is essential to ensuring public health and safety, as all equipment must be in top condition and functioning properly during an emergency. Most times, this maintenance is conducted onsite at the Fire Department. To handle the excess water, the Fire Department staff redirects the flows onto a large slope of vegetation behind the Fire Station. Staff takes extra precaution to ensure no water leaves the site. Also, the washing of trucks and apparatus occurs inside the large bays, which is plumbed directly to the sewer system.

This component is also discussed in the Municipal Component.

CHAPTER 14
JURMP Revisions

CHAPTER 14: JURMP REVISIONS

In accordance with Permit section Permit sections I.1.b. and J.3.a.(3)(m), this section of the report describes any revisions that occurred to the City's JURMP. As described in multiple chapters of this Report, the JURMP was completely revised during this reporting period in accordance with Permit Order No. 2007-0001. The revised JURMP was submitted to the RWQCB in March, 2008 and incorporated all new requirements contained in the new Permit. The new JURMP is available at City Hall upon request.

CHAPTER 15
Conclusions and Recommendations

CHAPTER 15: CONCLUSION AND RECOMMENDATIONS

15.1 Conclusion

During the FY 2007/2008 reporting period, the City was able to successfully implement the many requirements of the Permit as well as begin developing programs for the new Permit. Although the City has been required to have a storm water program under previous Orders issued by the RWQCB, this new Permit greatly expanded the types of activities and documentation efforts required of the cities. This was the fifth and final year of implementation under Permit No. 2001-01, and looking back, the City is very satisfied with the progress of the program. In addition, the City is eagerly working on developing the new programs for Permit Order No. 2007-0001.

The City continued its "team approach" to implementing the JURMP by integrating the ever-evolving requirements of the Permit into specific tasks that each member would be responsible for implementing in their respective departments. The Environmental Programs Manager is responsible for bringing the group together and updating the respective departments on any changes that may affect their department's daily activities. Additionally, the Environmental Programs Manager is responsible for ensuring that all requirements of the Permit were being addressed and satisfied. This collaborative method allowed the City to more rapidly modify procedures and handle the increased workload quickly and efficiently.

The City's accomplishments during this final year of the JURMP implementation provide evidence of the City's pro-active approach to improving water quality. The requirements under Order 2001-01 expanded the previous Order (90-42) significantly and have altered many of the daily routines of staff at the City. In addition, the City is actively working on developing the new programs to satisfy Permit Order No. 2007-0001 and has successfully implemented some of them, including, but not limited to, modifying the Municipal Code for the new model SUSMP, LID and HMP requirements, updated the City's JURMP and implementing the new Coastal Monitoring Program.

During the next reporting period, the City expects to build on the accomplishments of FY 07/08, and determine the most effective and meaningful program activities as to their impact on water quality (pollutant specific) collaboratively with the other Copermittees, and implement the approved

program assessment strategy. Since the new Permit (Order No. 2007-0001) was adopted during this reporting period (January 2007), the City has already begun working collaboratively with the RWQCB and other Copermittees to implement the new regulations of the Permit. The City is confident that it accomplished the goals set out under Permit No. 2001-01 and is looking forward to continuing the successful programs of Permit 2001-01 and developing and implementing new and improved programs for Permit 2007-0001. This was a very important year for the Copermittees as they had to evaluate and assess their programs and accomplishments over the last five years of the old Permit as well as develop and begin implementation of the newly adopted Permit 2007-0001. It's important to note the significant new programs that were incorporated into the new Permit. These include but are not limited to:

- Hydromodification Plan
- SUSMP Model Update
- Low Impact Development (LID)
- Minimum inspection and street sweeping frequencies
- Post Construction BMP Inspections

The City eagerly anticipates working collaboratively with the other Copermittees in further developing and implementing these significant programs during the next five year Permit cycle. The City is confident that the Copermittees will continue to develop and implement these programs to meet the requirements and goals of the new Permit. The City understands that all parties' involved (Copermittees and RWQCB staff) are in this together to improve the discharge and receiving waters in the region and we will continue to support and work collaboratively with all parties to accomplish this goal.

15.1.1 2007/2008 Accomplishments

The following is a small list of notable accomplishments achieved during the 2007/2008 reporting period. All of these activities are described in more detail throughout this report. They are the following:

- Continued implementation of two assessment questions on commercial facility inspection forms to help better assess the knowledge of the

business community on storm water regulations. This was done in cooperation with all North County cities to develop a meaningful and consistent assessment of the north county region.

- Modification of the Building Plan Check Form to include a new *Environmental* section that requires all plans to route through the Environmental Specialist for review. No permits can be issued without the Environmental Specialist signing of for approval. This is an obvious accomplishment since all plans will be reviewed for storm water issues.
- Addition of post-construction BMP tracking and inspection box on routing sheet to ensure all BMPs are installed according to approved plans.
- Adopted a NPDES Solid Waste Fee to fund the programs necessary to comply with the Permit. The Fee funds pollution prevention activities and will provide a long term funding source which is paramount to a successful program.
- Cooperated with an extensive landscape and irrigation educational series for public and private landscapers. This cooperation between the City and its private water company Santa Fe Irrigation District proved very successful. The classes were given in both English and Spanish and taught the participants proper landscaping and irrigation practices. The City is dedicated to continuing its public/private cooperation's in the future.
- Developed and submitted new JURMP
- Developed new HMP and LID programs in conjunction with the regional Copermittees to control discharge off of construction sites.
- Developed and adopted new model SUSMP
- Developed and implemented new post construction BMP tracking and inspection protocol
- Implemented new industrial and commercial inspection protocol, including hiring an independent contractor that specializes in storm water and grease management facility inspections
- Participated in regional workgroup to develop new mobile sources program

- Continued education and public participation activities, including community events, school presentations, summer camp presentations, water conservation presentations, website, Council Meeting, cable access channel and newsletter articles

- Modified Municipal Code to reflect changes in the new Permit No. 2007-0001 and corresponding JURMP
- Implemented minimum frequency inspections of municipal facilities, such as the building, CIP BMPs, and MS4 system.
- Collaborated with all Copermittees to develop regional educational programs as required by the new Permit Order No. 2007-0001.

15.2 Recommendations

Since the new Permit was adopted in January 2007, the majority of FY 2007/2008 was dedicated to developing new programs and fine tuning existing programs to comply with the new requirements. The City is committed to working cooperatively with the other Copermittees to develop and implement the new required programs to provide a consistent and recognizable message for the region. However, the City still must develop jurisdictional specific programs to address the specific pollutants of concern and their respective sources. So, in an effort to implement a successful and meaningful program, the following are recommendations to improve the City's storm water program for FY 08/09:

- *Resume the community workshops as soon as the demand is great enough.*
- *Continue to educate new and existing City staff to ensure compliance in the ever-changing storm water world.*
- *Complete the special investigation to uncover and eliminate the root cause of reoccurring problems upstream from Seascape Sur Outfall.*
- *Evaluate staffing needs and program responsibilities.*
- *Continue Implementation of SUSMP requirements and ensure all plans are in compliance.*
- *Develop the new JURMP program plan and implement measures to comply with Permit requirements*
- *Increase the education of residential sector which is a main focus of the new Permit. These programs will be addressed cooperatively at the*

regional level, but the City is committed to helping develop the materials and distribute to our residents.

- *Continue to collect and analyze monitoring data to establish a long-term assessment of the City's water quality.*
- *Develop additional industry specific educational materials to distribute to the community.*
- *Develop and implement pollutant specific activities to address high priority COCs (Constituents of Concern).*

APPENDICES

APPENDIX A: STREET SWEEPING MATERIALS FORM

Employee Name and Organization (below)

Date (above) use N/S below if not scheduled

1st 2nd 3rd 4th Tuesday	Time in: Time out:	Time in: Time out:	Equipment Number: Year, Make & Model

OBSTRUCTIONS (identify as vegetation, vehicle, etc. and provide description).

Reference previous date(s) reported (no entry above required):

End of day Volumn in Cubic Yards:
% (percentage) Sediment:
%(percentage) Organics:
Litter (describe-or-enter –0-)

Operator enter reason(s) for not following schedule or other comments:

C.O.S.B. Initial

Forward to R.W.Q.C.B. (C.O.S.B. Initial on Sending) City of Solana Beach 2004(adinf)

APPENDIX B: SMOKING BAN ORDINANCE

ORDINANCE NO. 316

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF SOLANA BEACH, CALIFORNIA, AMENDING SOLANA BEACH MUNICIPAL CODE SECTION 11.12.020 A TO INCLUDE TOBACCO LITTER AND ADDING SECTION 11.12.020 EE TO PROHIBIT SMOKING IN CITY PARKS AND BEACHES

THE CITY COUNCIL OF THE CITY OF SOLANA BEACH DOES HEREBY ORDAIN AS FOLLOWS:

SECTION 1. Findings and Purpose. The City Council of the City of Solana Beach hereby finds and declares that:

A. The City of Solana Beach is committed to keeping its beaches and parks clean, safe, healthy and pleasant for everyone.

B. Smoking is hazardous to health. Numerous studies have shown that second-hand smoke is a significant public health hazard. The U.S. Environmental Protection Agency has classified second-hand smoke as a group A carcinogen, the most dangerous class of carcinogen. Smoking in parks and beaches endangers children and others by exposing them to second-hand smoke. Moreover, children and youth who observe smoking and tobacco use in public beaches and parks may model the behavior.

C. The U.S. Centers For Disease Control and Prevention (CDC) estimates that second-hand smoke causes 3,000 lung cancer deaths per year among adult non-smokers in the U.S. The California Environmental Protection Agency has concluded that second-hand smoke causes coronary heart disease in non-smokers. Second-hand smoke is especially hazardous to particular groups, including those with chronic health problems, the elderly and children. The CDC has found that second-hand smoke causes children to suffer from lower respiratory tract illness, such as bronchitis and pneumonia, exacerbates childhood asthma, and increases the risk of acute chronic middle ear infection in children.

D. Additionally, discarding cigarettes and cigar butts and tobacco onto the ground in City parks and beaches is unsightly, unclean and particularly hazardous to small children who handle and sometimes ingest them. The City must collect tobacco litter in parks and beaches or it will be collected by stormwater and washed directly into our ocean waters in violation of the City's stormwater pollution prevention permit and to the detriment of ocean life and all ocean users.

E. The City Council therefore determines that banning smoking and the improper disposal of tobacco products in City parks is necessary to protect the health, safety and welfare of Solana Beach residents and visitors.

SECTION 2. Section 11.12.020 A. of the Solana Beach Municipal Code is hereby amended to read as follows:

A. To dump or deposit any trash, specifically including cigarette and cigar butts and tobacco, refuse, rubbish, litter, or other kind of waste materials, except in approved containers specifically placed and designated to receive such waste materials. No person shall dispose of any animal carcass in or on any beach or park.

SECTION 3. Section 11.12.020 EE of the Solana Beach Municipal Code is hereby added to read as follows:

EE. No person shall smoke within the boundaries of any public beach or park unless the City has designated a specific temporary or permanent signed smoking area.

SECTION 4. If any section, subsection, sentence, clause, or phrase of this Ordinance is for any reason held to be invalid or unconstitutional by a decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this Ordinance. The City Council hereby declares that it would have passed this Ordinance and each section, subsection, sentence, clause, or phrase not declared invalid or unconstitutional without regard to whether any portion of the ordinance would be subsequently declared invalid or unconstitutional.

SECTION 5. This ordinance shall become effective thirty (30) days following its adoption. Within fifteen (15) days after its adoption, the City Clerk shall publish this ordinance, or the title hereof, as a summary, in a newspaper of general circulation within the City of Solana Beach as required by law.

INTRODUCED at a regular meeting of the City Council of the City of Solana Beach, California held on the 7th day of October, 2003, and thereafter

PASSED AND ADOPTED at a regular meeting of the City Council of the City of Solana Beach, California, held on the 21st day of October 21, 2003, by the following vote:

AYES: Councilmembers – Golich, Kellejian, Campbell, Sheres, Powell

NOES: Councilmembers – None

ABSENT: Councilmembers – None

ABSTAIN: Councilmembers – None

THOMAS S. GOLICH, Mayor

APPROVED AS TO FORM:

CELIA A. BREWER, City Attorney

ATTEST:

JAN UHLMAN, Acting City Clerk

STATE OF CALIFORNIA)
COUNTY OF SAN DIEGO) ss.
CITY OF SOLANA BEACH)

I, JAN UHLMAN, Acting City Clerk of the City of Solana Beach, California, DO HEREBY CERTIFY that the foregoing is the original of Ordinance No. 316 duly passed and adopted by the City Council of the City of Solana Beach, California, at a Regular meeting thereof held on the 21st day of October, 2003.

That, in compliance with the laws of the State of California, Ordinance No. 316 being:

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF SOLANA BEACH, CALIFORNIA, AMENDING SOLANA BEACH MUNICIPAL CODE SECTION 11.12.020 A TO INCLUDE TOBACCO LITTER AND ADDING SECTION 11.12.020 EE TO PROHIBIT SMOKING IN CITY PARKS AND BEACHES

A certified copy of the full text of Ordinance No. 316 along with the names of those City Councilmembers voting for and against said Ordinance was caused to be posted in the office of the City Clerk.

Executed the 23rd day of October, 2003.

(SEAL)

CITY OF SOLANA BEACH INCORPORATED JULY 1 1986 CALIFORNIA

JAN UHLMAN, Acting City Clerk

Published: North County Times: October 28, 2003

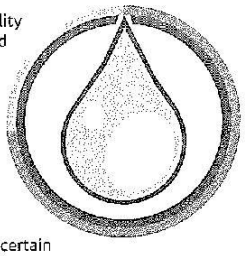
APPENDIX C: SPECIAL EVENT VENDOR BMP GUIDELINES

VENDOR GUIDELINES

Fiesta del Sol

- All electric cords should be out of the public access areas. If they must extend into a public access area, the cords must be protected with pedestrian transition molding to minimize the trip hazard.
- All cooking areas and devices shall have at least one 2A-20BC fire extinguisher readily accessible to persons working in the immediate proximity of each device or cooking area and shall be in plain view.
- All portable LP-gas containers, valves, and fittings shall be properly secured in a fixed upright position and protected in accordance with the Uniform Fire Code.
- The following conditions apply to canopies in excess of 400 square feet, and to tents and temporary membrane structures having an area in excess of 200 square feet:
- All tents, temporary membrane structures, and/or canopies that are to be used at the function shall be adequately braced and anchored to prevent weather related collapse. Documentation of structural stability shall be furnished to the Fire Chief on request.
- All tent, canopy, or temporary membrane structure exits shall be in accordance with the Uniform Fire and Building Codes.
- The design and construction of the fabric envelope, method of anchoring, and inflation systems for air-supported and air-inflated structures shall be in accordance with the Building Code.
- The sidewalls, drops and tops of temporary membrane structures, tents and canopies shall be composed of flame-resistant material or shall be treated with flame retardant in an approved manner. Floor coverings, bunting, combustible decorative materials and effects, including sawdust when used on floors or passageways, shall be composed of flame-resistant material or shall be treated with flame retardant in an approved manner. Temporary membrane structures, tents or canopies shall have either a permanently affixed label or a Certificate of Flame Resistance bearing the following information:
    - Identification of the temporary structure's size and fabric or material type.
    - For flame-resistant-treated materials, the date that the temporary membrane structure, tent or canopy and other combustible materials were last treated with an approved flame retardant. The trade name and type of flame retardant utilized in the flame-retardant treatment. The name of the person and firm that applied the flame retardant.
- The following general storm water run-off practices shall apply to the event:
    - No dumping or allowing any material into City storm drains.
    - Install secondary containment around portable restroom facilities when feasible.
    - Prompt and proper clean-up of all trash debris.
    - Do not use water or any liquid to rinse down any debris or dirt on any ground surface. Dry sweeping only of event debris is allowed.
    - Protect all storm drain catch basins/inlets when feasible with proper storm water Best Management Practices implementation.
    - Do not allow excess water to leave the site. Properly contain everything onsite before it enters the City's storm drain system.

The City of Solana Beach Water Quality Program



The City of Solana Beach has an extensive water quality program aimed at ensuring a clean and healthy ocean and lagoons. The program consists of a variety of activities conducted to reduce and eliminate urban runoff before it enters the City's storm drain system. Once this runoff (and the pollutants contained in it) enters the storm drain system, it empties onto the beaches and into the lagoons untreated. The system is completely separate than the sewer system, which is connected to a wastewater treatment plant where the pollutants are removed before discharging into the ocean.

The City is under a state mandate (Permit) to comply with certain regulations that govern water quality and urban runoff. The City, along with all other 17 cities in San Diego County, the County of San Diego, the Port District and the Airport Authority, are all required to comply with the same Permit, and adhere to the same regulations. The following is a brief outline of the activities required under the Permit that City staff is currently responsible for.

1) New Construction and Redevelopment Activities: City staff reviews all building plans submitted to ensure additional runoff associated with the project will be mitigated onsite. This usually involves the of installation post-construction Best Management Practices (BMPs) including infiltration pits but can involve installation of structural devices that target infiltration and pollutant removal. Plans are also reviewed to ensure erosion and sediment control BMPs such as silt fences and sand bags are used during construction to prevent pollutants from leaving the site.

2)Municipal/Commercial/Industrial/ Construction Inspections: City staff inspects all municipal, commercial, and industrial sites within the City to ensure potential pollutants are safely stored and employees are conducting their activities in accordance with the water quality regulations. This includes the proper onsite storage of hazardous materials, pesticides, herbicides, etc., as well as ensuring employees are not using excessive amount of water to clean outside eating areas, trash dumpsters, cooking mats, etc. No water should be leaving these sites at any time, with a few minor exceptions. Additionally, staff checks the maintenance records of the restaurant grease trap/interceptors to ensure they are functioning properly to reduce grease build up in the sewer pipes and prevent sewer spills.

3) Education/Outreach: City staff routinely educates municipal/commercial/industrial employees about these regulations during inspections and special mail outs. The City has information for the community on its website and in community newsletters, and is available for presentations to schools regarding urban runoff. Information is available at City Events such as Fiesta Del Sol and a beach and lagoon cleanup is held every year in September.

4) Violation Investigations: The City has a "Storm Water Hotline" where violations can be anonymously reported if witnessed in the community. If you witness someone dumping anything into the City's storm drains, a restaurant washing down its parking lot, a construction site discharging anything into the street, etc., then please call this number and report it for City follow-up. The City relies on the community to be its "eyes and ears" whenever something like this occurs, and appropriate follow-up will occur. The number is (858) 720-2400 ext. 2512, and remember, it can be anonymous if desired.

5) Water Quality Monitoring: City staff currently monitors all storm drain outfalls that empty out into either the ocean or lagoons. These outfalls are all tested for bacteria indicators on a routine basis (at a minimum monthly). Once a year, a more comprehensive monitoring program is conducted at more than thirty sites throughout the City and tested for many more pollutants, including dissolved metals, oil and grease, ammonia, nutrients, detergents, and orthophosphates. This data helps assess the overall health of the local waters and also alerts the City if an illegal discharge or connection has occurred upstream. If any violations are identified, then an upstream investigation is conducted to locate the source of pollutants.

These are just a few activities conducted by City staff to stay in compliance with the Permit and ensure a clean and healthy environment. If you would like additional information on any of the items listed above, or would like to find out more about additional activities not listed above, please contact Danny King at (858) 720-2477.

City of Solana Beach PUBLIC MEETING SCHEDULE

The Budget & Finance Committee meets the third Thursday of each month at 6:00 p.m. in the City Hall Council Chambers.

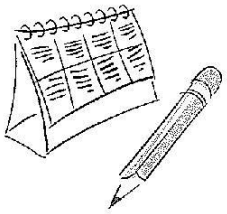
The Parks & Recreation Commission meets every second Thursday at 4:00 p.m. at La Colonia Park, 715 Valley Avenue, Solana Beach. ***NOTE: NEW TIME***

The Public Arts Advisory Commission meets the second Tuesday of each month at 3:30 p.m. in the City Hall Council Chambers.

The Public Safety Commission meets the second Tuesday of each month at 6:30 p.m. in the City Council Chambers.

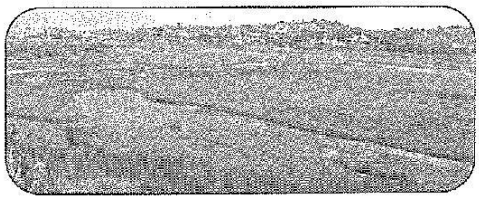
The View Assessment Committee meets the third Tuesday of each month at 6:00 p.m. in the City Council Chambers.

These times and days are the regular meeting schedule unless otherwise noted. Please check the City website for current information at: **www.ci.solana-beach.ca.us.**



Regular meetings of the Solana Beach City Council are held at 6:00 p.m. on the second and fourth Wednesdays of each month in the Council Chambers at City Hall, 635 S. Highway 101, Solana Beach, CA 92075. Meetings are broadcast live on Cox (Channel 19) and Time Warner (Channel 66). For more information, please contact the City Clerk's Office at (858) 720-2400.

Sewer Forcemain Replacement Project



The City has recently completed the 3.2 million dollar sewer pipeline replacement project underneath the San Elijo Lagoon. The project was immensely complex due to the location and sensitivity of the pipeline, which runs underneath the environmentally sensitive Lagoon. The City and contractor had to manage complex construction activities around tremendous environmental restrictions to complete the project within an allotted timeframe and not interfere with the breeding season of migratory birds within the Lagoon.

The existing forcemain was installed in 1965 and conveys sewage approximately 1.1 miles underneath the lagoon to the San Elijo Joint Powers Agency Water Reclamation Facility in Encinitas. The pipe was nearing its life expectancy and needed to be replaced to prevent sewer spills into the environmentally sensitive Lagoon. The project was funded and spearheaded by the City of Solana Beach. The City of Encinitas, the County of San Diego and the San Elijo Lagoon Conservancy provided their support to have necessary easements in the Lagoon. The City obtained over half of the 3.2 million dollars in grant funds from the Environmental Protection Agency. The City will continue to attempt to secure these grant funds to provide sewer infrastructure repair throughout the City.

Sewer spills can have catastrophic effects on the plants and animals that inhabit the Lagoon as well as those who recreate in the nearby ocean. Major fines can be issued to responsible parties if sewer spills occur, so the City has taken a very proactive approach in analyzing the current sewage infrastructure and rehabilitating the aging system. In the very near future, the City will be replacing the Eden Gardens Pump Station and the Solana Beach Pump Station. As mentioned above, the City takes a very proactive approach to rehabilitating the aging system to prevent sewer spills and the devastating effects that they can cause to human health, property and the environment.



City Streets *Make a Clean Sweep*

Sreet sweeping is scheduled on Tuesday of each week, excluding any 5th Tuesday of a month. The City is divided into four sections as follows:

1. Northwest section, north of Lomas Santa Fe, west of I-5.
2. Southwest section, south of Lomas Santa Fe, west of I-5.
3. Northeast section, north of Lomas Santa Fe, east of I-5.
4. Southeast section, south of Lomas Santa Fe, east of I-5.

The northwest section is swept on the first Tuesday of each month.

The southwest section is swept on the second Tuesday of each month.

The northeast section is swept on the third Tuesday of each month.

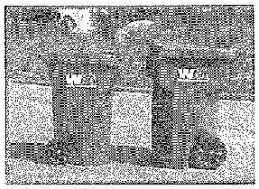
The southeast section is swept on the fourth Tuesday of each month.

South Sierra Avenue is swept twice each month. The west side is swept the first and third Tuesday of the month, and the east side is swept the second and fourth Tuesday of the month.

Sweeping includes median curbs on Highway 101 and Lomas Santa Fe Drive, north-south curbs and gutters and east-west curbs and gutters to be swept on the first and third Tuesday of each month.

Residential Automated Trash and Recycling Program Update

The new residential automated trash and recycling program has just completed its fourth month of implementation, and early indications point to a dramatic increase in recycling rates for the City. As you may recall, the City approved Waste Management's proposal to switch residential trash and recycling from manual to automated and new containers were distributed to all residents in November, 2006.



One of the main incentives for the City was to increase the recycling rates throughout the City to reduce the amount of materials entering our local landfills. This program has proven in other jurisdictions to have a major impact on this diversion, and early results have shown the same results here in Solana Beach. According to Waste Management, the recycling rates have increased 23% since the implementation of the new program. This has proven to be a very successful program so far, and the City commends you, the community, for making it happen. Please remember to recycle all you can, as the local landfills have a limited capacity and recycling has a dramatic effect on preserving our natural resources.

The Community Singalong Celebrates 20 Years

As our Solana Beach Community Sing-along reaches its 20th year in July, how many of you have attended one of these delightful evenings? "For some reason, many of our residents have the impression that they can't sing. Nonsense! For instance, at last years First Annual Solana Beach Holiday Singalong, folks didn't hesitate to sing out their favorites. Don't be shy," says Dr. Ed Siegel, founder and pianist for this free weekly event. This enjoyable family event is held each Thursday at the Fletcher Cove Community Center. Doors open at 7:30 p.m. Folks come and go until 9:00 p.m.





San Elijo Lagoon Lecture Series

All lectures take place on
Friday at 7 PM
MiraCosta College/San Elijo Campus
Admission is free

The San Elijo Lagoon Conservancy (SELC) lectures series with MiraCosta College has been wildly popular with standing-room attendance. Part of SELC's year-long 20th anniversary observance, the series continues this summer and offers the public the chance to learn more about the history, ecology, and future of the San Elijo Lagoon.

"Early Occupation of the San Elijo Lagoon Region"
June 22, 2007
Dennis Gallegos, Archaeologist & President,
Gallegos & Associates

Two final lectures will be offered this fall. For more information on the series contact: Denise Stillinger, dstillinger@miracosta.edu

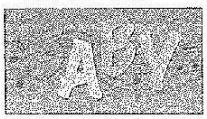
San Elijo Lagoon Conservancy is a citizen-supported, non-profit organization dedicated to protect, preserve, and enhance the natural resources of the San Elijo Ecological Reserve and its watershed. During its 2007 anniversary year, SELC is offering a number of public events under the theme "20 Years of Watershed Moments." For more information visit www.sanelijo.org.

North Coast Repertory Theatre's Summer Schedule! 2007

Baby
by Sybille Pearson
directed by Paula Kalustian

Three couples from three generations all want the same thing – procreation. Enjoy great songs, zest and humor in this light-hearted production. A big Broadway success!

Previews May 23 - 25
May 26 - June 24



The Theatre School at North Coast Rep Presents:

Student-Written, Student-Directed One Acts
June 4 - June 6

NORTH COAST REP

The Theatre School at North Coast Rep
2007 Summer Drama Fun Camp
Classes fill up quickly so reserve your space today!
For ages 9-18.
Call 858.481.1055 to reserve your space, or call Joe Powers at 858.481.2155 ext. 16 for more information.

July 9 - 13,
July 16 - 20,
July 23 - 27

Rashomon
by Fay and Michael Kanin
directed by David Ellenstein

Perspective is everything. Examine the story of an ancient Japanese fable from three angles. A dynamic world of imagination unfurls in this lively and inventive classic.

Previews July 11 - 13
July 14 - August 12



City of Solana Beach Department of Parks & Recreation



Kids Summer Day Camp - 2007
for ages 6 to 12

All Sessions will meet Monday through Friday from 8:30 a.m. to 2:00 p.m. at the new Fletcher Cove Park. The fee is $100.00 per child and includes beach activities, arts and crafts, t-shirt and a weekly field trip to an exciting destination. After-care is offered from 2:00 to 5:00 p.m. Our popular "Leader in Training" program is available for 13-17 year olds for only $40/week!

Explore the Borders (Mexico)
Session 1, June 18-22, 2007

¡Bienvenidos! Get ready for the most colorful kids camp the City of Solana Beach has put on yet! During this week we will explore the vivid culture of this fascinating and fun country as we create crafts such as paper lanterns and flowers. The week will end with a fiesta including a piñata and more!

Field trip: Cabrillo National Monument

Oceans Week
Session 2, June 25-29, 2007

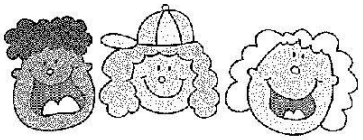
We live near the ocean and we may visit it often, but how much do we know about it? Come to camp to learn more about this beautiful treasure so close to us! We will have beach activities throughout the week.

Field trip: Birch Aquarium at Scripps

Happy and Healthy
Session 3, July 9-13, 2007

What better way to spend summer than getting exercise and having fun doing it? Throughout this week we will be learning about our incredible bodies and what we can do to keep them happy and healthy.

Field trip: Go Play Get Fit Youth Day at SDSU





Ecology & Our Environment
Session 4, July 16-20, 2007

Egrets, marshes, and eucalyptus, oh my! Ecology week, July 16 - 20, is your child's time to discover an often overlooked region of San Diego County. Through crafts and experiments, we will dive into a part of our own backyard, learning about wildlife habitats, and how we are all a part them.

Field trip: San Elijo Lagoon

Step Into Storybooks
Session 5, July 23-27, 2007

This camp is a great opportunity for your child to step into storybooks! During this week campers will be diving into classics, acting out skits, reading award-winning children's books and even writing one of their own.

Field trip: The Wave Water Park

Rainforest Exploration
Session 6, July 30-Aug 3, 2007

Attention lovers of adventure!! Feel like swinging through the trees this summer? Sign your child up for Rainforest Exploration Camp, July 30 - August 3. During this week we will learn about habitats, wildlife and the role they play in our lives.

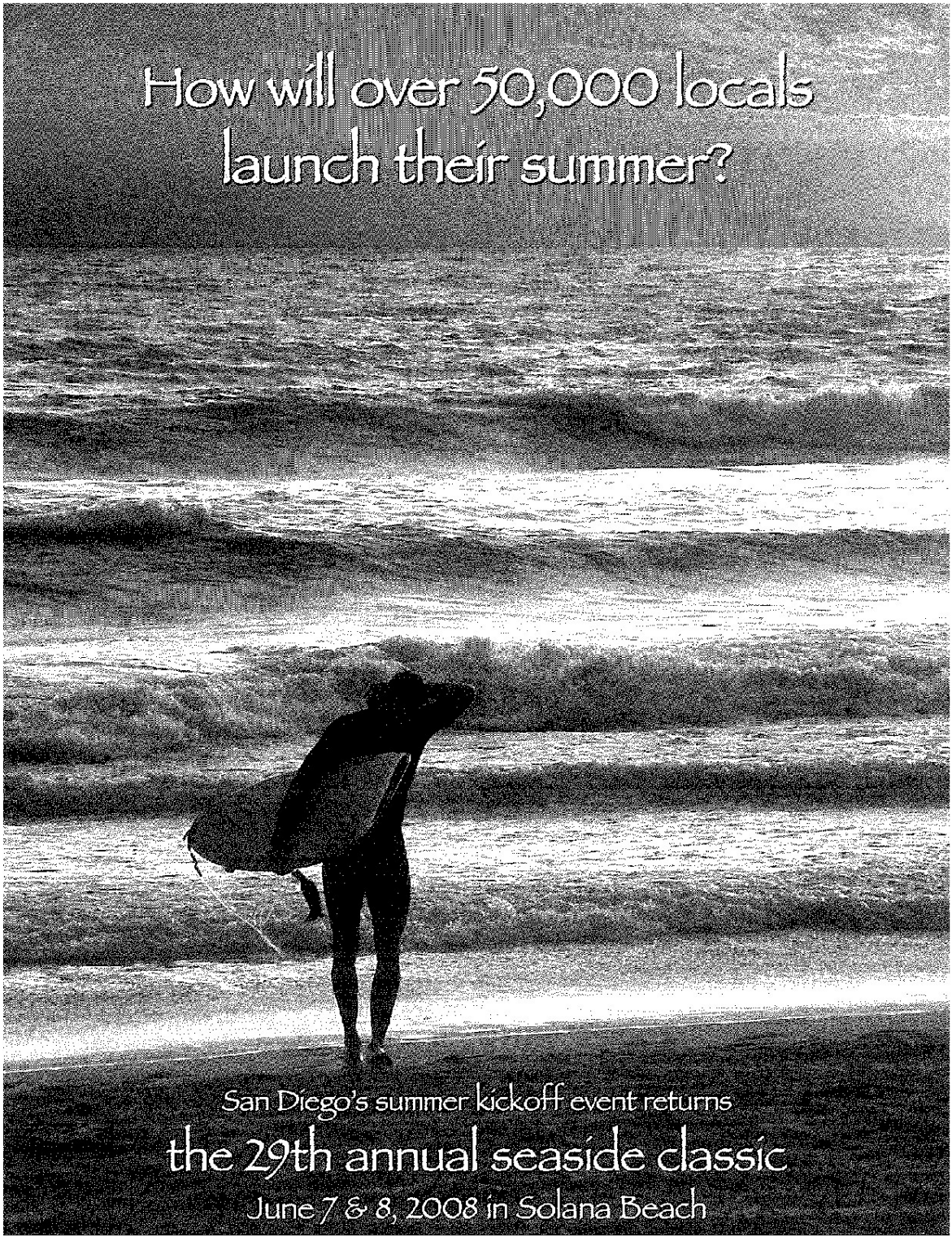
Field trip: Balboa Park and Museums

San Diego Appreciation Week
Session 7, August 6-10, 2007

From beaches to theme parks, we have it all in San Diego. If you are interested in your child learning to appreciate our beautiful City and its history, in a kid friendly fashion, sign your son or daughter up now!

Field trip: San Diego Harbor Cruise and Seaport Village

APPENDIX E: FIESTA DEL SOL FLYER 2008



Environmental News and Programs

Water Conservation News

The Santa Fe Irrigation District is asking its customers to voluntarily increase water conservation efforts immediately in response to a looming water supply crisis created by historic dry conditions and significant court-ordered reductions in water deliveries from the Sacramento River/San Joaquin River Delta (Bay Delta) in Northern California.

Conservation has been a way of life in San Diego County for many years, but it's especially important now. Historic dry conditions are affecting all of our water supplies. In addition, on August 31, a federal judge ordered severe pumping restrictions that will reduce water deliveries from the State Water Project, the source for 40 percent of all water used in San Diego County last year. The combination of dry conditions and reduced water deliveries from the State Water Project next year make water supply shortages and mandatory water restrictions a very real possibility in 2008. It is essential that residents, businesses and public agencies conserve now to preserve water for next year and possibly beyond.

The San Diego County Water Authority, the wholesale water agency in San Diego County, is asking everyone to help the region conserve more water by joining the 20-Gallon Challenge. The 20-Gallon Challenge is a region-wide campaign to increase voluntary water conservation by 20 gallons per person, per day. Saving water now will help the region by allowing more water to stay in storage to meet demand next year.

Saving 20 gallons a day is easier than you might think. Some simple changes can make a big difference in your water use. Keep in mind that 60 percent of urban water use in San Diego is spent on landscape irrigation and other outdoor purposes, so make sure you think inside AND outside to maximize water savings. Go to this website and take the 20-Gallon Challenge pledge: www.20gallonchallenge.com.

Visit the Santa Fe Irrigation District's website at www.sfidwater.org to check for special notifications, new conservation programs, and more water conservation links.

The following are some of the programs that Santa Fe Irrigation District offers to help its customers manage their water more efficiently:

Weather Based Irrigation Pilot Program for Single-family Homeowners

A Smart or Weather Based Irrigation controller can be an effective technology for reducing water usage outdoors. A Smart Controller uses weather data and site information such as plant type and sprinkler system output to adjust watering times and frequency. Rebate Amount $350 (up to $200 toward product cost and up to $150 toward installation cost). Smart controller must be installed by a certified contractor, and the controller must be a qualifying controller listed on the San Diego County Water Authority's website at: www.sdcwa.org/manage/pdf/conservation/installers.pdf. Call 858-756-5672 for further information.

Residential Surveys

The Home Surveys are complimentary to educate the consumer on how to manage water more efficiently. Overview water usage history, check for meters leaks, check pressures, visual inspection of irrigation system, and suggestions to improve efficiency. Each home will receive an information package on landscapes and irrigation. Call (858) 756-5672 to schedule an appointment.

High Efficiency Clothes Washer Voucher

55% less energy, 65% less water and up to $175 discount. Vouchers Only! Customers must obtain the voucher first before purchase. Call toll-free at 1-800-986-4538.

California Friendly Landscape Training Program

One comprehensive mini-class March 8, 2008 (9:00-12:30 PM) Topics to include Basic Landscape Design, California Friendly and Native Plants, Landscape Sprinkler Systems, and Soil, Watering and Fertilizers. Call 858-756-5672 to register.

Multi-Family Toilet Vouchers

Receive a voucher worth up to $200 for approved high-efficiency toilets. Call toll-free at 1-800-986-4538.

Commercial, Industrial, Institutional Vouchers

One comprehensive mini-class March 8, 2008 (9:00-12:30 PM) Topics to include Basic Landscape Design, California Friendly and Native Plants, Landscape Sprinkler Systems, and Soil, Watering and Fertilizers. Call 858-756-5672 to register

Smart Landscape Program for Commercial, Multi-Family, and Public Sites

Grants for repairs/upgrades may qualify for up to $2,500 per irrigated acre. Grants are limited to $5,000 total for commercial or multi-family properties and $10,000 for Public sites. Call toll-free at 1-800-986-4538 (option 2, 5).

Artificial Turf Incentives for Mobile Home Parks, Public and Private Schools, Animal Care Facilities and Commercial Sites

50 cents per square foot incentive is available for sites looking to replace natural grass with artificial grass. Funding for the 50 cents incentive is limited and is provided on a first come, first served basis. A 30 cents incentive is provided year-round and is unlimited. For more information call 858-522-6762.

Free California Friendly Landscape Training (Spanish)

Irrigation Principles Irrigation System Troubleshooting, Controller Programming, Irrigation Scheduling, and Plant Class. The classes will be held at the Fletcher Cove Community Center on February 4, 11, 18, 25, and March 24, 2008. Call 858-756-5672 to register.

For more information, please contact Michael Banks or Jeanne Deaver at 858-756-2424.

For Conservation tips visit these websites:

http://bewaterwise.com
http://wwwthegarden.org
http://apps.sandiego.gov/landcalc
http://www.20gallonchallenge.com

BACKGROUND

About the Santa Fe Irrigation District

The Santa Fe Irrigation District was formed in 1923 under the California Irrigation District Act. The District provides water and related services to residential, commercial and agricultural customers in the San Diego County communities of Rancho Santa Fe, Solana Beach and Fairbanks Ranch. The District provides service to about 22,000 customers in a 16-square-mile area. The District supplies over 4.5 billion gallons (or 14,000 acre-feet) of water per year to its customers, utilizing a blend of local water from Lake Hodges and imported water purchased through the San Diego County Water Authority. The District administers and operates the jointly owned R.E. Badger Filtration Plant, a 40 million gallon per day water treatment plant. The District has historical rights to local water supplies from Lake Hodges and the San Dieguito Reservoir.

Solana Beach Clean and Green Committee

On March 14, 2007, the City of Solana Beach City Council signed the U.S. Mayors Climate Protection Agreement and joined the growing list of communities nationwide pledging to take local action to reduce the impact of global warming pollution. As a result of this pledge, a community group was formed to carry out the mission of the Agreement and assist the City in addressing the problems. The newly formed group is called the Solana Beach Clean and Green Committee.

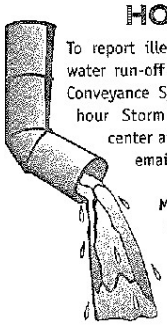
The Committee is currently working on a number of issues, including:

- ensuring that grocery stores provide a plastic bag recycling center onsite
- distributing reusable cloth bags to use instead of plastic bags
- researching Green Building/LEED certification processes and Construction and Demolition Recycling ordinances.

The Committee is also researching solar power applications and initiating a global warming emmissions inventory with a goal to develope a Climate Action Plan.

The Clean and Green Committee meets monthly on every third Monday at City Hall from 2:00-3:00 p.m. and welcomes all residents to participate. For more information, please contact Danny King at (858) 720-2477.

STORM WATER HOTLINE!



To report illegal dumping or excessive water run-off to the City's Storm Drain Conveyance System, call the City's 24-hour Storm Water Hotline message center at 858-720-4424 or send an email to stormwater@cosb.org.

Messages can be anonymous and are checked throughout the day and calls are promptly returned.

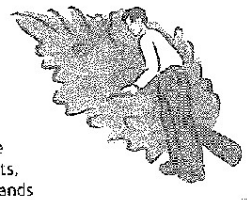
Coastal Clean-up Day



Solana Beach hosted two sites, Fletcher Cove and the Rios Trail Head at the north end of North Rios Avenue in the San Elijo Lagoon, on Saturday, September 15, 2007, for the Worldwide Coastal Clean-up Day. Our small City had over 120 volunteers, of all ages, participate in picking up debris, trash and recyclables from the beach and Lagoon. For the first time in many years, plastic water bottles and their caps replaced cigarette butts as the most common litter problem at the San Elijo site.

A young woman volunteer from Sandag (they had about 20 volunteers at our sites) carried a 50 pound, old, rusty, stove top up from the Lagoon to deposit in the dumpster. (I don't know if it was gas or electric) What a trouper! In all, 605 pounds of paper, butts, bottles, caps, sofa cushions, diapers, cans, carpet, car parts, cardboard, pens, cups, balloons, etc., were cleaned from our beach and Lagoon. THANK YOU to all those volunteers and the Solana Beach lifeguards for making the clean-up such a success!!

Holiday Tree Recycling Collection Program



The City of Solana Beach, in partnership with Coast Waste Management, Inc, has a free Holiday tree recycling and collection program that allows residents to drop off their trees starting December 26, 2007 through January 14, 2008.

Holiday Tree RECYCLING

There will be two locations where residents may drop off their trees. The drop-off locations are across the street from 305 South Sierra Avenue (behind the Long's Drugstore) and 715 Valley Avenue at the La Colonia Community Center parking lot. No flocked trees and all lights, ornaments, tinsel, and tree stands must be removed. Trees do not have to be cut down if dropping off.

Holiday Tree COLLECTION

Trees must be cut into 4-foot sections and placed out on the curb for pick-up. All lights, ornaments, tinsel, and tree stands must be removed. Flocked trees will be collected by the trash drivers.

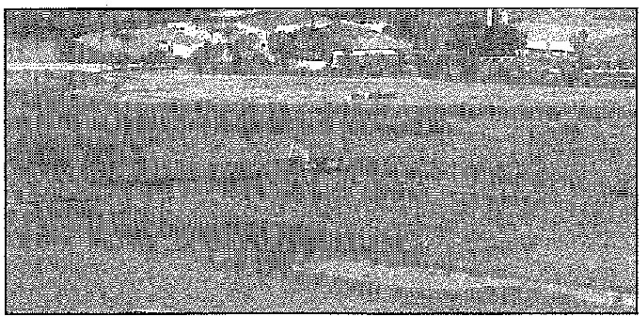
Restoration of San Dieguito Lagoon Well Underway!

Passersby on I-5 look with either relief or alarm when they see the earthwork being carried out in the San Dieguito Lagoon. We can celebrate, however, because it is a large-scale wetlands restoration project that will beautifully enhance what is the "western gateway" to the San Dieguito River Park. Work is well underway on the $86 million project, funded largely by Southern California Edison, to create over 150 acres of wetland and upland habitat. To learn more about the Wetlands Restoration Project, visit www.sdlagoon.com or sign up for a free bus tour by contacting the San Dieguito River Park at (858) 674-2275 extension14.

The San Dieguito River Park began in October a new grant-funded project to create four wetland treatment ponds on the east side of the freeway designed to treat urban runoff using native vegetation. The project includes construction of a new segment of the River Park's Coast-to-Crest Trail that will pass under the freeway. Visit www.sdrp.org to find out where you can explore more than fifty miles of trails, including the Coast-to-Crest Trail, throughout the River Park.

In September, the San Dieguito River Valley Conservancy began a habitat restoration project on the northern bank of the river on the property of the Del Mar Fairgrounds. Over the next five months, hard-working volunteers from the neighboring communities will help clear the site of non-native plants and prepare for replanting with native species.

Every acre counts in the critically threatened habitats of our coastal lagoons. Local residents, River Park visitors and wildlife can all look forward to the changes that will be taking place in the San Dieguito Lagoon over the next few years!



San Dieguito River Valley Habitat Restoration

Date: Last Sunday of every month
Time: 1:00 - 3:00pm
Location: San Dieguito Lagoon at Del Mar Fairgrounds

Assist the San Dieguito River Valley Conservancy in restoring native habitat by removing non-native plants and debris. Tools, training and refreshments provided! Bring water, sun protection and wear sturdy, closed-toed shoes. Please contact volunteer@sdrvc.org or (858) 674-2275 x12 for directions and to reserve a space.



Volunteers clear non-native plants along the San Dieguito River.

LIFEGUARDING in the Winter Verses the Summer



One of the most commonly asked questions of year-round lifeguards is "What do you do in the winter?"

After the Labor Day holiday most lifeguard towers are closed and most of the seasonal staff is no longer working. The majority of lifeguard duties are then assumed by the small crew of year-round permanent lifeguards along with a few seasonal lifeguard supervisors. In Solana Beach, these men and women can be found at Marine Safety Department Headquarters, located at Fletcher Cove.

During the fall, winter, and spring months the job of the lifeguard changes dramatically. Gone are the warm days with sandy beaches, and gentle ocean waves. Warm summer water is replaced by temperatures dropping into the low 50s. The fun summer waves are replaced by large surf and strong currents that are dangerous to the average surfer. The sandy beaches erode with each large swell that arrives. In its wake it leaves exposed reef and cobblestone filled beaches.

Wetsuits and the ever increasing popularity of surfing have contributed to a steady increase in winter time aquatic activity. The result is an influx of surfers, body-boarders, and swimmers who get in over their heads in the dangerous winter conditions and need to be rescued. Although lifeguards make fewer rescues during the winter months, the ones they do make are extremely dangerous and complicated – often requiring the use of any number of resources. Personal water craft (Jet Skis) with attached sleds, inflatable rescue boats, Coast Guard and Sheriffs' helicopters have all been utilized to rescue people during these dangerous conditions.

During the winter and spring months the lifeguard staff visits local schools to give beach safety education presentations. The lifeguards also have local schools visit their Headquarters where they provide station tours to the students and teachers. Daily maintenance is performed on vehicles, rescue boats, equipment and Headquarters. During the course of each day, lifeguards patrol the beaches and check all of the public accesses to insure the public's safety and mitigate any unsafe or illegal activity. On-going training and re-certification in various aspects of ocean rescue and first aid round out the staff's weekly routine.

It's safe to say that the lifeguards' work is never done. Rather, it transforms itself from season to season. In fact, most year-round lifeguards would probably agree, much more work goes into the preparation for the summer season than the actual "busy" season itself!

Environmental News and Programs

Solana Beach Clean and Green Committee

The Solana Beach Clean and Green Committee continue work on a variety of issues to reduce the impact of global warming and pollution as a result of the U.S. Mayors Climate Protection Agreement.

The following is a list of accomplishments to date:

- Energy efficient lighting retrofit at all City facilities
- Conversion of residential manual source separated trash/recycling collection to automated single stream commingled recycling
- Adoption of Construction and Demolition Debris Recycling Program
- Energy efficient HVAC (heating and air conditioning) audit at City Hall
- Installation of public recycling containers at parks and beach accesses

The Solana Beach Clean and Green Committee is currently working on a number of things, some of which include:

- Developing a Climate Action Plan for Greenhouse Gas Emissions
- Ensuring that grocery stores have plastic bag recycling centers onsite
- Researching Green Building/LEED certification processes and incentives

The group meets the third Monday of each month at City Hall from 2:00pm - 3:00pm and welcomes all residents to participate. For more information, please contact Danny King at (858) 720-2477.



Construction and Demolition Debris Recycling Ordinance



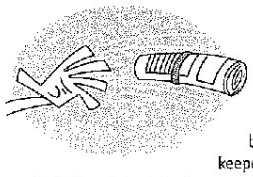
Construction and demolition (C&D) debris can be a significant portion of a jurisdiction's waste stream, and diverting it from landfills can help jurisdictions achieve and maintain their diversion goals established by AB 939. Demolition and new construction such as residential and commercial buildings and roadways generate large amounts of C&D debris. This debris includes concrete, asphalt, wood, drywall, metals, and other miscellaneous and composite materials. According to the National Association of Home Builders (NAHB) Research Center, the building of a 1,700 square feet home requires:

9,700 board feet of lumber	4,850 square feet of sheathing
2,000 square feet of shingles	2,528 square feet of siding
750 feet of copper wire	55 cubic yards of concrete
2,500 square feet of insulation	170 feet of copper pipe
6,484 square feet of drywall	55 gallons of paint
300 pounds of nails	

As a result of State Law AB 939, all municipalities are required to divert at least 50% of the solid waste generated from landfill disposal by the year 2000. The City is currently at a 56% diversion rate, but it should increase with the implementation of recent programs such as the conversion to single stream commingled residential recycling, the increase in public recycling containers, and the implementation of the C&D recycling ordinance, which was adopted by City Council on January 23, 2008. This ordinance will require recycling at selected construction and demolition projects within the City.

For more information on this program or any of the programs listed above, please call Danny King at 858-720-2477.

Plastic Bag Advertising Ban



On January 9th, 2008, the Solana Beach City Council officially adopted Ordinance 375, effectively banning plastic bag advertising. This emerging type of advertising is typically conducted by small residential and commercial support businesses such as landscapers, pool cleaners, housekeepers, and handyman type services. The method of solicitation is to drive by properties and throw the bags onto driveways of residential and commercial properties. While this method of solicitation allows for quick distribution, the environmental challenge is that the plastic bags typically get left at the end of driveways. The bags often get run over and ultimately the bag and its contents end up in the City's gutters, catch basins, storm drains and eventually the local waterways (lagoons and ocean).

Many door-to-door advertisers have used plastic door hanger bags to distribute materials for years. The difference is that with a door hanger, the plastic bag does not find its way to the gutter as often, although they can and have. The new ordinance excludes newspapers that are routinely delivered and distributed to properties. If you receive an advertisement in a plastic bag, please contact the City's Code Enforcement Office at 858-720-2412. For more information on this ordinance, please contact Steve Didier at 858-720-2436.

New Number for the Graffiti Hotline



The Graffiti Hotline phone number has been changed. The new number is **858-720-4457**. The old number, 2507, will remain active temporarily until references to it can be updated. Please use the new number when calling to report graffiti.

Looking for a Few Good Volunteers



The San Dieguito River Valley Conservancy is looking for a few good volunteers. Actually, we'd like more than a few! Join us on Sunday, February 24th, from 1:00 – 3:00pm to help plant native plants at our habitat restoration project along the San Dieguito River channel.

Over the past few months, hard-working volunteers have cleared the project site of several types of non-native plants to make room for native coastal sage scrub species. Now, we need energetic volunteers to help with planting, seeding and weeding. Reservations are required – please e-mail volunteer@sdrvc.org or call (858) 674-2275 x12 for directions and to reserve a space. Tools, training and refreshments are provided!

The Conservancy hosts habitat restoration events on the last Sunday of every month from 1:00 to 3:00pm. Everyone is welcome. Visit www.sdrvc.org to find out more about how to get involved or to schedule a special volunteer work event for your organization. See you out in the River Park!



Time Warner Cable Lineup Changes

County Television Network will be moving from channel 22 to channel 24 on February 13, 2008. For Time Warner customers City Council meetings will air on channel 24 starting on that date.

Also, Shop NBC will be moving from channel 98 to channel 22. If you have any questions please contact Time Warner Cable customer service at 858-635-8486.

VOLUNTEERS NEEDED!

Solana Beach and Del Mar Fire Department's Community Emergency Response Team



Solana Beach and Del Mar residents are being asked to participate in a Community Emergency Response Team (CERT) training to become disaster workers. The classes are free and open to all residents or employees of Solana Beach and/or Del Mar who are 18 years or older. This is the City's fourth year of consecutive CERT training and there have been over 150 citizens trained thus far.

CERT members are trained in basic life and property saving skills in the event of a major disaster when professional services have not yet arrived or are overwhelmed.

CERT training is designed to prepare you to help yourself, your family, and your neighbors in the event of a catastrophic disaster. Because emergency services personnel will not be able to help everyone immediately, you can make a difference by using the CERT training to save lives and protect property.

CERT training covers basic skills that are important to know in a disaster when emergency services are overwhelmed and/or not available. With training and practice and by working as a team, you will be able to do the greatest good for the greatest number of victims before, during and after a disaster, while protecting yourself from becoming a victim.

The CERT program provides an effective first-response capability. Acting as individuals first, then later as members of teams, trained CERT volunteers can fan out within their assigned areas, extinguishing small fires, turning off natural gas inlets to damaged homes, performing light search and rescue, and rendering basic medical treatment. Trained volunteers also offer an important potential workforce to service organizations in non-hazardous functions such as shelter support, crowd control, and evacuation.

The 25 hour CERT training course covers the following topics:

1. **Disaster Preparedness**
2. **Fire Safety**
3. **Disaster Medical Operations**
4. **Light Search & Rescue Operations**
5. **CERT Organization**
6. **Disaster Psychology**
7. **Terrorism and CERT**

The next CERT training begins in May, 2008.

For more information and to sign-up, please contact:
Lorn Cannon, Solana Beach Fire Dept. - 858-720-2410
lcannon@cosb.org

Environmental Sustainability Update

The City of Solana Beach is comprised of many forward-thinking environmentally conscious residents committed to preserving and enhancing the environment for future generations. This is evident in the work being performed by the Solana Beach Clean and Green committee, which is comprised of local residents and business owners. The City Council has recently formed a Council Ad-Hoc subcommittee on Environmental Sustainability, to work closely with the Clean and Green committee and provide direction to City staff on sustainability programs.

The following are some recent accomplishments:

- Adoption of Construction and Demolition Debris Recycling Ordinance
- Adoption of Plastic Bag Advertising Ban
- Implementing a "Commuter Policy" providing incentives to City staff to find alternative transportation to work

The following are some programs being worked on currently:

- Green Building/LEED Incentive Programs
- Solar Incentive Programs
- Development of Climate Action Plan
- Plastic Bag Recycling Program

If you would like to participate in the Clean and Green Committee or would like more information regarding the committee and/or work products, please call Danny King at (858) 720-2477.

Are You Ready, Solana Beach? - Free Disaster Training Available to Solana Beach Residents and Employees



The Solana Beach City Council and Solana Beach Fire Department are sponsoring a free disaster training program for Solana Beach residents or employees.

"Are You Ready, Solana Beach?" is a 1-hour disaster preparedness training customized for disaster risks that face Solana Beach residents. This training is provided neighborhood by neighborhood with the goal of teaching you how to prepare and join together in the event of a local disaster. The format of these meetings brings small groups of neighbors together to connect, learn, and plan how to respond in threatening situations. If you are interested in hosting or attending an *"Are You Ready, Solana Beach?"* neighborhood meeting, please call 720-4412 or email linettepage@yahoo.com.

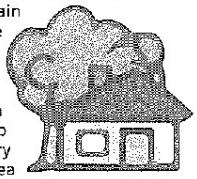
Building a safe, prepared and strong Solana Beach community is the aim of this training program. The more residents and employees we can train, the stronger our city will be!

Please call 720-4412 for more information on this training session.

Make Your Home Fire Safe

Wildland Urban Interface Code

Solana Beach has adopted the Wildland Urban Interface Code. Based on State law, the Public Resources Code Section 4291 requires homeowners to maintain 100 feet of defensible space clearance around homes and structures.



Homes with a defensible zone have a much greater chance of surviving a wildfire than homes without. A defensible zone breaks up the continuous path of plants that could carry wildfire to your home. This is a minimum area of 100 feet from any home. It is the area where modified landscaping allows your house to survive on its own – greatly improving the odds for firefighters to defend your home.

For a defensible zone, examine the following:

ROOF

- Remove branches within 10 feet of the chimney and dead leaves from roof/gutters.
- Install a fire resistant roof. Contact the Fire Department for roofing requirements.
- Cover chimney outlet and stovepipe with nonflammable 1/2 inch screen or smaller.

LANDSCAPING

- Remove flammable-type vegetation at least 30 ft. from all structures.
- Use fire resistant plants (check the local nursery).

YARD

- Stack woodpiles at least 30 feet from all structures.
- Remove vegetation within 10 feet of woodpiles.
- Remove construction materials, pine needles, leaves and debris.

ON GOING MAINTENANCE – THIS IS NOT A ONE-TIME PLAN

Maintenance can be fire retardant and drought resistant plants. Maintain plants by regular watering and removing dead branches! Call your utility company for help with trees near power lines. Never trim near power lines on your own.

MORE INFORMATION FOR HOMEOWNERS

www.firesafecouncil.org
www.bewaterwise.com
www.ci.solana-beach.ca.us

The Solana Beach Fire Department can answer your questions at 858-720-2407.

Help Create a Safe California!

SLOW DOWN:

Law Enforcement Torch Run



On Wednesday, June 4, the Law Enforcement Torch Run, to benefit the Special Olympics of San Diego, will run through Solana Beach on Highway 101. The torchbearer and other runners will pass through the City sometime between 7:00-8:30 a.m., which will be stopping traffic for approximately 20 minutes. Law Enforcement will be re-routing traffic during that time. For more information, please contact Teresa Contreras at (619) 283-6100.

APPENDIX I: CONSTRUCTION BMP BROCHURE

A POLLUTION PREVENTION GUIDE FOR THE CONSTRUCTION INDUSTRY

North County Storm Water Program

Carlsbad • Del Mar • Encinitas • Oceanside • San Marcos • Solana Beach • Vista

Only Rain in the Storm Drain

WATER QUALITY REGULATIONS FOR CONSTRUCTION SITES

Dear Contractor,

The North County Storm Water Program is a collective of jurisdictions in northern San Diego County working together to protect our watersheds. We believe that reducing pollution is critical to maintaining our communities' way of life.

It is our hope that this brochure will help you identify activities that are recognized to cause water pollution and implement appropriate Best Management Practices (BMPs) to minimize their impact. By providing you with these tools, we hope to make your job easier while keeping our waterways clean.

Each jurisdiction will be inspecting their construction sites to ensure the protection of water quality. We look forward to seeing the BMPs presented in this brochure implemented at your sites.

Together we have the ability to preserve and improve the quality of life in our communities.

Sincerely,

The North County Storm Water Program

Contact Phone Numbers:

City of Carlsbad
760-602-2789

City of Encinitas
760-633-2787

City of Oceanside
760-435-5800

City of San Marcos
760-744-1050

City of Del Mar
858-755-8313

City of Solana Beach
858-720-2470

City of Vista
760-726-1340

Construction Sites

In 1972, the Environmental Protection Agency developed regulations to control water pollution. As a result, the National Pollutant Discharge Elimination System (NPDES) Permit was created. NPDES permits are issued to municipalities as well as construction sites. In addition to complying with local regulations, which are governed by our municipal NPDES permit, you may be required to obtain a permit through the State of California under the State General Construction Permit (99-08-DWQ). All construction sites over one acre are required to obtain coverage under this permit.



Construction sites can contribute pollutants such as sediment, metals, and chemicals, to our local creeks, rivers, lakes, lagoons, and ocean. These pollutants make their way down our streets and into storm drains, eventually discharging to the nearest body of water.

All construction sites are required to implement Best Management Practices (BMP) to prevent storm water pollution. This brochure is intended to assist your construction site in understanding BMP requirements.

Each municipality has one or more persons dedicated to ensuring that all construction sites are in compliance with state and local storm water control regulations. Contact your local municipality for further information.

Right-of-Way Permitting

We understand that there are times when space on construction sites is limited. If at any point, you (as a contractor or subcontractor) need to use the public right-of-way in order to work or store materials, you must apply for a special permit. This permit allows you to use the City's right-of-way areas, and describes what is required to prevent illegal contaminants from entering local storm drains. For more information or to obtain a permit application contact your local jurisdiction.



Inspection and Enforcement Program

Each jurisdiction has established an enforcement program to ensure that all businesses operate in compliance with all appropriate storm water laws and other City requirements. Contractors, site supervisors and property owners can be held responsible for violations, which may lead to a civil penalty of up to $10,000 per day and/or reimbursing the local jurisdiction for all expenses associated with clean up.

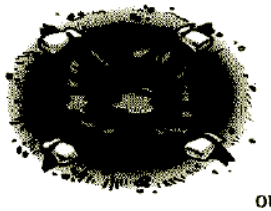


Best Management Practices

Construction materials such as paint, dirt and trash often find their way into our storm drains, polluting the environment and jeopardizing our creeks, rivers, lakes, lagoons, and ocean.

The NCSWP is working with contractors to implement what are known as Best Management Practices (BMPs) on all construction sites. That is, methods used to keep pollution out of our storm drains and off public property, such as sidewalks, streets, parkways and alleys. Carrying out and maintaining these BMPs on the construction site is critical to protecting our ocean and bay.





The following is a list of BMPs and pollution prevention measures that shall be implemented at all construction sites:

1. **Conduct daily site cleanings.**
2. **Develop spill response and containment procedures.**
3. **Educate employees and subcontractors about BMPs.**
4. **Develop an erosion control plan for wind and rain.**
5. **Regularly maintain all BMPs at project site.**

APPENDIX J: STORM WATER PLAN CHECK COMMENT FORM

CITY OF SOLANA BEACH
ENGINEERING DEPARTMENT
STORM WATER PLAN CHECK COMMENTS

Project: _____ Address: _____

☐ Construction phase **Erosion Control** shall be shown on the permitted plans, such as silt fences, gravel bags, de-silting basins, slope protection and entrance controls. **Best management practices (BMP's)** shall be developed and implemented to manage storm water and non-storm water discharges from the site at all times during construction activities. Erosion prevention shall be emphasized to keep sediment on site during excavation and grading activities. Sediment controls such as mulch, jute netting and straw blankets shall be used as a supplement to erosion control for keeping sediment on site.

- **Submit Storm Water Management Plan** (attached)
- **Add the following note to plans**: "**EROSION CONTROL:** Best management practices shall be developed and implemented to manage storm water and non-storm water discharges from the site at all times during excavation and grading activities."

☐ The Applicant shall demonstrate that the **project does not increase storm water runoff** or peak discharge from their property. For example, add a storm water retention and infiltration feature such as a depressed landscape area or below ground drywell using course rock (1.5" to 2.5") or a pre-fabricated chamber. The amount of retention volume should be at least equal to 0.60 inches (0.05 feet) times the added impervious area. This should be designed to avoid runoff damage to downstream properties, such as not concentrating runoff where it was previously not concentrated. (For 5,000 SF or more of added impervious area, use County of San Diego Hydrology Manual)

☐ Storm Water and Non-Storm Water Runoff Control. Post-development measures that **reduce pollutant discharges from the site** shall be shown on the permit plans. For example, maximize permeable areas (landscaping, driveway grass strips, gravel paths, concrete pavers on sand) to allow runoff seepage into the ground and drain impermeable surfaces (roofs, hardscape, driveways) to permeable areas (i.e. planted areas) and other approved pollutant treatment BMP's.

- Is runoff from hardscape areas routed over natural treatment areas before draining off site?
- **Show on the plans** where hardscape and roofs drain to.
- **Show BMP's** on the plans (grassy swales, landscaping, infiltration pits, pervious pavements, gravel paths, etc.).
- The volume of treatment should be at least 0.60 inches (0.05 feet) times the added impervious area.

APPENDIX K: BUILDING PLAN CHECK ROUTING FORM

CITY OF SOLANA BEACH
635 S. Highway 101, Solana Beach, CA 92075
(858) 720-2440
APPLICATION TRACKING FORM

Plancheck No.: _____
Received by: _____
Date:

Site Address _____ Suite # _____
Site Business Name _____ APN _____
Project/Property Owner's Name _____
Contact Person _____ Phone # _____
Address _____ Fax # _____
Project Description _____ E-Mail _____
Discretionary Permit Applicable? _____ Sq. Ft. _____
Estimated Building Valuation? _____ Estimated Grading Required? _____
Is/will the building equipped with fire sprinklers? ☐Yes ☐No Is the property on a septic system? ☐Yes ☐ No
Is there an existing swimming pool &/or spa on the property? ☐Yes ☐ No **If "yes," see the Pool & Spa note below**

THE FOLLOWING "CHECKED" ITEMS MUST HAVE WRITTEN APPROVAL PRIOR TO PERMIT ISSUANCE. APPROVALS FROM THE PLANNING, ENGINEERING, FIRE, HEALTH DEPARTMENTS, AND THE AIR POLLUTION CONTROL DISTRICT MAY ALSO BE REQUIRED PRIOR TO FRAME AND/OR FINAL INSPECTION AND OCCUPANCY (INDICATED ON "BLUE" CARD). IF YOU HAVE ANY QUESTIONS, PLEASE CONTACT THE INDIVIDUAL DEPARTMENT(S) AT THE NUMBERS SHOWN.

CITY DEPARTMENTS

☐ **PLANNING / ZONING**.....**858-720-2440**
- ☐ O.K. for Plancheck Only. By _____ Date _____
- ☐ Fees Due. ☐ Park Fees ☐ Public Facilities Fees ☐ Public Arts Fee
- ☐ Fee Payment Required Prior to ☐ Permit Issuance ☐ Final Inspection
- ☐ Height Certificate Required prior to Requesting Frame Inspection.
- ☐ Approval Req'd prior to: ☐ Permit ☐ Frame Insp ☐ Final Insp
- ☐ Approval required prior to ☐ Frame ☐ Final Inspection
- ☐ Project shall comply with Wildland Urban Interface Standards (WUI)
- ☐ O.K. to Issue Building Permits _____

☐ **ENGINEERING / SANITATION**.....**858-720-2470**
- ☐ O.K. for Plancheck Only. By _____ Date _____
- ☐ Permits Req'd ☐ Dedication Req'd ☐ Fees Req'd.
- ☐ Approval required prior to ☐ Frame ☐ Final Inspection (Sewer, Plancheck, In Lieu)
- ☐ See attached form for Storm Water BMP'S
- ☐ O.K. to Issue Building Permits _____

☐ **ENVIRONMENTAL**.....**858-720-2477**
- ☐ O.K. for Plancheck Only By _____ Date _____
- ☐ See attached form for Storm Water comments
- ☐ WMP Required Prior to ☐ Permit Issuance ☐ Final Inspection
- ☐ Post Construction BMP Inspection Required:
  - ☐ During Construction ☐ Prior to Final Inspection
- ☐ O.K. to Issue Building Permits _____

☐ **FIRE PREVENTION**.....**858-720-2410**
- ☐ O.K. for Plancheck Only By _____ Date _____
- Approval required prior to ☐ Frame ☐ Final Inspection
- ☐ O.K. to Issue _____

☐ **POOL & SPA SAFETY ENCLOSURE & SAFETY FEATURES**
Effective 1/1/07, AB 2977 requires all existing pools and spas shall comply with current State mandated enclosure & safety features.

AGENCY APPROVALS

☐ **SCHOOL FEES**
(Obtain signature on the attached forms)
Solana Beach Elementary &
San Dieguito Union H.S. District.....**760-753-6491**

☐ **HEALTH DEPARTMENT**
- ☐ Health Regulated Business
- ☐ Hazardous Materials Management.....**619-338-2222**
  1255 Imperial Avenue, San Diego 92138-5621
- ☐ Final Approval Required
- ☐ Septic Approval Required **760-471-0730**
  151 Carmel St, San Marcos 92078

Approved by _____

☐ **AIR POLLUTION CONTROL DIST.** .....**(858) 586-2600**
(Obtain stamp and signature on APCD Questionnaire)
10124 Old Grove Rd., San Diego CA 92131

☐ **WATER AND SEWER**
(Obtain signatures on attached forms)
- ☐ Santa Fe Irrigation District.....**858-756-2424**
- ☐ Solana Beach Sanitation District **858-720-2470**

☐ **CALIFORNIA COASTAL COMMISSION**....**619-767-2370**
Call for an appointment

☐ **ASSESSOR'S COPY OF PLANS**
At permit issuance, provide a third copy of Title Sheet, Plot Plan & Floor Plan (per Senate Bill 493).

☐ **OWNER/BUILDER AFFIDAVIT AND/OR CONTRACTOR INFORMATION**

☐ **SDG&E WORK ORDER**.....**(800) 411-SDGE**
For new / relocated gas & electric meters

_____ _____
Signature of Applicant Date

F:/Common/UpdatedApplications/Tracking Sheet Eff 09/08

APPENDIX L: PUBLIC PROJECT PRE-CON MEETING AGENDA (SAMPLE)

PRE CONSTRUCTION MEETING
Streetlight Installation Project on Barbara/Granados and Pacific/Circle
Bid No. 2007-10
February 20, 2008

Introductions

Contacts

1. Contractor — Lekos Electric, Inc.
(619) 447-7661 (office)

2. City — City of Solana Beach
635 S. Hwy 101
City of Solana Beach, CA 92075
(858) 720-2470 (Engineering)
(858) 755-1782 (Engineering fax)

Hector Ezquerro – City Inspector (858) 720-2470 (o); (858) 354-8876 (c)
Dan Goldberg – Project Manager (858) 720-2474
Steve Kerr – Public Works Operations Manager (858) 449-2630

Utilities — Santa Fe Irrigation District – Dana Johnson (858) 756-2424

Project Status: Notice to Proceed – TBD
35 Working Days

Contract Amount: $56,460.00

Project Goals:
- Safety
- Community
- Quality
- Schedule
- Budget

Contractor Requirements:
- Any questions about Contract Award or "Key Contract Items Summary Sheet"?
- Submit Construction Schedule
- Submit Traffic Handling Plan
- Submit Storm Water Pollution Prevention Plan (SWPPP)
- Submit Names/Phone Numbers of Foreman/Emergency People
- Submit Names of Additional Subcontractors

Storm Water & Erosion Control
- Best management practices shall be used & maintained
- Erosion control plan

Labor Compliance, Certified Payroll and Progress Payments: Section XVIII - I (page 48)

Page 1 of 2

APPENDIX M: CIVIL PENALTY MATRIX

SOLANA BEACH
CIVIL PENALTIES MATRIX

The following factors will be considered in determining the amount of civil penalties from the Solana Beach Municipal Code 13.10.140 A. any person who violates any of the provisions of this chapter shall be liable for a civil penalty not to exceed $1,000 for **each day** such a violation exists and will be assessed: (1) The seriousness of the violation (2) the duration of the violation; (3) the frequency or recurrence of the violation; (4) the history of the violation; (5) the Responsible Party's conduct after issuance of the Notice and Order; (6) the good faith efforts of the Responsible Party to comply; (7) the impact of the violation upon the community.

*** Criminal Penalties**

These factors are assigned to two categories, "**Environmental Significance**" and "**Compliance Significance**," in order to easily present them in a graphical form in the matrix chart.

Environmental Significance includes the following factor: Seriousness of the violation.

Compliance Significance includes the remaining factors: The duration of the violation, frequency or recurrence of the violation, the history of the violation, the Responsible Party's conduct after issuance of the Notice and Order; the good faith efforts of the Responsible Party to comply and the impact of the violation on the community.

Environmental Significance

Compliance Significance	Moderate	Major	Severe
Moderate	*NOV-$100	$100 - $200	$500
Major	$100- $200	$500	$1,000
Severe	$500-$1,000	$1,000	$1,000-Referral to Regulating Agency

* Notice of Violation

The list below gives examples of issues specific to storm water violations that could be considered under each of the factors.
Increased Penalties will be factored as Notice of Violation to Moderate, Moderate to Major or Major to Severe.
Decreased Penalties could be Severe to Major, Major to Moderate or Moderate to Notice of Violation.

Environmental Significance
Seriousness of the Violation

Relatively inert discharges (e.g., soil, sediment, cement residue, stucco residue**,** etc.) **[Moderate Environmental Impact]**

Moderate toxicity / moderate health threat discharges (e.g., cleaning products with no specific hazard, i.e. detergent, latex paint) **[Major Environmental Impact]**

Significant toxicity / significant health threat discharges (e.g., sewage, hazardous materials/wastes, etc.) **[Severe Environmental Impact]**

SOLANA BEACH
CIVIL PENALTIES MATRIX

Compliance Significance

Duration of Violation

Extent of discharge as determined by volume, area covered, how long it continued **[Greater Discharge Can Lead to Increased Penalty]**

Number of days the discharge remained unabated in the conveyance system **[Unabated Discharge Can Lead to Increased Penalty]**

Impact on the Community

Results in damage, degradation, or obstruction of the storm water conveyance system **[Can lead to Increased Penalties]**

Results in actual degradation of aquatic habitat in receiving waters **[Can lead to Increased Penalties]**

Results in actual impact on wildlife including benthic communities **[Can lead to Increased Penalties]**

Results in algal bloom, discoloration or odor in receiving waters **[Can lead to Increased Penalties]**

Discharge of constituent of concern within a watershed that leads to a 303 (d) listed water body **[Can lead to Increased Penalties]**

Regulated industry (e.g., subject to OSHA chemical right-to-know requirements or subject to Hazardous Material / Hazardous Waste Permit) **[Can lead to Increased Penalties]**

Recurrence of Violation

No prior administrative enforcement penalty can be a factor for officer's discretion in lowering penalties.

Prior administrative penalties action can lead to increased penalties.

Prior administrative enforcement within the last year maybe a factor in determining higher penalties leading up to a **criminal citation**.

Intentional discharge will be a factor to increase penalties leading up to a criminal citation.
SOLANA BEACH
CIVIL PENALTIES MATRIX

History of Violation

Prior violations or warnings issued by other regulatory or City agencies (e.g., County Dept. of Health, County Dept. of Env. Health, RWQCB, FEWD, MWWD) **[Can lead to Increased Penalties]**

Prior warnings (letter or Notice of Violation) from Storm Water Pollution Prevention Program **[Can lead to Increased Penalties]**

Good Faith Efforts to Comply

Responsible Party failed to implement BMPs and should have known of requirement for BMPs (e.g., gasoline service station or construction industry) **[Can lead to Increased Penalties]**

Existing BMPs failed to prevent discharge (e.g., employee failed to comply with documented training and procedures or structural BMP failed to perform to design) **[Can lead to Reduced Penalties]**

Rapid and appropriate response to discharge **[Can lead to Reduced Penalties]**

The Solana Beach Municipal Code 13.10.140 A States the following:

13.10.140 Penalties for violation.
A. Civil Penalties. Any person who violates any of the provisions of this chapter shall be liable for a civil penalty not to exceed $1,000 for **each day such a violation exists**, and all pollution detection and mitigation costs (if applicable).
B. Criminal Penalties. Any person who knowingly or intentionally violates any provision of this chapter shall be subject to liability for a misdemeanor, punishable by imprisonment for a period not to exceed one year, or a fine not to exceed $10,000 for each day such a violation exists, or both.
C. Any monetary penalties collected by the city of Solana Beach pursuant to violations of this chapter shall be returned to the storm water management program to be used for storm water pollution monitoring and management practices. (Ord. 184 § 1, 1993)

13.10.150 Continuing violation.
Unless otherwise provided, a person, firm, corporation or organization shall be deemed to have committed a separate offense for each and every day during any portion of which a violation of this chapter is committed, continued or permitted by the person, firm, corporation or organization and shall be punishable accordingly as herein provided. (Ord. 184 § 1, 1993)

13.10.160 Concealment.
Causing, permitting, aiding, abetting or concealing a violation of any provision of this chapter shall constitute a violation of such provision. (Ord. 184 § 1, 1993)

13.10.170 Acts potentially resulting in violation of Federal Clean Water Act and/or Porter-Cologne Act.
Any person who violates any provision of this chapter, any provision of any permit issued pursuant to this chapter, or who discharges waste or wastewater which

causes pollution, or who violates any cease and desist order, prohibition, or effluent limitation, may also be in violation of the Federal Clean Water Act and/or Porter-Cologne Act and may be subject to the sanctions of those Acts including civil and criminal liability. Any enforcement action authorized under this chapter should also include notice to the violator of such potential liability. (Ord. 184 § 1, 1993)

13.10.180 Violations deemed a public nuisance.

A. In addition to the penalties hereinbefore provided, any condition caused or permitted to exist in violation of any of the provisions of this chapter is a threat to the public health, safety and welfare and is declared and deemed a public nuisance and to impact storm water quality, and such nuisance may be summarily abated and/or restored by any authorized enforcement official. Civil action to abate, enjoin or otherwise compel the cessation of such nuisance may be taken by the city attorney.

B. The cost of such abatement and restoration shall be borne by the owner of the property and the cost thereof shall be a lien upon and against the property and such lien shall continue in existence until the same shall be paid. If the lien is not satisfied by the owner of the property within three months after the completion by the authorized enforcement official of the removal of the nuisance and the restoration of the property to its original condition, the property may be sold in satisfaction thereof in a like manner as other real property is sold under execution.

C. If any violation of this chapter constitutes a seasonal and recurrent nuisance, the city of Solana Beach shall so declare. Thereafter such seasonal and recurrent nuisance shall be abated every year without the necessity of any further hearing. (Ord. 184 § 1, 1993)

13.10.190 Civil actions.

In addition to any other remedies provided in this section, any violation of this chapter may be enforced by civil action brought by the city of Solana Beach. In any such action, the city of Solana Beach may seek, and the court shall grant, as appropriate, any or all of the following remedies:

A. Injunctive relief;

B. Assessment of the violator for the costs of any investigation, inspection, or monitoring survey which led to the establishment of the violation, and for the reasonable costs of preparing and bringing legal action under this subsection;

C. Costs incurred in removing, correcting, or terminating the adverse effects resulting from the violation;

D. Compensatory damages for loss or destruction to water quality, wildlife, fish and aquatic life. Assessments under this subsection shall be paid to the city of Solana Beach to be used for costs associated with monitoring and establishing storm water

discharge pollution control systems and/or implementing or enforcing the provisions of this chapter. (Ord. 184 § 1, 1993)

STORMWATER BEST MANAGEMENT PRACTICE (BMP) GUIDE for CONSTRUCTION and BUILDING ACTIVITIES

STORMWATER POLLUTION

When rain flows over streets and other surfaces, it picks up pollutants and carries them into the stormwater conveyance ("storm drain") system. The storm drain system is designed to prevent flooding by transporting water away from urban areas. Unfortunately, this water and all the contaminants it contains eventually flow to our streams, lakes, and the ocean where we swim and fish. Once there, polluted runoff can harm wildlife and their habitats. In some cases, it can even cause beach closures or make our fish and shellfish unsafe to eat.

Construction activities can be a significant source of stormwater contamination. During the life of a project, many types of materials and wastes are routinely used or generated. If not properly managed, sediment and other pollutants (paint, concrete, drywall, fuels, solvents, etc.) can be washed or tracked offsite, eventually entering the storm drain system. It might not seem like your activities alone could be damaging to the environment; but the cumulative impact of all of the construction projects conducted throughout the City every year can seriously impact the health of our local waterbodies.



What are you adding?

For more information, or to report stormwater pollution, pick up the phone and dial (858) 720-2477 and speak to the Engineering Department.

PROJECTS 1 ACRE AND GREATER

If your project will disturb one acre of land or more, you must also obtain coverage under the Statewide General Construction Activity Stormwater Permit. This permit, issued by the California State Water Resources Control Board (SWRCB), will require you to prepare a Storm Water Pollution Prevention Plan (SWPPP), and to implement BMPs to reduce stormwater pollutants both during and after construction is completed. For information on obtaining coverage under the General Construction Permit, and other available resources, contact the SWRCB at (916) 341-5537

YOUR RESPONSIBILITIES

City of Solana Beach Stormwater Ordinance prohibits the discharge of pollutants to the storm drain system. Simply stated, only rain may legally enter the storm drain. As a construction site owner or operator, you are legally responsible for ensuring that sediment and other construction-related pollutants are properly managed. This means that pollutants from your site may not enter the storm drain system or any receiving water (such as creeks, streams, etc.) either directly or indirectly. You can also be held responsible for discharges or environmental damage caused by your employees or subcontractors.

Your grading and construction activities will be reviewed by City staff during plan check and site inspection to verify their compliance with the Stormwater Ordinance and related provisions of the City Grading Ordinance. Failure to comply with these regulations can result in civil and criminal penalties.

BEST MANAGEMENT PRACTICES (BMPs)

Best Management Practices (BMPs) are activities or practices designed to reduce or eliminate pollutants in stormwater. Proper selection and implementation of BMPs will help you to prevent stormwater pollution from your site. On the following pages, a number of BMPs that apply to erosion control and other construction activities are described. It is your responsibility to determine which of these (or other BMPs) are most appropriate for your project, and to implement them accordingly. The success of your efforts will ultimately depend on whether or not you have prevented pollutants from leaving the site.

Remember, knowledge is the most important tool on your site. Training your employees and subcontractors is the best way to ensure that your BMPs are implemented and maintained effectively.

EROSION CONTROL BMPs

EROSION CONTROL STRATEGY

Sediment is the most common pollutant washed from construction sites. It also transports numerous other contaminants such as paint, cement wash, asphalt, and automotive fluids. Sediment loss is best controlled by using a combination of BMPs to target each stage of the erosion process. This should include the following general steps

Step 1. Use advance planning and scheduling

Step 2. Stabilize slopes and exposed surfaces

Step 3. Divert or dissipate onsite flows.

Step 4. Capture sediment from runoff.

STEP 1: PLANNING AND SCHEDULING

Planning and scheduling should always be part of your erosion control strategy. Effective planning can greatly reduce the need for other costly and time-consuming solutions. It can also save you considerable money. Whenever possible, plan your project to utilize existing topography, drainage patterns, and vegetation. This will significantly reduce the potential for erosion both during and after construction.

Grading and clearing should be phased to reduce the amount and the duration of sediment exposure. If possible, schedule grading during the dry season (Mid-April through October), particularly avoiding December through February. Always be aware of forecasted weather conditions prior to any scheduled grading or clearing activities.

For weather forecasts, contact the National Weather Service at (858) 675-8700, or visit www.weather.com

STEP 2. STABILIZING SLOPES AND SURFACES

The City Grading Ordinance requires that slopes be stabilized as soon as they are created to increase their resistance to erosion. When permanent stabilization of slopes or other exposed surfaces is not yet feasible, temporary measures should always be used. A number of practical solutions can be used.

Preservation of Existing Vegetation.
Leaving existing vegetation (trees, vines, shrubs, grasses, etc.) in place can minimize the potential for erosion as well as the need for other costly controls

Seeding and Planting. Seeding grasses and planting trees or ground cover provides long-term stabilization of slopes and soils. Schedule landscaping to permanently cover exposed surfaces as soon as they are created.

Mulching. Mulches (such as wood chips, bark, straw, gravel, etc.) can be used to temporarily or permanently stabilize cleared or freshly seeded areas. Mulches should be inspected weekly and after rain for damage or deterioration.

Geotextiles and Mats. Geotextiles and mattings can be used for temporary or permanent soil stabilization, and are especially effective on steep slopes and channels. They should be inspected monthly and after significant rainfall.

Stabilization of Vehicle Traffic Areas. All areas of significant vehicle traffic (site entrances, access roads, parking lots, etc.) should be stabilized immediately after grading to prevent erosion and control dust. Site entrances and exits are especially important. Use gravel approaches to limit tracking of sediment offsite.

Remember, the effectiveness of BMPs you use will depend on their proper implementation and maintenance. Routine inspection and evaluation, especially before and after rainfall, should be part of your pollution control strategy.

Step 3: DIVERTING AND DISSIPATING FLOW

Effectively preventing sediment erosion generally requires a combination of surface stabilization and onsite flow control. Flow control methods reduce the ability of rainwater to erode sediments either by decreasing its velocity or by channeling it away from exposed surfaces. A number of practices are commonly used.

Earthen Dikes. Earthen dikes are berms or ridges of compacted soil (or other onsite materials) that divert flow away from slopes or other exposed areas. They are relatively inexpensive and can be constructed during initial grading operations.

Temporary Drains and Swales. Temporary drains and swales can be used to divert runoff around the site or disturbed areas.

Slope Drains. Slope drains are temporary pipes or lined channels that drain the top of a slope to a stable discharge point at the bottom.

When using flow diversion BMPs, remember that concentrated flows must be dissipated. Flow dissipation (check dams, rip rap, etc.) should always be used at drain or channel outlets to reduce runoff velocity and promote sedimentation. Care should also be taken not to disturb downstream properties.

Step 4: CAPTURING SEDIMENT FROM RUNOFF

Because sediment erosion can never be completely prevented, your control strategy should also include BMPs designed to recapture sediment from flows. The following methods are commonly used to promote sedimentation by filtering or trapping runoff.

Silt fences. Silt fences are a filter fabric attached to supporting poles, sometimes backed by wire. They are used in areas of sheet flow. Silt fences require frequent inspection, especially before and after rainfall.

Straw Bale Barriers. Straw bales can be used to create a temporary sediment trap in areas of sheet or rill flow. Bales are entrenched and placed end to end along a level contour. They should be inspected frequently since they tend to deteriorate.

Sand Bag Barriers. Stacking sand bags along a level contour can create a temporary sediment trap by ponding water upstream of a barrier. Sand bags are very versatile and can be used in a number of applications.

Brush and Rock Filters. Barriers constructed of brush or rock (3/4" to 3" diameter) can be used in areas of sheet or rill (channelized surfaces) flow to reduce velocity and trap sediment. They must be properly anchored, and should be inspected at least monthly and after each rainfall.

Sediment Traps and Basins. Traps and basins are excavated or constructed (berms, embankments, etc.) areas where runoff is trapped and sedimentation occurs. Traps are used for small drainage areas (less than 5 acres) and basins for larger ones. Both traps and basins should be constructed before clearing, grading, and grubbing begins, and located where they can be easily cleaned out.

Storm Drain Inlet and Creek Protection. Your erosion control strategy should always address the protection of onsite or down-gradient storm drain inlets and waterbodies. Discharges of pollutants to storm drains, or streams and other waterbodies, may result in violations of the City Stormwater and Grading Ordinances, the Federal Clean Water Act, and the California Fish and Game Code.

GENERAL CONSTRUCTION BMPs

In addition to sediment, many other types of pollutants are used or generated during building and construction.

Paint Wastes	Dement Wash	Drywall	Solvents	Adhesives
Glues	Trash	Cleared Vegetation	Wood	Asphalt
Demolition Wastes	Vehicle Fluids	Septic Wastes	Asbestos	Acids

Remember, discharging anything other than rain to the storm drain is against the law. All materials and wastes must be managed and disposed of properly. The BMP described below will help to prevent stormwater pollution from your construction activities.

MATERIALS and WASTE MANAGEMENT

- Use designated delivery, pickup, and storage areas away from drainage paths and waterways.
- Store only the materials you need onsite.
- Store materials (especially open bags) under a roof or inside a building. Cover and berm around storage areas. Cover materials stored outside with waterproof tarps.
- Keep an inventory of materials and regularly inspect storage areas.
- Store and dispose of wastes as required by Federal, State, and local regulations
- Use watertight dumpsters.
- Wash out concrete trucks offsite or in a designated area (e.g. a temporary pit where the concrete can set, be broken up, and then disposed of properly).

SPILL CONTROL

- Train employees on spill prevention and cleanup
- Make sure cleanup materials are easily accessible.
- Use secondary containment (drain pans, drop cloths, etc.) to catch spills and leaks
- Clean up spills immediately.
- Use as little water as possible ("dry" methods) for washing and spill cleanup.

VEHICLES AND EQUIPMENT
(Cleaning, Fueling, and Maintenance)

- Fuel, maintain, and wash vehicles offsite.
- If conducting activities onsite, use designated areas. Cover and berm work areas as necessary.
- Properly maintain vehicles and equipment to prevent leaks.

Additional Resources

City of Solana Beach Engineering Department
(858) 720-2477 www.ci.solana-beach.ca.us/

San Diego Regional Water Quality Control Board (SDRWQCB)
(858) 467-2952 www.swrcb.ca.gov/rwqcb9/

California State Water Resources Control Board (SWRCB)
(916) 341-5250 www.swrcb.ca.gov

U.S. Environmental Protection Agency (Region 9)
(415) 972-3510

APPENDIX O: GENERAL CONSTRUCTION "GOOD NEIGHBOR" BROCHURE

PROPERTY OWNERS ARE RESPONSIBLE FOR THE ACTIONS OF THE CONTRACTORS AND SUBCONTRACTORS WORKING ON THEIR PROPERTY.

Construction Hours and Noise Levels:

Construction workers shall not congregate at or report to the site prior to the beginning of construction hours.

Monday - Friday:
7:00 a.m. to 7:00 p.m.

Saturday:
9:00 a.m. to 6:00 p.m.

No construction is permitted on Sundays and Holidays. Please check the City's website for a list of observed holidays at:

www.ci.solana-beach.ca.gov

Construction noise levels shall not exceed 75 decibels for more than eight hours during any 24 hour period.

For information concerning construction hours and noise levels contact the Community Development Department at: (858) 720-2440

Storm Water Best Management Practices (BMPs)

Violations of the storm water regulations can result in penalties, including fines of $1000 per day per violation. These practices are strictly enforced.

Storm Water BMPs Continued:

- Perimeter Protection Controls: Silt fences, straw wattels, sand bags, etc. must be used to control run-on and run-off from project site.
- Tracking Controls: All entrances and exits to the site must have protection measures installed to prevent tracking of sediment off the project site.
- Washout Area: All sites must have a designated "wash-out" area to clean equipment and dispose of excess concrete, stucco, and paint.
- Concrete Trucks/Pumpers: Concrete trucks and pumpers must have perimeter protection installed around and under them at all times. Any spill must be contained on-site and no washing of equipment permitted without a washout area.
- Materials Storage: All materials stored on-site must be contained and covered at all times.
- Trash Containers/Portable Restrooms: Dumpsters must be covered and have adequate perimeter protection and all portable restrooms must have secondary containment measures installed.
- Storm Drain Inlets: All adjacent storm drain inlets must be protected at all times to prevent pollutants from the project site from entering (including sediment).

For more information concerning Storm Water BMPs contact the Environmental Services Department at (858) 720-2477.

Fire Safety:

Obey all Fire Codes:

- Ensure fire lanes are kept clear and unobstructed.
- Any combustibles onsite must be stored safely.
- Remember oily rags catch on fire spontaneously, even when no ignition source or flame is present.

For more information concerning fire safety contact the Fire Department at: (858) 720-2410

Encroachment Permits:

Encroachment Permits are required before you start work within the public right of way.

- Constructing new or repairing old curbs, gutters and sidewalks, constructing new driveways or placing dumpsters in the right of way requires approval from the City and a fee of $245.
- The installation of new or repair of existing utilities requires approval from the City and a fee of $575.

For more information concerning encroachment permits please contact the Engineering Department at: (858) 720-2470

Questions, Comments, Concerns?
Contact City Hall at: (858) 720-2400

Construction Site "Golden Rules":

Treat the construction site as if you were living next door to it.

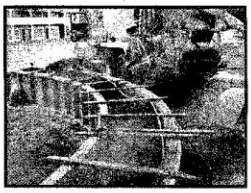
- Communicate construction timetables to the surrounding neighbors. Consider distributing a letter to neighboring properties listing proposed timetables and contact information for the property owner and construction contractor.
- Notify neighbors if you expect excessive noise and/or traffic disruptions on a particular day. For example, if you are planning to demolish an existing residence or if you are expecting heavy equipment onsite to pour concrete.
- Avoid parking in front of neighbors homes and do not run car engines unnecessarily.
- Minimize noise by not using radios and refrain from shouting whenever possible.
- Construction vehicles should be parked legally and accommodated on the construction site whenever possible.
- Use respectful personal conduct by using the onsite restroom facilities and do not use profanity.

Community Development Department

City of Solana Beach
635 South Highway 101
Solana Beach, CA 92075
Phone: (858) 720-2440
FAX: (858) 755-1782
www.ci.solana-beach.ca.gov

City of Solana Beach

Construction Site Supervision in Solana Beach: Code Requirements and Good Neighbor Practices



This fact sheet is provided to increase awareness of the basic rules all construction sites are required to follow by city ordinance. These rules are a minimum, and if not followed can result in penalties if you are found to be in violation of City or State applicable regulations.

In addition, we've provided some tips for additional measures that you can take at the site that would be appreciated by the City and your neighbors. We recognize that a construction site by its nature has a certain amount of noise, debris and inconvenience for the neighborhood. We have found from experience that where you can go above and beyond the minimum City Municipal Code requirements, and implement these good neighbor practices, your project can benefit from the improved neighborhood relations.

APPENDIX P: UNDERGROUND UTILITY DISTRICT SPECIAL BMP HANDOUT

Undergrounding Utility District Construction Best Management Practices

When conducting trenching work, construction Best Management Practices (BMPs) must be utilized at all times. Failure to keep all sediment and debris on your property is a violation of the City's Storm Water Regulations and can result in fines. The following list contains BMPs that may be used to keep sediment onsite and out of the City's storm drain conveyance system:

- Perimeter protection BMPs such as silt fences, straw waddles and/or sand bags can be used to contain sediment onsite.
- Cover all materials and keep above ground when a predicted rain event is to occur (>50% chance).
- Keep all materials/sediment out of street and gutter to prevent nuisance water from washing into storm drain system.
- Prevent sediment tracking into street by placing down gravel where equipment is entering and exiting property and sweeping area frequently.

These are all common general BMPs that can be utilized to prevent discharges into the City's storm drain conveyance system. If you or your contractor have any questions or require additional information on any of this, please feel free to call me at the number below.

Sincerely,

Danny King
Environmental Specialist

APPENDIX Q: CONTACT AND COMPLAINT DATABASE (SAMPLE)

Dave Thomas	Public Works	3/28/2007	Parioli Restaurant	Dave reported employees washing parking lot with no containment	I investigated the complaint and detected the recently washed parking lot. I spoke to the owner who admitted to his employees washing water. I explained the regulations and he promised to comply. A written NOV was sent
Frank Zamarippa	Code Enforcement	3/28/2007	240 South Cedros (Leaping Lotus)	Frank witnessed an employee washing down sidewalk in front of business	Frank stopped the violation and educated the violator. Written NOV sent
Frank Zamarippa	Code Enforcement	3/28/2007	107 South Cedros (Carizma)	Frank witnessed an employee washing down sidewalk in front of business	Frank stopped the violation and educated the violator. Written NOV sent
Dan Goldberg	Engineer	4/18/2007	834 S Sierra Ave	Dan witnessed a resident washing car on the street without proper containment	I investigated and contacted the resident. He was from out of town and was unaware of the regulations. I informed him and he stopped immediately.
Lifeguards	Marine Safety	8/9/2007	Seascape Outfall	Lifeguards called to report heavy flow at Seascape Outfall at 12:45pm	I investigated and noticed heavy flow in the street. I followed it back to Playa Del Mar apartments and a broken irrigation valve. Apparently the landscapers hit the valve and did not stop the flow. I called SFID and shut the water down to the complex until it could be fixed. Follow up with landscape manager for enforcement.

APPENDIX R: BEACH BLANKET MOVIE NIGHT FLYER



APPENDIX S: SPECIAL EVENTS PERMIT CONDITIONS OF APPROVAL (SAMPLE)

NOTICE OF APPROVAL FOR SPECIAL EVENT
CITY OF SOLANA BEACH

The Special Event you have applied for has been approved, according to the following information:

Date Requested: June 12, 2004
Hours: 5:30 a.m. – 2:00 p.m.
Organization: San Dieguito Boys & Girls Clubs
Type of Event: Seaside Stride 5 Mile Walk
Location: See Attached Map
Contact Person: Ellen Flanagan (760) 471-5516

Approved By:_____
Barry Johnson, City Manager

SPECIFIC GUIDELINES:

1. No City services, at the request of the applicant, for the event will be provided by the City.
2. The event participants must utilize the sidewalks and not the roadway where available on the course. If there is no sidewalk, participants must utilize the very outer edge of the roadway.
3. Event organizers must obey all traffic signs, lights, and laws.
4. Event organizers and participants shall utilize public right-a-ways and property for the purpose of this event at their own risk.
5. Event organizers and participants shall obey all traffic laws, signs, and traffic control devices at all times.
6. Event organizers must comply with all applicable water run-off regulations and must use best management practices. There will be absolutely no liquid, solid, or any other by-product generated by the event allowed in the city storm drain system. The parking lot at the conclusion of the event must be cleaned of all debris and disposed of in an acceptable manner to the City's Public Works Department.
7. Roadway and sidewalks and any other public areas utilized by the event participants and audience shall be left in a clean and orderly condition at the conclusion of the special event.
8. Applicant shall be charged for the amount of time to clean-up the areas or facilities used by the event participants if the areas utilized by the attendees of the event are not left in a clean and orderly condition. Estimated cost for retaining one City employee to clean-up refuse, and trash disposal is $ 43.20 per hour.
9. Any damage to public property as the result of this event will encumber full cost recovery from applicant by the City.

10. Event organizers shall at all times comply with any request or orders from the City's public works, lifeguard, law enforcement, or other public safety personnel. Failure to do so will result in the revocation of this permit and an immediate cease event order.

GENERAL GUIDELINES:

1. This permit and any other permits associated with this event will be available at the event.
2. If City services are required, applicant will be billed in advance for any and all City services provided above normally scheduled services. **All fees and charges shall be paid prior to final issuance of a permit for the event. Exception: Costs incurred by the City for clean up or other reasons due to the event, if any, shall be charged to the applicant billed as soon as the total cost is determined.**
3. All vehicles must comply with City parking regulations.
4. The organization and any of its subcontractors in advance of the event must file a business license application and fee, if they do not have a business license.
5. Vehicle loading and unloading cannot block pedestrian access. If required for short durations, signage directing the flow of pedestrian access, including wheelchair access must be established and posted.
6. The City reserves the right to shut down the event at any time, if necessary.
7. Applicant must comply with City noise regulations.
8. **It is the responsibility of the applicant to know and comply with the terms and conditions as stated within this special event permit and all applicable laws that pertain do the event, its organizers, and its participants whether they are stated on this permit or not.**
9. Contact Leah Escarcega or David Ott at (858) 720-2410 if there are any questions regarding the special event permit process.

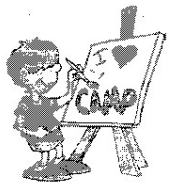
C: City Manager's Office
Public Safety Director
Public Works Director
Sheriff's Department
Marine Safety Captain

APPENDIX T: SUMMER CAMP PROGRAMS/CLASSES

City of Solana Beach Department of Parks & Recreation

Kids Summer Day Camp - 2007

for ages 6 to 12



All Sessions will meet Monday through Friday from 8:30 a.m. to 2:00 p.m. at the new Fletcher Cove Park. The fee is $100.00 per child and includes beach activities, arts and crafts, t-shirt and a weekly field trip to an exciting destination. After-care is offered from 2:00 to 5:00 p.m. Our popular "Leader in Training" program is available for 13-17 year olds for only $40/week!

Explore the Borders (Mexico)

Session 1, June 18-22, 2007

¡Bienvenidos! Get ready for the most colorful kids camp the City of Solana Beach has put on yet! During this week we will explore the vivid culture of this fascinating and fun country as we create crafts such as paper lanterns and flowers. The week will end with a fiesta including a piñata and more!

Field trip: Cabrillo National Monument

Oceans Week

Session 2, June 25-29, 2007

We live near the ocean and we may visit it often, but how much do we know about it? Come to camp to learn more about this beautiful treasure so close to us! We will have beach activities throughout the week.

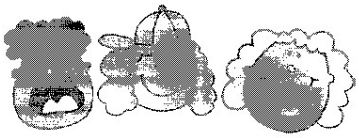
Field trip: Birch Aquarium at Scripps

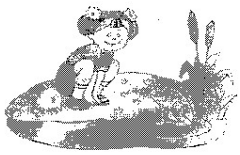
Happy and Healthy

Session 3, July 9-13, 2007

What better way to spend summer than getting exercise and having fun doing it? Throughout this week we will be learning about our incredible bodies and what we can do to keep them happy and healthy.

Field trip: Go Play Get Fit Youth Day at SDSU





Ecology & Our Environment

Session 4, July 16-20, 2007

Egrets, marshes, and eucalyptus, oh my! Ecology week, July 16 - 20, is your child's time to discover an often overlooked region of San Diego County. Through crafts and experiments, we will dive into a part of our own backyard, learning about wildlife habitats, and how we are all a part them.

Field trip: San Elijo Lagoon

Step Into Storybooks

Session 5, July 23-27, 2007

This camp is a great opportunity for your child to step into storybooks! During this week campers will be diving into classics, acting out skits, reading award-winning children's books and even writing one of their own.

Field trip: The Wave Water Park

Rainforest Exploration

Session 6, July 30-Aug 3, 2007

Attention lovers of adventure!! Feel like swinging through the trees this summer? Sign your child up for Rainforest Exploration Camp, July 30 - August 3. During this week we will learn about habitats, wildlife and the role they play in our lives.

Field trip: Balboa Park and Museums

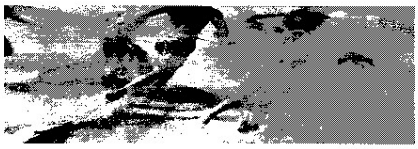
San Diego Appreciation Week

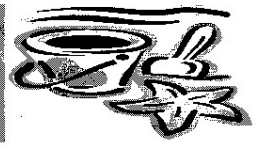
Session 7, August 6-10, 2007

From beaches to theme parks, we have it all in San Diego. If you are interested in your child learning to appreciate our beautiful City and its history, in a kid friendly fashion, sign your son or daughter up now.

Field trip: San Diego Harbor Cruise and Seaport Village

City of Solana Beach Department of Parks & Recreation





2008 KIDS SUMMER CAMP FOR AGES 6 TO 12

All Sessions will meet Mon-Fri from 8:30 to 2:00 at Fletcher Cove Community Center, 133 Pacific Ave. The fee is $100/week per child and includes activities such as beach walks, swimming at the Boys and Girls Club, arts & crafts, fun games, t-shirts and a weekly field trip to an exciting destination. After-care is offered from 2:00-5:00 ($25/week). Our popular "Leader in Training" program is also available again this summer for 13-17 year olds for only $40/week!

ECOLOGY AND OUR ENVIRONMENT - Session 1, June 23-27, 2008

Do your kids want to learn more about ecology and their environment here in Solana Beach? Well this week's camp is perfect for your children to explore the world of marshes and lagoons. Campers will learn about such things as how a tadpole turns into a frog, the water cycle and why it's important to take care of the environment. We will even get to explore our own San Elijo lagoon as this week's field trip. Mayor Kellejian will be a guest speaker on 1st day of camp!

AROUND THE WORLD IN 5 DAYS- Session 2, July 7-11, 2008

Come to camp and you can experience this trip around the world. Not only will campers be introduced to a global perspective but they will also be exploring the culture, and everyday life of all areas of the world. Kids will even be able to explore their own family culture and have a chance to share an aspect of their heritage with the other campers. Hop on board for this super-speed global experience.

FUN TO BE FIT - Session 3, July 14-18, 2008

Campers will get to see that living a healthy and active life can be fun! Learn about healthy eating as well as including physical activity in their everyday lives. Indoor and Outdoor activities and crafts will help the campers understand the way their bodies work and how they can keep their bodies happy and healthy. Field Trip: Go Play Get Fit Youth Day in Coronado.

OLYMPIC GAMES – Session 4, July 21-25, 2008

Come join Solana Beach's own week long Olympics in anticipation of the 2008 Olympics beginning this year. We will be trying out such sports as soccer, basketball, and running, as well as testing our skill out on the ice rink for this week's field trip.

SUMMER SAFARI – Session 5, July 28-Aug 1, 2008

Lions, and Tigers and Koalas? Oh my...join our own adventure through such places as the jungle, rainforest and safari. Learn about all sorts of animals, their habitats and how they influence our everyday lives. Love adventure and exploration? Then this is the camp for you. Field trip: Balboa Park Natural History Museum.

UNDER THE SEA – Session 6, August 4-8, 2008

Come test your knowledge of the big body of water that we are fortunate enough to live so close to. Explore the ocean through beach activities, crafts and a day of exploration at Scripps Birch Aquarium. Learn about dolphins, sharks, whales, and even starfish and sea cucumbers. Get a tour of the Solana Beach lifeguard tower and learn how to have fun safely at the beach.

SPLISH SPLASHTACULAR – Session 7, August 11-15, 2008

Is your child half amphibian? This is a perfect week for campers to explore the various ways to enjoy the water through water related crafts, water balloons and even water relays. From the ocean, to the pool and the pool to the Wave Water Park, come splish and splash with us.

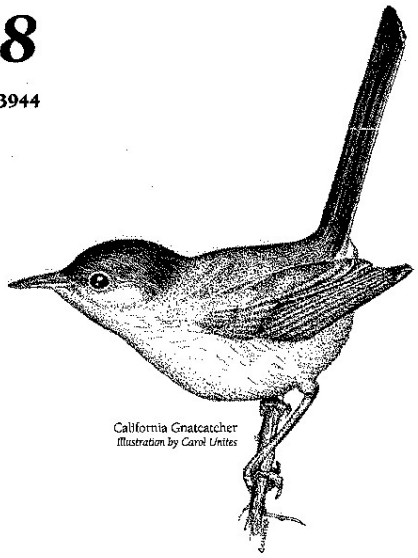
Please join us at our annual

San Elijo Lagoon Day

Celebrate with Mother Nature

Saturday, May 10, 2008

9 am–3 pm For more information call **760/436.3944** or visit **www.sanelijo.org**



California Gnatcatcher
Illustration by Carol Unites

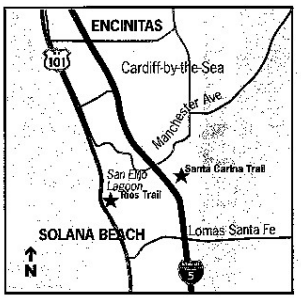
Trailhead Stations

Rios Trail
- 5-K Run with Doug, 8:30 am
- Guided nature walk, 9 am
- Doggie welcome table
- Birding with spotting scopes

DIRECTIONS:
Drive west on Lomas Santa Fe Ave. from I-5; turn north on Rios Ave. and drive to end of road.

Santa Carina Trail
- Naturalists on hand
- Archaeology & Native American display
- Children's story time at 11 am & 1 pm

DIRECTIONS:
Drive east on Lomas Santa Fe Ave. from I-5; turn north on Santa Helena (first stop light); turn left on Santa Victoria (2nd stop sign); turn left on Santa Carina and drive to end of road.



Lagoon Day is hosted by San Elijo Lagoon Conservancy and the County of San Diego Dept of Parks & Recreation and it's **FREE.**

Come enjoy:
- Spring wildflower display
- Migrating and nesting birds
- Special trailhead displays

RECEIVED
APR 24 2008
Engineering Dept.
City Of Solana Beach

Program Sponsors

DUDEK

San Elijo Lagoon CONSERVANCY

PARKS AND RECREATION
COUNTY OF SAN DIEGO
Where having fun is natural.
www.sdparks.org

APPENDIX V: 2007 DRY WEATHER MONITORING PROGRAM RESULTS

As a result of Addendum No. 2 adopted by the RWQCB in September 2008, this section will be submitted along with Chapter 7 "Illicit Discharge Detection and Elimination Component" in December 2008.

APPENDIX Z: EFFECTIVENESS ASSESSMENT TABLE

CHAPTER 7: ILLICIT DISCHARGE DETECTION AND ELIMINATION COMPONENT

7.1 Introduction

In accordance with Permit Section D.4, this section of the report describes the City's effort to implement an Illicit Discharge Detection and Elimination (IDDE) program during this reporting period, July 1, 2007 to June 30, 2008.

In each Annual Report to the RWQCB, this section will include a description of the City's efforts during the reporting period and possibly post-reporting period if the activity is deemed essential to understanding the City's efforts at reducing urban runoff or Permit compliance. This section will include results from efforts to eliminate and prevent illicit discharges, results from the most current Dry-Weather and Wet-Weather Monitoring Programs and Coastal Outfall Monitoring Program. Also, this section of the report will include any changes to the City's *Action Levels for Field Screening and Laboratory Parameters*. A summary of activities conducted post-reporting period may be included if the activity is deemed essential to understanding the City's efforts at reducing urban runoff or Permit compliance. It should be noted that prior to the adoption of the new Permit Order No. 2007-0001, this component was known as the Illegal Connection/Illicit Discharge Elimination program, or IC/ID. With the adoption of the new Permit, this component is now known as the Illicit Discharge Detection and Elimination Component, or IDDE. Both of these terms may be used in this chapter as different programs are discussed during this transition period, but they can and are used interchangeably.

During this reporting period, the City continued the comprehensive IDDE Component of the previous Jurisdictional Urban Runoff Management Program, or JURMP (Order No. 2001-01) as well as developed the new IDDE program in accordance with the new JURMP (Order No. 2007-0001). The activities are expected to increase knowledge among the residents, business owners, and those who do business (such as contractors) within the City. The City implemented the IDDE program based on the requirements of the existing Permit as well as commenced development of the new IDDE program associated with the new Permit.

The City's JURMP outlines in descriptive detail the City's plans for detecting and eliminating illicit discharges, which would be redundant to repeat in this Report. However, the City's IDDE program that was in place *prior to the JURMP,* directed the procedures for conducting the 2001 dry-weather monitoring program (DWMP), while the procedures identified in the old JURMP directed the 2002-2007 DWMP. This report will discuss the results of the 2008 DWMP, which adheres to the requirements of the new Permit, and is described in detail in the City's new JURMP.

7.2 Public Reporting of Illicit Discharges and Connections

The City has an extensive public reporting program that includes a designated hotline (858-720-4424) that links directly to the Environmental Programs Manager's desk, a dedicated email address that also links to the Environmental Programs Manager, and a highly trained City staff that knows how to route calls to the general lines at City Hall to the appropriate staff. The City of Solana Beach is a small an intimate city where residents believe in personal relationships and demand immediate responses and actions. The City's hotline and email address to report storm water violations is posted on almost all public outreach, including the City's website, community newsletters and environmental brochures. In addition, the City utilizes its public access television channel to display storm water educational items and the hotline numbers for reporting.

The City tracks complaints and follow-up activities in a database that is managed by the Environmental Programs Manager. Usually, the City's Code Enforcement Officers respond to the complaints and hotline reports and handle the issues in the field. An email and/or violation form is then sent to the Environmental Programs Manager to document the actions taken and to proceed with any necessary increased enforcement actions such as Notice of Violations (NOVs), citations or stop work orders. This database is constantly being updated and also acts as a resource for historical violations and repeat offenders. If a repeat offender is identified, then increased enforcement actions will automatically be initiated.

7.2.1 Summary of IDDE Violations

The following is a brief summary of the IDDE violations that were acted upon by City staff through complaints, field detection and reports from the public. For a complete account of each violation, the City's database can be reviewed upon request.

During this reporting period (July 1, 2007 – June 30, 2008), there were 87 reports investigated by City staff. Most of these violations were minor in nature, ranging from washing down a driveway or patio to washing a car in the street with no containment. These violations are usually handled with a verbal warning or Notice of Violation. However, during this reporting period, twelve citations were issued and two stop work notices enforced.

There was one significant issue worth mentioning that occurred during this reporting period. City staff noticed a pattern that the most prevalent and serious violations that were occurring throughout the City involved mobile concrete pumping trucks. These violations were also the most difficult to clean up after an accident, so the City decided to become very proactive when dealing with these companies. The proper handling of concrete and appropriate BMPs became a standing item to discuss during pre-

construction meetings, and City staff routinely stopped at all construction projects if a concrete truck or pumper was seen onsite, regardless if there was a violation or not. City staff would talk to the project superintendent and the concrete pump and truck operator to ensure that all necessary precautions were being taken to prevent a spill, and also to remind them that enforcement actions will be taken if a violation does occur.

For the most part, this was a highly successful program as concrete violations drastically reduced and word of mouth spread between local contractors that the City was heavily enforcing concrete management. However, the City did have one company that was not fully cooperating and still conducting "business as usual." The City proceeded with multiple citations to the concrete truck operators, until the company's owner finally returned phone calls from the City requesting a sit-down meeting. After the meeting, the trucking company came into full compliance and there have been no violations from this company since. This is a success worth mentioning in the ongoing struggle with mobile businesses interested more in getting the job done and out of town than complying with storm water regulations.

7.2.2 Increased Code Enforcement Activities

In an effort to reduce the number of violations that occur on the weekends, the City authorized a Code Enforcement Officer to work alternating Saturdays and off-peak weekday hours. It has come to the City's attention that a significant amount of violations are occurring on the weekends, when people know that no City staff is available for enforcement. This activity has been overwhelmingly successful, with the identification and elimination of many violations.

7.3 IDDE Program History and Current Prohibitions

The City implemented its first IDDE program in 1993, which included dry weather screening, annual storm water conveyance system inspections, and prompt responsiveness to complaints.

Between 1993 and 2002, the City's IDDE program did not indicate any significant problems, except for occasionally high levels of bacteria at a curb inlet or manhole leading up to the Seascape Sur outfall. A complete discussion about the activities related to this IDDE problem, including its history, can be found in the JURMP Annual Report Chapter 12: "Special Investigations."

Over the years, the City has responded to complaints and results from its dry weather monitoring reports to detect IDDEs. The City's efforts have been successful, but in response to the requirements of the Permit, the City expanded its program in 2001 to comply with the old Permit (Order No. 2001-01). During this reporting period, the City

also began development of the new IDDE program necessary by the adoption of the new Permit (Order No. 2007-0001), which is described in detail in the new JURMP.

Prohibitions

As noted in the City's JURMP, most non-storm water discharges are prohibited by Solana Beach Municipal Code (Storm Water Management Chapter 13.10). The City modified its Municipal Code and General Plan to ensure the City has sufficient legal authority to enforce the prohibitions of non-storm water discharges included in Order No. 2007-0001.

7.3.1 Significant Spills

The City operates a storm water hotline and email address that the community can use to report any violations or suspicious behavior they may encounter. This hotline can also be used to notify City staff of any significant spills that have occurred. Additionally, the City's website has a link to directly e-mail the Environmental Program's Manager to report violations or spills. The residents can also directly call City Hall and talk to the appropriate Staff member to report any significant spills.

There was *one significant spill* reported during this reporting period. The spill was reported on October 15, 2007 by City field staff that noticed a small amount sewage coming out of a manhole in the street. Once it was reported, City crews had it fixed within 20 minutes. The blockage was caused by root intrusion and the spill was estimated at approximately 1,000 gallons. All of the sewage was collected from a downstream City-owned CDS unit and redirected back into the sewer system, so there was no detrimental effects on the environment. The City immediately placed the problem sewer line on its list of "hot spots" and the line is now monitored and cleaned on a more frequent basis (4 x year vs 1 x year).

The City has an aggressive sewer maintenance program to prevent sewer spills from occurring. The City cleans the entire system at least once per year, and the known "hot spots" are cleaned and CCTV videoed four times per year. The aggressive Grease Management Ordinance has drastically cut down on the amount of grease in one particular hot spot, but the area is still monitored four times per year. The City is proud of its aggressive maintenance program and strives to attain zero sewer spills.

7.3.2 HHW Program

The City manages an extensive HHW Program that is discussed in detail in the Residential Component of the 2008 JURMP Annual Report.

7.3.3 Grease Trap Ordinance

In October 2004, the City Council adopted a grease trap ordinance that requires new, remodeled, and even *existing* restaurants to install a properly designed grease trap/interceptor. Previously, the City's Building Department would require all new and significantly remodeled restaurants to install a grease trap/interceptor, but it was simply a policy, not an ordinance. The City realized the need for an enforceable ordinance that would grant the City the power to inspect the traps to ensure proper installation and maintenance. These inspections are now part of the annual storm water inspections and City staff (or designated contractors) review maintenance records to ensure the traps/interceptors are being properly maintained. The ordinance allowed existing restaurants eighteen (18) months to install the grease traps/interceptors and enforcement began in April 2006. As mentioned in the JURMP Annual Report, the City contracted out commercial/industrial inspection services to a private firm. This private firm inspected grease management devices and reviewed maintenance records for all restaurants/eating establishments that were inspected.

7.4 Dry Weather Monitoring Program (DWMP)

The dry weather field screening data is an important part of the City's IDDE program. The results provide information on whether pollutants are detected in the storm drain system, which can be used to identify potential illegal discharges or connections.

The specific purpose of this program is to detect by system inspection and by field screening and lab water quality testing the existence of either illicit connections to the storm drainage system or the use of the storm drainage system for illegal discharges, during the dry season. The basic requirements for the program are described in the Permit and City's JURMP.

The purpose behind conducting tests of storm drains during dry periods is that illicit connections and illegal discharges are most apparent when they are not being masked by storm flows or ground water discharges. Theoretically, there should be no flow in the storm drains during dry periods, except for the limited amount of exemptions listed in the Permit Section B.2 "Non-Storm Water Discharges." Therefore, if flow is present, an investigation must be conducted to determine where the flow is coming from to determine if there is an IDDE violation.

Prior to the implementation of the JURMP (from 1993 to 2001), the City completed eight years of dry weather testing, primarily with the services of Kinnetic Laboratories/Cooper Engineering Associates, which collected the field samples and conducted the testing and analysis. The City's program was based on a systematic and comprehensive approach.

In 1993, the City inspected selected outfalls within the City limits and monitored selected sites along Stevens Creek. In 1994, major outlets from the City were tested, in addition to the sites monitored in 1993. The primary objectives in the 1995 through 1999 dry weather field screening programs were to target strategic locations where the potential existed for possible pollutant discharges or illicit connections, as well as carry out a comprehensive monitoring of the City.

For completeness and consistency in reporting, the City will briefly summarize the results from the DWMP over the past few years.

7.4.1 Historical Results

The 1995 dry weather field screening data characterized outfalls, identifying areas of non-storm water, non-permitted discharges as well as the identification of problem or potential problem areas. Sampling points were selected in an effort to survey in-line flow as well as inflow and outflow at the City limits. As a result of the 1995 field screening, dumping of grease into Stevens Creek was discovered at a local restaurant. The City notified the property owner, as well as the business owner, to cease such activity, which occurred.

The 1996 dry weather field screening data continued to characterize outfalls, identifying areas of non-storm water, non-permitted discharges as well as the identification of problem or potential problem areas. Results from the 1996 program indicated elevated bacteria levels at the Fletcher Cove Outfall (O-03A). Subsequently, the City constructed a low flow diverter (in 1998), which diverts the flow to the City's sanitary sewer system. The diverter pumps 40 gallons per minute, year round, 24-hours a day. Runoff is only discharged at Fletcher Cove outfall during storm runoff events that exceed 40 gallons per minute. The diverter helps eliminate the contamination at the Fletcher Cove Outfall caused by storm water runoff.

The 1997 dry weather field screening data included several sites that had been screened in previous years, two new sites and an independent study. The new sites were added upstream of two previously monitored sites in Stevens Creek to try to isolate the sources of pollutants that had been detected at those sites during screening in several past years. The independent study was conducted to isolate the source of bacteria that the San Diego County Department of Environmental Health indicated had been found at a commercial site contributing to Seascape Sur Outfall. Additional investigations were conducted in Stevens Creek and the cleaning of the commercial site was ordered. Results indicated no significant problems had occurred during this reporting period.

The 1998 dry weather field screening data included further investigation of locations

with consistent evidence of possible pollutant discharges (high pH) in Stevens Creek, the continual monitoring and bacterial testing of Seascape Sur Outfall, and the continual monitoring of representative areas in the City. The samples from Stevens Creek Outfall were collected while the Del Mar Racetrack was in operation to determine if that location (and its activities) was having an effect on the elevated levels bacteria. The results indicated that the pH phenomena in Stevens Creek were due to leachate migrating through the concrete structure. However, the effects of the Del Mar Racetrack were found to be inconclusive, but several outfalls were cleaned of trash and debris.

The 1999 dry weather field screening data continued to screen the same sites as in the previous year and again included the Fletcher Cove Outfall. The 1999 DWMP was again conducted during the early part of the racing season in Del Mar to build on the data collected in the previous years. Fletcher Cove was added back to monitor the bacteria and the effectiveness of the City's structural Best Management Practices for the low flow diverter. Results from the testing did not indicate any significant problem areas and the effects of the Race Track were again inconclusive.

The 2000 dry weather field screening data continued to build on the database the City has established. The report identified two locations with high levels of coliform (both flowing to the Seascape Sur Outfall). The City conducted an investigation and sealed off an old leaking sewer lateral that was found to be located near the curb inlet of the upstream site with elevated bacteria counts. The City contracted with Kinnetic Labs to provide additional testing, which showed reduced counts during the follow-up tests. The 2000 report recommended that the City clean several sites of trash and debris, which was done.

The 2001 DWMP included ten sites for testing, including the same two sites that had elevated bacteria counts in 2000, and Fletcher Cove Outfall (where the diverter is in operation). Site S-13A and S-13 were also included to detect the effects of the Del Mar Race Track during racing season. Seven of the ten sites had at least some flow or ponded water; and one site (S-02) required a follow-up investigation based on elevated levels of fecal and coliform bacteria. Although the S-02 site had elevated bacteria levels, they were lower than the previous year, which led City staff to believe that the problem (for which repairs had been recently completed), was simply residual bacteria. As a result, the City ordered that the line between the curb-inlet and the outfall be cleaned.

The 2002 DWMP increased the number of sites from 10 to thirty-one, with a representation of all five watershed sub-basins in the City. Sites were selected ensuring that historical problem areas, drainage to sensitive water bodies and sites with potential discharge from commercial areas were all represented. This was the first year of dry-weather monitoring under the new Permit, which included specific rules and guidelines

developed by the Copermittees to ensure consistency. Some of the keys findings include the following:

- Water clarity at all but one site was clear.
- Floating trash was observed at four sites and sedimentation was observed at four sites.
- At the majority of sites, there was no biological activity noted.
- One site had excessive algae growth, while four had some vegetation and algae growth.
- All sites had pH levels below the action levels agreed upon by the Copermittees.
- Several sites had elevated levels of Ammonia, which triggered a follow-up investigation.
- Elevated levels of detergents were found at one site; as a result, staff has scheduled some time to pass out "door-hanger" flyers to educate the surrounding community as to the cause of this result (which is likely due to car washing, which is prohibited in the City).
- Levels of the all of the following were below the Copermittee action levels: oil and grease, surfactants, Diazinon[1], Chlorphyrifos and dissolved cadmium, copper, lead and zinc.

7.4.2 Results from the 2003-2007 DWMPs

The Dry Weather Monitoring Programs from 2003-2007 were all conducted under the requirements of Permit Order No. 2001-01. Although the results were slightly different from year-to-year, the program results can be generally summarized into the following information. Each year, there were approximately 28-30 sites chosen, depending on the amount of flow in each year. The sites were relatively static throughout the years, as the City has identified the key catch basins/outfalls/manholes in each sub-basin and has monitored them every year. There is one significant problem area that has been identified and it has been the subject of an ongoing IDDE investigation for years. Chapter 12 "Special Investigations" of the JURMP Annual Report is dedicated entirely to this ongoing problem, so all the information can be found there. The City has worked tirelessly on this ongoing problem and plans to continue until a resolution is found.

7.4.3 Results from the 2008 DWMP

The 2008 Dry Weather Monitoring Program is included as an attachment to the 2008 JURMP Annual Report (Appendix V).

7.5 Action Levels to Trigger Follow-up Investigations

The City collaborates with the other Copermittees of Order 2007-0001 in developing the standardized responses, procedures, processes, policies and programs by participating in the Dry Weather Monitoring Workgroup. This helps by providing consistency in messages, requirements and community expectations. One major accomplishment of the Dry Weather Monitoring Workgroup during this reporting period was the development of the "Trash Assessment Form" which is a new requirement included in Permit Order No. 2007-0001. This form was utilized during the 2008 DWMPs for all Copermittees and is included in the 2008 DWMP report.

7.6 Coastal Monitoring Program

The purpose of the City's Coastal Outfall Monitoring program is to detect IDDEs through monitoring of the City's coastal outfalls, and to protect human health and public safety by notifying the public of any potential health hazards in the ocean. Prior to 2002, the San Diego County Department of Environmental Health designed and conducted the Coastal Outfall Monitoring Program. In 2002, the City utilized its own staff to conduct an inventory of its outfalls and design the monitoring program, which is currently being implemented.

During this reporting period, the Coastal Monitoring Workgroup, comprised of the cities that have storm drains that flow into the ocean, met monthly to discuss pertinent issues and establish monitoring guidelines and reporting limits. Here is a brief description of the City's Coastal Monitoring Program for FY 07/08.

The Permit requires cities to monitor all flowing coastal and lagoon outfalls located within the City. The sampling frequency is once per month required during the wet season, and twice per month required during the dry season (two samples at each location, one at storm drain, one at receiving waters). The samples are taken to a State-certified laboratory for analysis of three parameters; Total Coliform, Fecal Coliform, and Enterococcus. The new Permit slightly altered these requirements, eliminating the lagoon sampling and reducing the twice per month samples during the dry season to once per month.

Under the new Permit, the City monitors one coastal outfall (Seascape Outfall). The other coastal outfall in the City (Fletcher Cove Park) is connected to a Low Flow Divertor and sampling is not required.

The Seascape Outfall has had historical problems and is the current target of an ongoing IDDE investigation. This is discussed in detail in Chapter 12 of the JURMP Annual Report. For complete results, please see the Coastal Outfall Monitoring Annual

Report submitted annually with the County Unified URMP.

7.7 Wet Weather Monitoring

The Copermittees of Order 2001-01 and Order 2007-0001 collectively hired MEC Analytical again to continue the Wet Weather Monitoring Program (WWMP) for 2007/08. The complete report can be found in the County Unified URMP annual submittal.

7.8 MS4 Map

The City has a Geographic Information System (GIS) map of all catch basins in the located throughout the City. The City also has a Drainage Master Plan that includes all storm drain conveyance structures included (catch basins, inlets, outfalls, manholes, etc.) available in GIS format that is accessible digitally. In addition, the City has an independent consultant working on a new database that will incorporate the Drainage Master Plan, will allow violations to be tracked and documentation of maintenance and inspection of long-term construction BMPs. The intent of the new database will be to house all pertinent information into one location, making tracking and record retention much more efficient. The database is still under construction but hopefully will be functional during this next reporting period.

7.9 New Activities and Improvements in FY 08/09

The City will analyze its 2008 DWMP in FY 08/09, review the results in detail and integrate the findings into program activities. City staff will evaluate the results to determine areas within the city (residential and commercial etc.,) that need additional education to improve the water quality in the region. The City will use the results from the previous DWMP to design the 2009 DWMP and attempt to conclude the special investigation (see Chapter 12). The ongoing problem at Seascape Sur, which was detected again in this reporting period's Coastal Monitoring and Dry-Weather Monitoring Programs, are discussed in greater detail in Chapter 12 (Special Investigations) of the JURMP annual report.

Additionally, City staff began enforcing the Grease Trap Ordinance, including it the commercial/industrial restaurant inspections. Staff, or the designated consultant, will continue to inspect the grease traps/interceptors during future annual storm water inspections to ensure that proper maintenance is being conducted and records kept on-site. Analysis on the effects on sewer spills will also being conducted in the next few years to see if the ordinance has had a successful impact on reducing spills as a result of grease build-up.

Additionally, it is anticipated that the WURMP workgroups will begin analyzing the Dry Weather Programs of participating jurisdictions and begin tailoring some of those activities to address high priority pollutants, and the activities/sources associated with them. In the years past, jurisdictions would self analyze their respective programs to address high priority locations and sources, but with the added emphasis on WURMP activities stressed by the RWQCB staff, these issues will now be attacked on a watershed basis. This has the potential to provide more knowledge and resources that were previously limited by staff resources, but now with the assistance of neighboring jurisdictions, this may prove very valuable. The DWMPs can be used to identify problem areas that may have a particular clump of sources upstream, and will help focus the WURMP activities on these areas in mini-pilot programs to determine if the source can be identified, or maybe as important, eliminated as a possible source so that resources can be focused on other potential sources.

7.10 Summary

As evidenced by the Copermittee WWMP, the City's DWMP, the City's "team approach" in responding to complaints, and the improvements made citywide in procedures and investigative processes, the City is proficient and effective at detecting and eliminating IDDEs, and working to change the human behavior that has caused negative impacts on water quality.

Recognizing that human behavior is the basis of many non-point source pollution problems, the City quickly acts on reports from residents, City staff, and other agencies to follow up on problems as soon as they are reported. The City altered the storm water hotline to link directly to the Environmental Program Manager's voice mail box so that calls can be consistently monitored and acted upon. The City has effectively utilized the administrative fine process which has proven to be a very efficient and timely procedure in issuing citations, which will reduce the potential for pollution into the City's MS4.

The City's aggressive sewer maintenance program and grease management ordinance has proved to be successful in preventing sewer spills. These programs are vital to prevent the catastrophic environmental effects that sewer spills have on the natural environment. In addition, the proactive approach that City staff takes in educating contractors before there is an illegal discharge has greatly reduced the amount of violations in the City. This is extremely evident by the concrete truck and pumper scenario discussed above. The violations at minor construction projects have reduced as a result of this proactive approach.

CHAPTER 11: EFFECTIVENESS ASSESSMENT COMPONENT

This to be added to existing Chapter 11 component of 2008 JURMP Annual Report…….

Illicit Discharge Detection and Elimination Component

Program Strengths: The City continued to implement its IDDE program by responding to complaints and investigating potential violations promptly and thoroughly. The City serves the community effectively and efficiently by connecting the storm water hotline directly to the Environmental Programs Manager, saving valuable time and effort. The program has proven to be very successful as the community of Solana Beach is very intimate and prefers to do business face-to-face and requires immediate results. The City has a very customer service focused atmosphere, and the residents demand instant and effective action on relevant issues. This has, in turn, been very beneficial to the storm water program because many times, in order to effectively deal with a violation or IDDE, it has to be investigated immediately. This has led to many violations and violators being discovered while it is occurring, rather than letting time elapse which can lead to a lengthy and complex IDDE investigation that may yield no results.

The 2008 Dry Weather Monitoring Program (DWMP) was conducted in-house by City staff. The program was modeled after the initial report conducted by MEC Analytical, and the complete report is included in the 2008 JURMP Annual Report (Appendix V). In summary, there was one location (Seascape) that had the potential to be an IDEE situation. This location has been an ongoing problem area in the City for many years and the source has proven elusive and the investigation continues. The problem is most likely a structural deficiency in the pipe, which cannot be corrected without a large Capital Improvement Project. The City is still researching other options such as slip-lining the existing pipe or installing a Low Flow Diverter at the end of the pipe. During this reporting period, the City installed two curb screen debris BMPs in the upstream catch basins in hopes of removing the source (decaying organic debris) before it enters the underground pipe. These screens are from two different manufacturers and are part of a pilot program to test the effectiveness. After the first rain event (which occurred after the reporting period but it worth mentioning), the curb screens prevented twenty-five (25) pounds of organic debris and trash from entering the storm drain. This pilot program will continue throughout the next reporting period and the results will be discussed in next year's Annual Report.

The City is committed to solving the bacteria problem at Seascape. The City dedicates approximately $10,000 in the annual CIP budget to clean out the Seascape pipe with

the intention of eliminating any residual bacteria and debris trapped in the sag in the pipe. The City continues to work with the adjacent condominium complexes to eliminate the over-watering issues that may be contributing to the problem. City staff works very well in communicating possible IDDE situations around the outfall, as the Marine Safety Department has a lifeguard station located directly in front of the outfall (during summer months). Whenever there is a noticeable increase in flow or odor, the lifeguards are instructed to contact the Environmental Programs Manager to investigate. This will continue to occur until a remedy is found for the problem outfall. More information on this problem area can be found in Chapter 12 of the 2008 JURMP Annual Report.

One strength of the City's IDDE program is the aggressive sewer maintenance program. The City contracts with a private contractor to clean and video every sewer line in the City at least once annually and the "hot spots" are cleaned quarterly. This helps prevent the buildup of roots and grease in the system, preventing possible blockages and spills. Another strength is the aggressive Grease Management Ordinance that requires not only new and remodeled restaurants and eating establishments to install appropriate grease interceptors or traps, but also requires existing restaurants to install those devices as well. This aggressive approach was adopted to address a specific problem area in the City, and the results have been overwhelmingly positive. The amount of grease buildup in the sewer lines of the "hot spot" has been drastically reduced, and there has not been a spill in the targeted area since the adoption of the ordinance.

Improvement Areas: During the next reporting period, the City is committed to eliminating the historical bacteriological problem at the Seascape outfall. More aggressive actions may have to be taken to determine the ultimate source of the problem. The IDDE investigations discussed in previous annual reports have turned out to be inconclusive; so the City may have to look at alternate solutions, such as a permanent BMP structure installation (i.e. Low Floe Diverter) or the possibility of blocking off the connections to the storm drain and rerouting the site drainage of the neighboring condominiums to the street before entering the catch basin. These solutions would be very expensive, and since the receiving water has not been affected yet, the City will continue to pursue the elimination of the bacteria at its source. Additionally, the City will continue to gather and analyze additional data from the wet weather and dry weather programs and compare the datasets to determine other potential IDDE problems.

APPENDIX V: 2008 DRY WEATHER MONITORING PROGRAM RESULTS

THE ATTACHED DOCUMENT IS A COPY OF THE

PROGRAM DESCRIPTION,
NARRATIVE SUMMARY
AND
RESULTS SECTIONS
OF THE

City of Solana Beach
2008 Dry Weather Field Screening Program

Prepared by the City of Solana Beach

TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY 1

2.0 INTRODUCTION 1

2.1 Land Use Characteristics 3

3.0 METHODS 4

4.0 RESULTS 7

4.1 Visual Observations .....**Error! Bookmark not defined.**

4.2 Field Chemical Analyses 13

4.3 Laboratory Chemical Analyses..... 15

4.4 Trash Assessment Monitoring……...19

5.0 DISCUSSION……19

6.0 CONCLUSIONS..... 21

1.0 EXECUTIVE SUMMARY

The Dry Weather Field Monitoring Program is an integral part of the NPDES (National Pollutant Discharge Elimination System) Storm Water Permit issued to the City of Solana Beach (City) and other Copermittees by the San Diego Regional Water Quality Control Board.

The City of Solana Beach has implemented a comprehensive Storm Water Pollution Prevention Program. In 2008 twenty-eight sites were inspected, with **only one storm water conveyance** line showing evidence of an illicit discharge or illegal connection. This line has a history of high bacteria counts, and the ongoing investigation attempting to locate the source of the bacteria is well documented and will continue until it is found and abated.

In September 2008, City of Solana Beach staff conducted the 2008 Dry Weather Monitoring Program under the regulations set forth in the NPDES Storm Water Permit Order No. 2007-0001. Twenty-eight sites were inspected during the 2008 Dry Weather Monitoring Program. Each site was visually and chemically inspected for illegal discharges and/or illicit connections. Results were recorded on field data sheets and are included in the appendices of this Dry Weather Screening report.

2.0 INTRODUCTION

The Illicit Connection/Illegal Discharge Dry Weather Monitoring Program is one of the required tasks of the Storm Water NPDES Permit issued by the San Diego Regional Water Quality Control Board, under Order No. 2007-0001. This is the first year under this new Permit, which replaced NPDES Order No. 2001-01, that the San Diego Copermittees have conducted this particular dry weather monitoring program. The permit requires the City of Solana Beach, and all Copermittees, to develop and implement programs to prevent, reduce, and eliminate inappropriate discharges of pollutants from storm water conveyances into the waters of the United States. There are only slight modifications to the previous Order No. 2001-01, and each will be discussed in detail in their respective chapters later in this report.

The purpose of the Dry Weather Monitoring Program is to detect illicit connections and/or illegal discharges to the storm water conveyance system. In order to accomplish this goal, strategic sites were identified to test for chronic and/or improper discharges. Chemical parameters specified by the U.S. Environmental Protection Agency (EPA) for field screening were used as indicators of potential pollution from industrial, commercial, or domestic sources. The EPA has presented the following most common non-storm water sources and has placed them into three contamination categories: pathogenic/toxic, nuisance, and clear. The pathogenic/toxic category can cause illness upon contact or consumption. The nuisance category can cause degradation of water quality and impair

aquatic ecosystems. Clear water usually comes from natural sources such as springs and ground water infiltration. Table 1 displays the potential for these sources to enter the storm drainage system (EPA 1993).

Table 1: Potential Inappropriate Entries Into Storm Drainage Systems (EPA 1993)

Potential Source:	Storm Drain Entry		Flow Characteristics		Contamination Category		
	Direct	Indirect	Contin-uos	Inter-mittent	Patho-genic/ toxic	Nuis-ance	Clear
Residential Areas:							
Sanitary wastewater	●	❍	●	❍	●	❍	
Septic tank effluent		●	●	❍	●	❍	
Household chemicals	❍	●		●	●		
Laundry wastewater	●			●		●	
Excess landscaping watering		●		●	❍	❍	●
Leaking potable water		●	●				●
Commercial Areas:							
Gasoline filling station	●	❍		●	●		
Vehicle maintenance/ repair	●	❍		●	●		
Laundry wastewater	●		●	❍	❍	●	
Construction site de-watering		●	●	❍		●	
Sanitary wastewater	●	❍	●		●		
Industrial Areas:							
Leaking tanks and pipes	❍	●	●	❍	●		
Miscellaneous process waters	●	❍	●	❍	●	❍	❍

Note: ● - most likely condition
❍ - may occur
Blank - not very likely

Discharges to the storm water conveyance system can originate form a variety of sources. The following provides a brief discussion of potential sources:

- Sanitary wastewater sources:
  - Sanitary wastewater (usually untreated) from improper sewer connections, exfiltration, or leakage
  - Effluent from improperly operating, or improperly designed, nearby septic tanks

- Automobile maintenance and operation sources:
  - Car wash wastewater
  - Radiator flushing wastewater
  - Engine degreasing wastes
  - Improper oil disposal
  - Leaky underground storage tanks

- Irrigation sources
  - Lawn runoff from over-watering
  - Direct spraying of impervious surfaces

- Relatively clean sources:
  - Infiltrating groundwater
  - Water routed from pre-existing springs or streams
  - Infiltrating potable water from leaking water mains

- Other Sources
  - Laundry wastewater
  - Non-contact cooling waters
  - Metal plating baths
  - Dewatering of construction sites
  - Washing of concrete trucks
  - Sump pump discharges
  - Improper disposal of household toxic substances
  - Spills from roadway and other accidents
  - Chemical, hazardous materials, garbage, sanitary sludge landfills and disposal sites

2.1 Land Use Characteristics

The City of Solana Beach consists of a total drainage area of 2,158 acres. The land use characteristics are estimated as follows (SANDAG 2000):

Agriculture	4 acres
Commercial and office	192 acres
Industrial	35 acres
Parks and Recreation	246 acres
Public Facilities and Utilities	110 acres
Residential	1436 acres
Transportation	98 acres
Undeveloped	37 acres
Water	1 acre

Figure 1 gives a visual presentation of the land use characteristics for the City of Solana Beach.

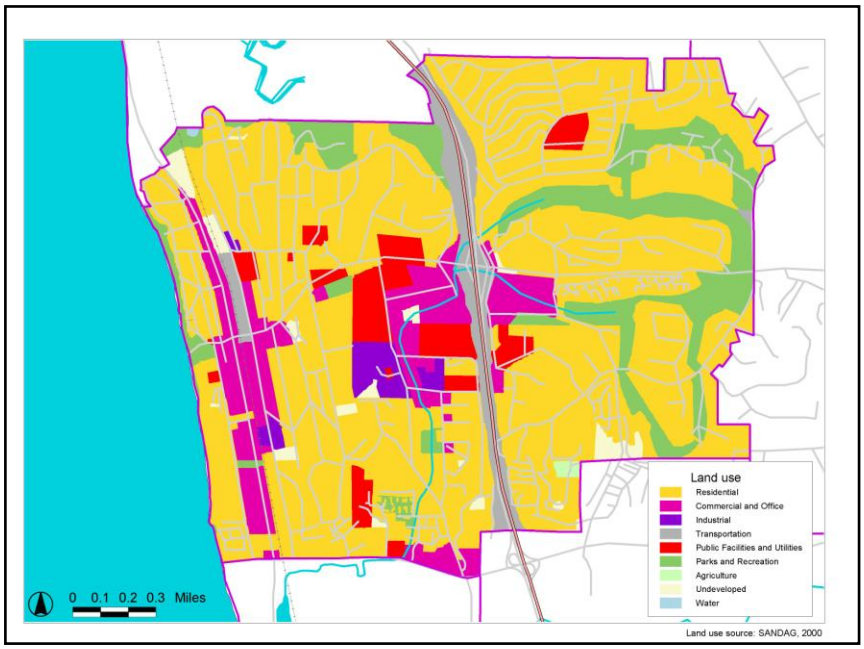


Figure 1. Land use in Solana Beach.

3.0 METHODS

This year marked the first year of dry weather monitoring conducted under the new municipal storm water discharge permit. Under the "Receiving Waters and Urban Runoff Monitoring and Reporting Program No. R9-2007-0001" Section II. B. 3, specific requirements for field observations, field screening monitoring and analytical monitoring are listed. Further, the Copermittee Monitoring Workgroup has developed protocols for the jurisdictions to use to ensure consistency among the Copermittees.

First, the City selected dry weather field screening and analytical monitoring stations based on the criteria listed in the Order. In determining which storm drains and/or

outfalls to monitor, a map was analyzed and sites were prioritized and selected based on the following:

- Review of the City's past Dry Weather Monitoring Programs
- Stations should be located downstream of any sources of suspected illegal or illicit activity
- Stations shall be located to the degree practicable at the farthest manhole or other accessible location downstream in the system within each cell
- Hydrological conditions, total drainage area of the site, traffic density, age of the structures or buildings in the area, history of the area, and land use types shall be considered in location stations
- Each Copermittee shall determine alternate stations to be sampled in place of selected stations that do not have flow

The City of Solana Beach is relatively small with highly defined geographic boundaries. The City is bordered to the north by the San Elijo Lagoon, the west by the Pacific Ocean, the south by the San Dieguito Lagoon and the east by the County of San Diego. All major outfalls on each border were selected for this program, along with the furthest accessible downstream storm drain structure for each sub-basin. These sites were selected with the thought that if any water were present in the structures furthest downstream, then upstream investigations would take place to determine the source of the water during dry periods. Therefore, no "alternate" stations were identified because staff would investigate all catch basins upstream from flowing or ponded outfalls/catch basins to attempt to find the source. Based on the above criteria, the following sites were selected for the City of Solana Beach.

Four monitoring locations were selected within the coastal basin based on historical problem areas and proximity to the Pacific Ocean (Sites 11, 24, 25 and 26). Three monitoring locations were selected within the Fletcher Cove Basin based on their drainage to sensitive water bodies (Sites 20, 21, and 23). Eleven sites were selected within the San Elijo Basin. These sites were chosen based on their proximity to the environmentally sensitive San Elijo Lagoon, at the furthest possible point downstream before it enters the lagoon (Sites 1-10 and 22). Seven sites were chosen for the largest basin in the City, the Steven's Creek Basin (Sites 12-17, 19). The majority of this basin drains into Stevens Creek. Monitoring locations were selected at specific points throughout the basin based on the combination of criteria discussed in the previous paragraph. These sites were chosen to capture data from all the different land uses in the basin. These include industrial, residential, commercial and parks. The last basin, the Via de la Valle East Basin, is located in the southeast portion of the City. Three monitoring locations were selected there to monitor what was leaving the City and entering the City of San Diego (Sites 18, 27, and 28).

An initial list of potential monitoring locations was developed. Twenty-eight sites met the criteria and were selected for the 2008 Dry Weather Monitoring program. All

twenty-eight sites were identified as primary sites for monitoring based on the factors listed previously within this report.

In accordance with Order No. 2007-0001, City staff made an initial visit to each site to determine if there was flow present, ponded water, or if the storm drain structure was dry**.** Field data sheets were used to record site descriptions and characteristics, flow estimations, visual observations, and field chemistry results (see Table 3 for a summary of field observations; individual data sheets are included in Appendix C). A new requirement included in Order No. 2007-0001 was the development of a Trash Assessment program. This program will be used to assess the presence of trash in receiving waters and urban runoff at each dry weather field screening or analytical monitoring station. Assessments of trash shall provide information on the spatial extent and amount of trash present, as well as the nature of the types of trash present. The Copermittees met and developed the "Trash Assessment Form" which is included with each Dry Weather Monitoring Field Datasheet for each station.

If flowing or ponded water was observed during the initial visit, water quality tests were conducted. Sites that had elevated chemistry levels or abnormal visual observations were investigated immediately and the site was revisited within a period of not less than four hours and not more than twenty-four hours. Observations and chemical testing were repeated during the second visit. If the site was dry on the initial visit, a follow-up visit was not conducted.

Sites 3 and 25 had ponded and flowing water present, respectively. Field screen tests and lab analysis were performed on both stations. The Order only requires that jurisdictions take ¼ (25%) of samples that were field screened to lab for analysis, but the City decided that since there were so few catch basins that had enough water to sample, it would be prudent to take them all to the lab for analysis.

Samples were collected by inserting a pre-cleaned HDPE bottle into the middle of the flowing or ponded water. Samples were tested on-site using CHEMetrics field test kits for the colorimetric analysis of ammonia, nitrate-N, orthophosphate-P, and detergents. In addition to the colorimetric analyses, the samples were also analyzed for pH, conductivity, and temperature using an Oakton Model 35630-62 pH/Conductivity/ Temperature Meter. Turbidity was measured using a Hach 2100P Turbidimeter..

Table 2 presents the specific ranges and detection limits of the field test kits and meters.

Table 2: Range and Detection Limits for Field Test Kits and Meters

Parameter	Kit or Meter	Range	Detection Limits (mg/L)	Accuracy/ Increment
pH	Oakton Model 35630-62 pH/ Conductivity/ Temperature Meter	0.00 to 14.00 pH	NA	± 0.01 pH
Temperature (^{o}C)	Oakton Model 35630-62 pH/ Conductivity/ Temperature Meter	0 to 100 ^{o}C	NA	± 0.5 ^{o}C
Conductivity (mS/cm @ 25 ^{o}C)	Oakton Model 35630-62 pH/ Conductivity/ Temperature Meter	0.0 to 19.99 mS/cm	NA	± 1% Full Scale ± 1 Digit
Turbidity	Hach Model 2100P Turbidimeter	0-1000 NTU	NA	± 2% of reading plus stray light from 0-1000 NTU
Ammonia (mg/L)	CHEMetrics K-1510	0-1.0 and 1.0-10.0 mg/L	0.1	NA
Nitrates (mg/L)	CHEMetrics K-6902	0 – 1.0 and 1.0-5.0 mg/L	0.05	NA
Detergents (mg/L)	CHEMetrics	0-3.0 mg/L	0.25	NA
Phosphate (mg/L)	CHEMetrics K-8510	0 –1.0 and 1.0-10.0 mg/L	0.1	NA

4.0 RESULTS

Table 3 presents a detailed summary of all chemical, biological and visual observations made during the 2008 Dry Weather Screening Program. The following provides a brief discussion about the purpose and results of visual observations and chemical and biological tests.

Table 3

Table 3

Table 3

Table 3

4.1 Visual Observations

Visual observations included water color, clarity, and flow rate, floating materials, biological observations, structural condition of the conveyance, and vegetative condition at the site. If any particular odors were associated with the site, those observations were also recorded.

- **Flow:** Flowing water was only observed at Site 25. Ponded water was only found at Site 3. Sites 2, 6, 8, 15, 17, 19 and 24 were damp with insufficient water available to collect a sample. Sites 1, 4, 5, 7, 9-14, 16, 18, 20-23 and 26-28 were all dry.

- **Odor:** Odor can be caused by chemicals from residential, commercial, and industrial discharges; and from natural sources including decaying organic matter and microbial activity.

  Only Site 25 had a distinctive rotten eggs odor associated with it. This may have been due to decaying organic matter within the pipe.

- **Water Color:** The apparent color of water results from dissolved substances and suspended matter. Soil runoff and decaying organic matter produce a variety of yellow, red, brown, and gray colors. Some algae and dinoflagellates produce reddish or deep yellow colors in water, while high levels of phytoplankton and other algae appear green.

  Two sites had a distinctive color to the samples. Site 3 and Site 25 had a distinct yellow color.

- **Water Clarity:** Turbidity refers to the cloudiness of water. Water that is turbid generally has low clarity, and may appear cloudy or opaque, while less turbid water will appear clear. Suspended solids and microscopic plankton that scatter light passing through the water cause turbidity. High turbidity can be an indicator of soil runoff or blooms of microscopic organisms due to high nutrient inputs.

  Two sites had slightly cloudy water samples, Site 3 and 25. Quantitative measurements for turbidity at each site are included in Table 3.

- **Floatable materials:** The type of floating matter can help identify the source of contamination, since these substances are often direct products of the source of the pollution.

  All of sites were free of floatable materials during the 2008 inspections.

- **Biological:** There was no biological activity detected at any of the sites.

- **Vegetative condition:** Excessive vegetation can be an indicator of elevated levels of nutrients in the runoff.

  There were no sites with abnormal vegetative growth. Site 3 had vegetation surrounding the outlet, but it was normal vegetation from the San Elijo Lagoon.

- **Deposits:**

  None of the sites had any deposits associated with them.

4.2 Field Chemical Analyses

All sites with flowing or ponded water were tested for the following parameters: temperature, pH, conductivity, turbidity, ammonia, detergents, nitrates, and orthophosphates. Only two sites that were monitored had flowing or ponded water associated with them. Both these sites had field and lab tests conducted on the water present. The results for both sites will be included under each parameter below, and any exceedences will be discussed in Section 5 of this report. Table 3 included in this report provides a detailed list of analytical results. Section 5 of this report provides a discussion of sites that appear impacted by illicit discharges.

- **Temperature:** Extreme temperatures can be an indication of commercial or industrial runoff.

  Site 3: 21.7°C
  Site 25: 18.9°C

- **pH:** Measures of pH represent the intensity of the acidity or alkalinity of water, on a scale from 0 to 14.0, with 7.0 considered neutral. The pH of natural waters ranges from 6.0 to 9.0 (EPA 1993). Measurements outside of this range could be an indicator of commercial or industrial discharges.

  Site 3: 8.37
  Site 25: 8.22

  Both sites had pH levels within the recommended guidelines.

- **Conductivity:** Conductivity is the measure of the ability of water to carry an electrical current and high levels are an indicator of high total dissolved solids (TDS). The conductivity of saltwater is generally above 43 uS/cm. The Copermittees have not developed an action level for conductivity, but Best Professional Judgment (BPJ) is used. Generally, values greater than 5,000 umhos/cm may indicate an IC/ID.

  Site 3: 2.59 uS/cm

Site 25: 2.57 uS/cm

Both levels were under the >5,000 uS/cm that is generally used for an IC/ID investigation so no follow up from these results was required.

- **Turbidity:** Turbidity refers to the clarity of water. The cloudier the water, the higher the turbidity. Sources of turbidity include suspended organics/detritus, re-suspended bottom sediments, sediments originating from erosion, and phytoplankton. High turbidity can be an indicator of soil runoff or blooms of microscopic organisms due to high nutrient inputs.

  Site 3: 3 NTU
  Site 25: 7 NTU

  Best Professional Judgment is used for IC/ID follow up for turbidity. No follow-up was necessary from these results.

- **Ammonia**: Ammonia is a common ingredient in commercial and household cleaning products. In addition, organic material contains nitrogen, which can convert into ammonia by means of biochemical degradation. Elevated levels of ammonia can be an indication of decaying organic matter or discharges containing cleaning agents. Ammonia levels range from 6 to 380 mg/L in raw sanitary wastewater, and from 0.1 to 3.0 mg/L in all other waters (EPA 1993). The Copermittee action level for ammonia is 1.0 mg/L.

  Site 3: 3.5 mg/L
  Site 25: 3.5 mg/L

  Both sites had slightly elevated levels on ammonia, so follow-up was conducted. This will be explained in Section 5 of this report.

- **Detergents:** Detergents are found in household and commercial cleaning and laundering products. Elevated detergent levels are a good indicator of commercial and/or residential wash water entering the storm water conveyance. Detergent (surfactant) concentrations are usually below 0.1 mg/L in natural waters and range from 1.0 to 20.0 mg/L in raw sanitary wastewaters (EPA 1993). The Copermittee action level for MBAS (detergents) is 1.0 mg/L.

  Site 3: 1 mg/L
  Site 25: 3 mg/L

  Site 25 exceeded the Copermittees action level, and follow-up activities were conducted as a result. This will be explained in Section 5 of this report. The most likely source of detergents at this site is residential car washing.

- **Nitrate-N:** Nitrates are commonly found in fertilizers, human or other animal wastes, in certain manufacturing processes, and in decomposing organic materials. Elevated levels of nitrate may be present in irrigation runoff, or may be indicative of an illicit connection to the storm drain system, by either commercial or residential sources. The Copermittee action level for Nitrate is 1.35 mg/L.
  Site 3: 0.5 mg/L
  Site 25: 0 mg/L

  Both sites were below the action level for nitrates.

- **Orthophosphate-P**: Orthophosphate-P occurs naturally from rocks, and with the decay and mineralization of dead plants and animals, but may also indicate the presence of human sewage, and commercial, agricultural or residential waste water. The Copermittee action level for Orthophosphate is 0.07 mg/L.

  Site 3: 2.5 mg/L
  Site 25: 0 mg/L

  Site 3 exceeded the action level for Orthophosphate. A follow-up was conducted and will be detailed in Section 5 below.

4.3 Laboratory Chemical Analyses

In accordance with Order No. 2007-0001 Section D.4, a minimum of 25% of all sites with flowing or ponded water were tested for the following parameters: total hardness, surfactants (MBAS), oil and grease, diazinon, chlorpyrifos and malathion, dissolved cadmium, copper, lead, and zinc, and *Enterococcus*, total coliform, and fecal coliform bacteria. Sites 3 and 25 were selected for laboratory analysis because they had ponded and flowing water, respectively. The following provides a brief discussion of each parameter and the results at each site. Table 3 provides a detailed list of analytical results. Section 5 provides a discussion of sites that appear impacted by illicit discharges.

- **Total Hardness:** Total hardness refers to the calcium and magnesium concentrations in water. The hardness of water can vary considerably between locations. Natural sources of hardness are dissolved limestones. Guidelines for maximum dissolved metals concentrations in natural water are linked to the hardness or alkalinity of the water (i.e., the softer the water, the lower the permitted level of dissolved metals).

  Site 3: 616 $CaCO_3$
  Site 25: 478 $CaCO_3$

- **Surfactants (MBAS):** Surfactants are discharged from household and commercial cleaning and laundering operations. Anionic surfactants are commonly used in detergents and account for approximately two-thirds of the total surfactants used. Anionic surfactants are commonly measured as Methylene Blue Active Substances (MBAS). Surfactant concentrations are usually below 0.1 mg/L in natural waters and range from 1.0 to 20.0 mg/L in raw sanitary wastewaters (EPA 1993).

  Site 3: Non Detect (ND) mg/L
  Site 25: 6.3 mg/L

  Site 25 exceeded Copermittee action levels and will be discussed in Section 5 of this report.

- **Oil and Grease:** The oil and grease analysis is applicable for the determination of hydrocarbons, vegetable oils, animal fats, waxes, soaps, grease, and related matter. Discharges may cause surface films and shoreline deposits leading to environmental degradation.

  Site 3: ND mg/L
  Site 25: ND mg/L

  Both sites registered Non-Detect for Oil and Grease and therefore no follow-up required.

- **Diazinon:** Diazinon is an organophosphate insecticide. It kills insects, as well as other organisms through its effect on the nervous system. It is moderately persistent and has moderate to high mobility in soil. Diazinon, in high enough concentrations, is highly toxic to birds, mammals, honeybees, and other beneficial insects. It is also very highly toxic to freshwater fish and invertebrates following acute exposure.

  Site 3: ND ug/L
  Site 25: ND ug/L

  Diazinon was not detected at either site and therefore no follow-up required.

- **Chlorpyrifos:** Chlorpyrifos is also an organophosphate insecticide and is the most widely used insecticide in the United States. It is used in agriculture on a variety of crops and for residential use as a termiticide, mosquitocide, lawn treatment, as well as other uses. It adsorbs readily to soil particles and therefore is not highly mobile in soil. Chlorpyrifos presents a high risk to birds, fish and mammals and an even a higher risk to aquatic invertebrates. The Copermittee action level for chlorpyrifos is 0.05 µg/L.

Site 3: ND ug/L
Site 25: ND ug/L

Diazinon was not detected at either site and therefore no follow-up required.

- **Malathion:** Malathion is an organophosphate parasympathomimetic which binds irreversibly to cholinesterase. Malathion is an insecticide of relatively low human toxicity. Malathion is a pesticide that is widely used in agriculture, residential landscaping, public recreation areas, and in public health pest control programs such as mosquito eradication. In the US, it is the most commonly used organophosphate insecticide

  Site 3: ND ug/L
  Site 25: ND ug/L

  Malathion was not detected at either site and therefore no follow-up required.

- **Dissolved Cadmium:** Cadmium occurs in sulfide minerals that also contain zinc, lead, or copper. It is used in electroplating, batteries, paint pigments, and alloys with various other metals. It is usually associated with zinc at a ratio of about one part cadmium to 500 parts zinc in most rocks and soils. It is nonessential for plants and animals and is extremely toxic and accumulates in the kidneys and liver. The average abundance of cadmium in streams is 1 µg/L and in groundwater is from 1 to 10 µg/L. The U.S. EPA primary drinking water standard MCL is 10 µg/L (Standard Methods 1998).

  Site 3: ND mg/L
  Site 25: ND mg/L

  Dissolved cadmium was not detected at either site and therefore no follow-up required.

- **Dissolved Copper:** Copper occurs in its native state, but is also found in many minerals. It is widely used in electrical wiring, plumbing, roofing, various alloys, pigments, cooking utensils, brake pads, and the chemical industry. Copper is considered an essential trace element for plants and animals. The average abundance of copper in streams is 4 to 12 µg/L and in groundwater is less than 0.1 mg/L. The U.S. EPA drinking water 90th percentile action level is 1.3 mg/L (Standard Methods 1998).

  Site 3: 0.0105 mg/L
  Site 25: 0.0238 mg/L

  Dissolved copper was below the Copermittee action level and no follow-up required.

- **Dissolved Lead:** Lead is normally found in the mineral galena. It is commonly used in batteries, ammunition, solder, piping, pigments, insecticides, and some alloys. It is nonessential for plants and animals and is toxic by ingestion and is a cumulative poison. The average abundance of lead in streams is 3 µg/L and in groundwater is generally less than 0.1 mg/L. The U.S. EPA drinking water 90th percentile action level is 15 µg/L.

  Site 3: ND mg/L
  Site 25: ND mg/L

  Dissolved lead was not detected at either site therefore no follow-up required.

- **Dissolved Zinc:** Zinc occurs in its native state and is used in many alloys such as brass and bronze. It is also used in batteries, fungicides and pigments. It is an essential growth element for plants and animals, but at elevated levels it is toxic to some species of aquatic life. The average abundance of zinc in streams is 20 µg/L and in groundwater is less than 0.1 mg/L. The U.S. EPA secondary drinking water standard MCL is 5 mg/L.

  Site 3: 0.018 mg/L
  Site 25: 0.113 mg/L

  Dissolved zinc was below Copermittee action levels therefore no follow-up required.

- **Bacteria:** Bacteria are commonly found in human and animal feces. They are generally not harmful themselves, but they do indicate the possible presence of pathogenic bacteria, viruses, and protozoans that also live in human and animal digestive systems. Total coliform, fecal coliform and *Enterococcus* bacteria are common test organisms for water quality sampling.

  - **Total Coliforms:** Total coliforms are a group of bacteria that can occur in human feces, but can also be present in animal manure, soil and other places outside of the human body. The Copermittee action level for Total Coliform is 50,000 MPN/100mL.

    Site 3: 110,000 MPN/100mL
    Site 25: >16,000,000 MPN/100mL

    Both sites had results that exceeded the Copermittee action level (50,000 MPN/100mL). Site 25 is already the subject of an ongoing IC/ID investigation. Staff conducted upstream investigations on Site 25 and Site 3, and will be discussed in Section 5 below.

- **Fecal Coliforms:** Fecal coliforms are a subset of total coliforms and are more fecal-specific in origin.

  Fecal coliform levels were the following:
  Site 3: 3,000 MPN/100mL
  Site 25: 800,000 MPN/100mL

  Site 25 had bacteria readings that exceeded the Copermittee action level for Fecal Coliforms (20,000 MPN/100mL). Upstream investigations were conducted and the results are explained in Section 5 below.

- **Enterococci:** Enterococci are a subgroup within the fecal *Streptococcus* group and are better suited for survivability in salt water. They are generally found in the digestive systems of humans and other warm-blooded mammals.

  Site 3: 13,000 MPN/100mL
  Site 25: 80,000 MPN/100mL

  Both sites exceeded the Copermittee action levels for enterococci (10,000 MPN/100mL). Upstream investigations were conducted and the results are explained in Section 5 below.

4.4 Trash Assessment Monitoring

A new component added to the Dry Weather Monitoring Program in Order No. 2007-0001 is a Trash Assessment Monitoring requirement. According to the Order, Copermittees must "Assess the presence of trash in receiving waters and urban runoff at each dry weather field screening or analytical monitoring station. Assessments of trash shall provide information on the spatial extent and amount of trash present, as well as the nature of the types of trash present."

The Copermittees developed a standardized "Trash Assessment Form" (Form), through the Dry Weather Monitoring Workgroup, which encompasses all the requirements listed in Order No. 2007-0001. This Form was completed for all twenty-eight sites included in this Dry Weather Monitoring Program. Twenty-seven sites received an "Optimal" level rating, which is the highest ranking level. The Optimal level states, "On first glance, little or no trash visible. Little or no trash (<10) evident when evaluated area is closely examined for litter and debris." Only one site (Site 12) received a Suboptimal ranking, which is the next level down. Approximately 13 pieces of trash was detected at Site 12, which is an outfall that drains a large portion of the City.

All Trash Assessment Forms are included with their respective Field Datasheets at the end of this Report.

5.0 DISCUSSION

During the 2008 Dry Weather Monitoring Program, two sites (Site 3 and 25) displayed elevated levels of some analytes, compared to the Action Levels developed by the Copermittees. Twenty-six of the twenty-eight sites inspected this year were either dry or damp. Site 25 is the subject of an ongoing IC/ID bacteria investigation. The following analytes exceeded Copermittee action levels at their respective sites:

- Site 3: Ammonia, Orthophosphates, Total Coliform and Enterococcus
- Site 25: Ammonia, Detergents (MBAS), Total Coliform, Fecal Coliform and Entercoccus

- **Site 3:** Samples were taken from the outfall located at Santa Inez, which drains into the San Elijo Lagoon. Field tests for Ammonia and Orthophosphates and lab results for Total Coliform and Enterococcus revealed exceedences in Copermittee action levels. A follow-up investigation was immediately conducted on 9/30/08 after the field tests revealed exceedences in Ammonia and Orthophosphates. Upstream catch basins were all dry but there looked to be evidence of neighborhood over-irrigation or washing activities (car or hardscape).

  As mentioned above, this outfall drains into the San Elijo Lagoon, and heavy natural vegetation prevents the water from draining effectively into the lagoon. Often times, there is a pool of stagnant water in front of the outfall that may be a breeding ground for bacteria and a holding pond for other pollutants such as Orthophosphates. If there was recent over-irrigation or car washing that occurred just prior to sampling, then it could be just enough to register exceedences in these analytes.

  Another follow-up investigation was conducted on 10/14/08 when the lab results came back showing the exceedences in Total Coliform and Enterococcus. This investigation revealed not only dry catch basins, but a dry discharge point in the lagoon at the outfall. No samples could be taken because the entire area was dry, including the area that previously held the ponded water. This was a common theme during this Dry Weather Monitoring Program as many areas that contained water in previous years were now currently dry. This may have to do with the prolonged drought the region is in and the heavy educational outreach and education to residents regarding water conservation.

- **Site 25:** Samples were taken from the outfall located at the Seascape Sur beach access. This outfall has historically high levels of bacteria, and the City is actively pursuing the source of the bacteria through an ongoing IC/ID investigation. In addition to the bacteria exceedences, field screening tests revealed exceedences in Ammonia and Detergents (MBAS).

A follow-up investigation for the field screening exceedences occurred immediately on 9/30/08. All upstream public catch basins were dry, and no flow was entering the pipe from the street level. This led City staff to believe that the flow coming out of the outfall was coming from the neighboring private condominiums, which have underground connections into the outfall pipe. City staff investigated the adjacent condominiums and found over-irrigation occurring at common area landscaping. The over-irrigation is most likely contributing as the transport mechanism for the pollutants in the pipe.

Another follow-up investigation was conducted on 10/14/08 when the lab results came back showing exceedences in all three bacteriological indicators (Total Coliform, Fecal Coliform and Enterococcus). The follow-up investigation revealed no flow at the outfall and dry catch basins upstream. There were no signs of over-irrigation in the general vicinity and no samples were taken.

As mentioned in previous Dry Weather Monitoring Reports, the City has discovered a structural deficiency (sag) in the underground pipe leading to the outfall. It is believed that this sag could be acting as a large breeding ground for sediment and decaying organic debris, and could be harboring pollutants and contributing to the re-growth of bacteria. The City is currently exploring different options to resolve this ongoing issue, and has committed to budgeting in an annual CIP project to thoroughly clean the pipe to remove the debris in the sag. In addition, the City has installed curb debris screen Best Management Practices (BMPs) at upstream catch basins. For more information on all the activities the City has conducted and future plans for the problem area, please see the City's Jurisdictional Urban Runoff Management Program Annual Report.

6.0 CONCLUSIONS

The 2008 Dry Weather Monitoring Program found only one storm water conveyance line with an indication of illegal discharges to the City of Solana Beach's storm water system. The majority of the other sites visited were dry or damp, with one additional site showing evidence of over-irrigation and/or car washing discharges. However, this site did not have analyte concentrations high enough to cause great concern. All necessary follow up activities did not reveal a dominant source, as the catch basins and outfalls were dry.

The City will continue with its efforts to educate the Beachwalk business district and adjacent private condominium complexes about the City's pollution prevention programs and continue its efforts to eliminate the discharge at Site 25 (Seascape Sur). Commercial educational programs will continue and include both the proprietors and their employees. Residential programs will include building owners, Homeowner Associations (HOA's) and residents. An informed public will provide support for new and already existing prevention programs.

Additionally, the City will continue to explore options for capital improvements in the Seascape area as the source of the recurring bacterial problems has proven elusive. The City will continue to look into possibly correcting the structural problems within the pipe, which may be leading to bacterial re-growth. The outfall has not affected the quality of the receiving waters, yet, but a proactive approach by the City to abate the bacterial problem is recommended.

In addition, the City plans to implement a large-scale residential over-irrigation reduction study in the area of the Santa Inez outfall. That area has a high occurrence of over-irrigation which may be the cause of the exceedences at the outfall. The City, along with other local municipalities and water districts, has secured a grant from the Metropolitan Water District to conduct this study to analyze over-irrigation and its impacts on water conservation and water quality. These types of regional partnerships will also greatly assist the educational outreach and education to local residents.

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☒ **Field Screening** ☐ **Confirmation For** _____ ☐ **IC/ID Follow-Up For** _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☐ **MS4** ☐ **Receiving Water**

Site ID	Rios Rd Trailhead	**Latitude**	(e.g., 33.41174)	**Watershed**	**Hydrologic Unit**	(e.g., 7.00)
Location	Carlsbad	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10)
Date	9/25/08	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11)
Time	8:00AM	**Observer**	Danny King		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☒ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☐ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☒ Other No Flow/Dry
Color	☐ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☐ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☐ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☐ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☐ None	☐ Insects ☐ Algae	☐ Fish ☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☐ Yes ☒ No **Photo #** _____

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? ☐ **Yes** ☒ **No**

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: Catch Basin Dry - No Flow

Trash Assessment Form

SITE ID: Rios Rd Trailhead **DATE:** 9/25/08

LOCATION: Carlsbad **TIME:** 8:00 AM

OBSERVER: Danny King

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): N/A

ESTIMATED AREA OF ASSESSMENT L x W (FT): 10 x 10

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ **Threat Human Health**	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ **Threat to Aquatic Health**	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments:

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☐ MS4 ☐ Receiving Water

Site ID	Clermont / Rael Pl	**Latitude**	(e.g., 33.41174)	**Watershed**	**Hydrologic Unit**	(e.g., 7.00)
Location	Carlsbad	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10)
Date	9/25/08	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11)
Time	8:15AM	**Observer**	Danny King		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☒ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☐ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage		☒ Other	Damp/No Flow
Color	☐ None	☐ Yellow	☐ Brown	☐ White	☐ Gray		☐ Other	
Clarity	☐ Clear		☐ Slightly Cloudy	☐ Opaque			☐ Other	
Floatables	☐ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter		☐ Other	
Deposits	☐ None	☐ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits		☐ Other	
Vegetation	☐ None	☐ Limited	☐ Normal	☐ Excessive			☐ Other	
Biology	☐ None	☐ Insects	☐ Algae	☐ Fish	☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail	☐ Other

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☒ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☐ Yes ☒ No **Photo #** _____

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: Catch Basin Damp, No Flow. No Field Tests Conducted

Trash Assessment Form

SITE ID: GLENMONT / RAUL PL DATE: 9/25/08

LOCATION: CARLSBAD TIME: 8:15 AM

OBSERVER: DANNY KING

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): N/A

ESTIMATED AREA OF ASSESSMENT L X W (FT): 10 x 10

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ **Threat Human Health**	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ **Threat to Aquatic Health**	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments: _____

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☐ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☐ MS4 ☐ Receiving Water

Site ID	SANTA INEZ	**Latitude**	(e.g., 33.41174)	Watershed	**Hydrologic Unit**	(e.g., 7.00)	
Location	SAN ELIJO LAGOON	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10)	
Date	9/30/08	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11)	
Time	10:00 am	**Observer**			**Discharge Area** (Optional)		

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☒ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☐ None	☒ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☐ Clear		☒ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☒ None	☐ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☒ Normal	☐ Excessive		☐ Other
Biology	☒ None	☐ Insects ☐ Algae	☐ Fish ☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☐ Flowing ☒ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☒ No ☐ N/A

Evidence of Overland Flow? ☒ Yes ☐ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☐ Yes ☒ No **Photo #** _____

Field Screening Samples Collected? ☐ Yes ☐ No

Water Temp (°C)	21.7°C	NH_3-N (mg/L)	3.5	NO_3-N (mg/L)	.5	Ortho-PO_4 (mg/L)	2.5
pH (pH units)	8.37	TURB (NTU)	3	COND (mS/cm)	2.59	MBAS (mg/L)	1.0

Analytical Lab Samples Collected? ☐ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: Standing, Still water
Excessive Overland Flow

Trash Assessment Form

SITE ID: SANTA INEZ OUTFALL **DATE:** 9/30/08

LOCATION: CARLSBAD **TIME:** 10:00 AM

OBSERVER: DANNY KING

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): N/A

ESTIMATED AREA OF ASSESSMENT L X W (FT): 40 x 40

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ **MS4** ☒ **RECEIVING WATER** ☐ **BOTH**	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ **Threat Human Health**	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ **Threat to Aquatic Health**	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments:

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☐ MS4 ☐ Receiving Water

Site ID	626 Canyon Dr	**Latitude**	(e.g., 33.41174)	**Watershed**	**Hydrologic Unit**	(e.g., 7.00)
Location	Carlsbad	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10)
Date	9/25/08	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11)
Time	8:25 AM	**Observer**	Danny King		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☒ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☐ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☒ Other	Dry/No Flow
Color	☐ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other	
Clarity	☐ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other	
Floatables	☐ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other	
Deposits	☐ None	☐ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other	
Vegetation	☐ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other	
Biology	☐ None	☐ Insects	☐ Algae	☐ Fish	☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail	☐ Other

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☐ Yes ☒ No **Photo #** _____

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: Catch Basin Dry - No Flow

Trash Assessment Form

SITE ID: 626 Canyon Dr **DATE:** 9/25/08

LOCATION: Carlsbad **TIME:** 8:25 AM

OBSERVER: Danny Kuss

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): N/A

ESTIMATED AREA OF ASSESSMENT L X W (FT): 10 x 10

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ **MS4** ☐ **RECEIVING WATER** ☐ **BOTH**	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ **Threat Human Health**	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ **Threat to Aquatic Health**	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments: _____

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☐ MS4 ☐ Receiving Water

Site ID	635 Canyon Dr	**Latitude**	(e.g., 33.41174)	**Watershed**	**Hydrologic Unit**	(e.g., 7.00)
Location	Carlsbad	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10)
Date	9/25/08	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11)
Time	8:27 AM	**Observer**	Danny King		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☒ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☐ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other	Dry/No Flow
Color	☐ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other	
Clarity	☐ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other	
Floatables	☐ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other	
Deposits	☐ None	☐ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other	
Vegetation	☐ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other	
Biology	☐ None	☐ Insects ☐ Algae	☐ Fish ☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail	☐ Other

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☐ Yes ☒ No **Photo #** _____

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: Catch Basin Dry - No Flow

Trash Assessment Form

SITE ID: 635 Canyon Dr DATE: 9/25/08

LOCATION: Carlsbad TIME: 8:27 AM

OBSERVER: Danny King

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): N/A

ESTIMATED AREA OF ASSESSMENT L X W (FT): 10 x 10

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ **Threat Human Health**	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ **Threat to Aquatic Health**	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments:_____

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☐ MS4 ☐ Receiving Water

				Watershed		
Site ID	Highland Ave (Ex Golf Course)	**Latitude**	(e.g., 33.41174)		**Hydrologic Unit**	(e.g., 7.00)
Location	Carlsbad	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10)
Date	9/25/08	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11)
Time	8:40 AM	**Observer**	Danny King		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☒ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☒ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☐ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☒ Other Damp/No Flow
Color	☐ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☐ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☐ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☐ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☐ None	☐ Insects ☐ Algae	☐ Fish ☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☒ Yes ☐ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☐ Yes ☒ No **Photo #** _____

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: Catch Basin Damp, Not Enough Water To Sample. Evidence Of Over-Irrigation In Neighborhood

Trash Assessment Form

SITE ID: HIGHLAND AVE (EXE GOLF COURSE) **DATE:** 9/25/08

LOCATION: CARLSBAD **TIME:** 8:40 AM

OBSERVER: DANNY KING

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): N/A

ESTIMATED AREA OF ASSESSMENT L X W (FT): 10 X 10

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ **MS4** ☐ **RECEIVING WATER** ☐ **BOTH**	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ **Threat Human Health**	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ **Threat to Aquatic Health**	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments:

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☐ MS4 ☐ Receiving Water

Site ID	SANTA HELENA TRAILHEAD	**Latitude**	(e.g., 33.41174)	**Watershed**	**Hydrologic Unit**	(e.g., 7.00)
Location	CARLSBAD	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10)
Date	9/25/08	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11)
Time	8:50 AM	**Observer**	DANNY KING		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☒ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☐ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☒ Other Dry/No Flow		
Color	☐ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other		
Clarity	☐ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other		
Floatables	☐ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other		
Deposits	☐ None	☐ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other		
Vegetation	☐ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other		
Biology	☐ None	☐ Insects	☐ Algae	☐ Fish	☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail	☐ Other

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☐ Yes ☒ No **Photo #** _____

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: CATCH BASIN DRY

Trash Assessment Form

SITE ID: SANTA HELENA TRAILHEAD **DATE:** 9/25/08

LOCATION: CARLSBAD **TIME:** 8:50AM

OBSERVER: DANNY KLOSA

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): N/A

ESTIMATED AREA OF ASSESSMENT L X W (FT): 30 x 30

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ **MS4** ☒ **RECEIVING WATER** ☐ **BOTH**	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ **Threat Human Health**	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ **Threat to Aquatic Health**	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments:

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☐ MS4 ☐ Receiving Water

Site ID	SANTA CARLINA TRAILHEAD	**Latitude**	(e.g., 33.41174)	**Watershed**	**Hydrologic Unit**	(e.g., 7.00)
Location	CARLSBAD	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10)
Date	9/25/08	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11)
Time	8:55AM	**Observer**	DANNY KING		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☒ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☐ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage		☒ Other DAMP/NO FLOW	
Color	☐ None	☐ Yellow	☐ Brown	☐ White	☐ Gray		☐ Other	
Clarity	☐ Clear		☐ Slightly Cloudy	☐ Opaque			☐ Other	
Floatables	☐ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter		☐ Other	
Deposits	☐ None	☐ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits		☐ Other	
Vegetation	☐ None	☐ Limited	☐ Normal	☐ Excessive			☐ Other	
Biology	☐ None	☐ Insects	☐ Algae	☐ Fish	☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail	☐ Other

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☒ Yes ☐ No ☐ Irrigation Runoff ☐ Other:

Photo Taken ☐ Yes ☒ No **Photo #** _____

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: CATCH BASIN DAMP, EVIDENCE OF NEARBY OVER-IRRIGATION - NOT ENOUGH WATER TO SAMPLE

Trash Assessment Form

SITE ID: SANTA CARINA TRAILHEAD **DATE:** 9/25/08

LOCATION: CARLSBAD **TIME:** 8:55 AM

OBSERVER: DANNY KING

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): N/A

ESTIMATED AREA OF ASSESSMENT L x W (FT): 30 x 30

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ **MS4** ☒ **RECEIVING WATER** ☐ **BOTH**	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ **Threat Human Health**	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ **Threat to Aquatic Health**	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments: _____

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☑ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☐ MS4 ☐ Receiving Water

Site ID	SANTA LUISA OUTFALL	**Latitude**	(e.g., 33.41174)	**Watershed**	**Hydrologic Unit**	(e.g., 7.00)
Location	CARLSBAD	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10)
Date	9/25/08	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11)
Time	9:02 AM	**Observer**	DANNY KING		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☑ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☑ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☑ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☑ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☑ > 72 hours ☐ < 72 hours

Rainfall ☑ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☐ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☑ Other	Dry/No Flow	
Color	☐ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other		
Clarity	☐ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other		
Floatables	☐ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other		
Deposits	☐ None	☐ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other		
Vegetation	☐ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other		
Biology	☐ None	☐ Insects ☐ Algae	☐ Fish ☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail	☐ Other	

Water Flow ☐ Flowing ☐ Ponded ☑ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☑ N/A

Evidence of Overland Flow? ☐ Yes ☑ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☐ Yes ☑ No **Photo #** _____

Field Screening Samples Collected? ☐ Yes ☑ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? ☐ Yes ☑ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: CATCH BASIN DRY - NO FLOW

Trash Assessment Form

SITE ID: SANTA LUISA OUTFALL **DATE:** 9/25/08

LOCATION: CARLSBAD **TIME:** 9:02 AM

OBSERVER: DANNY KING

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): N/A

ESTIMATED AREA OF ASSESSMENT L X W (FT): 30 x 30

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ **MS4** ☐ **RECEIVING WATER** ☐ **BOTH**	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ **Threat Human Health**	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ **Threat to Aquatic Health**	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent -- 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments:

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☐ MS4 ☐ Receiving Water

Site ID	East Side Railroad Tracks	**Latitude**	(e.g., 33.41174)	**Watershed**	**Hydrologic Unit**	(e.g., 7.00)
Location	Carlsbad	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10)
Date	9/25/08	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11)
Time	9:30AM	**Observer**	Danny King		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☒ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☐ Outlet ☒ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather	☒ Sunny	☐ Partly Cloudy	☐ Overcast	☐ Fog	
Tide	☒ N/A	☐ Low	☐ Incoming	☐ High	☐ Outgoing **Tide Height:** _____ ft.
Last Rain	☒ > 72 hours	☐ < 72 hours			
Rainfall	☒ None	☐ < 0.1"	☐ > 0.1"		

RUNOFF CHARACTERISTICS

Odor	☐ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☒ Other No Flow / Dry
Color	☐ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☐ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☐ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☐ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☐ None	☐ Insects ☐ Algae	☐ Fish ☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☐ Yes ☒ No **Photo #** _____

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: Concrete Channel Dry - No Flow

Trash Assessment Form

SITE ID: EAST SIDE RAILROAD TRACKS **DATE:** 9/25/08

LOCATION: CARLSBAD **TIME:** 9:30 AM

OBSERVER: DANNY KING

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): N/A

ESTIMATED AREA OF ASSESSMENT L X W (FT): 10 x 10

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ **MS4** ☐ **RECEIVING WATER** ☐ **BOTH**	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ **Threat Human Health**	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ **Threat to Aquatic Health**	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments:_____

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☐ MS4 ☐ Receiving Water

Site ID	645 PACIFIC	**Latitude**	(e.g., 33.41174)	**Watershed**	**Hydrologic Unit**	(e.g., 7.00)
Location	CARLSBAD	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10)
Date	9/25/08	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11)
Time	9:41 AM	**Observer**	DANNY KING		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☒ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** ____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☐ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other No Flow / Dry
Color	☐ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☐ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☐ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☐ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☐ None	☐ Insects ☐ Algae ☐ Fish ☐ Snails		☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other:

Photo Taken ☐ Yes ☒ No **Photo #** _____

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: CATCH BASIN DRY - NO FLOW

Trash Assessment Form

SITE ID: 645 Pacific Ave DATE: 9/25/08

LOCATION: Carlsbad TIME: 9:41 AM

OBSERVER: Danny King

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): N/A

ESTIMATED AREA OF ASSESSMENT L X W (FT): 10 x 10

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ **Threat Human Health**	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ **Threat to Aquatic Health**	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments:

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☐ **Field Screening** ☐ **Confirmation For** _____ ☐ **IC/ID Follow-Up For** _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☐ **MS4** ☐ **Receiving Water**

Site ID	STEWS CREEK OUTFALL	**Latitude**	(e.g., 33.41174)	**Watershed**	**Hydrologic Unit**	(e.g., 7.00)
Location	SAN DIEGUITO	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10)
Date	9/30/08	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11)
Time	10:45	**Observer**			**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☐ Residential ☒ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☒ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☐ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☒ Other NO FLOW		
Color	☐ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other		
Clarity	☐ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other		
Floatables	☐ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other		
Deposits	☐ None	☐ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other		
Vegetation	☐ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other		
Biology	☐ None	☐ Insects ☐ Algae	☐ Fish ☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail	☐ Other	

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☒ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☐ Yes ☒ No **Photo #** _____

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		ml
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: NO FLOW

Trash Assessment Form

SITE ID: STEVENS CREEK OUTFALL **DATE:** 9/30/08

LOCATION: SAN DIEGUITO **TIME:** 10:45 AM

OBSERVER: DANNY KING

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): N/A

ESTIMATED AREA OF ASSESSMENT L x W (FT): 30 x 30

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ **MS4** ☐ **RECEIVING WATER** ☐ **BOTH**	
☐ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☒ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ **Threat Human Health**	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ **Threat to Aquatic Health**	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments:_____

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☐ MS4 ☐ Receiving Water

				Watershed		
Site ID	VALLEY (N. BAKER, IRON WORKS)	**Latitude**	(e.g., 33.41174)		**Hydrologic Unit**	(e.g., 7.00)
Location	SAN DIEGUITO	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10)
Date	9/25/08	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11)
Time	10:05 AM	**Observer**	DANNY KING		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☒ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☒ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☐ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☒ Other No Flow/Dry
Color	☐ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☐ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☐ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☐ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☐ None	☐ Insects ☐ Algae	☐ Fish ☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☐ Yes ☒ No **Photo #** _____

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: CATCH BASIN DRY - NO FLOW

Trash Assessment Form

SITE ID: VALLEY (N. BAKER TECH WORKS) **DATE:** 9/25/08

LOCATION: SAN DIEGUITO **TIME:** 10:05 AM

OBSERVER: DANNY KING

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): N/A

ESTIMATED AREA OF ASSESSMENT L X W (FT): 10 x 10

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ **MS4** ☐ **RECEIVING WATER** ☐ **BOTH**	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ **Threat Human Health**	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ **Threat to Aquatic Health**	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments:

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☐ **Field Screening** ☐ **Confirmation For** _____ ☐ **IC/ID Follow-Up For** _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☐ **MS4** ☐ **Receiving Water**

Site ID	STEVENS/GENEVIEVE	**Latitude**	(e.g., 33.41174)	**Watershed**	**Hydrologic Unit**	(e.g., 7.00)	
Location	SAN DIEGUITO	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10)	
Date	9/30/08	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11)	
Time	10:40	**Observer**			**Discharge Area** (Optional)		

Land Use (Primary) (Check one only) ☒ Residential ☒ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☒ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☐ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☒ Other	NO FLOW
Color	☐ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☒ Other	
Clarity	☐ Clear		☐ Slightly Cloudy	☐ Opaque		☒ Other	
Floatables	☐ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☒ Other	
Deposits	☐ None	☐ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☒ Other	
Vegetation	☐ None	☐ Limited	☐ Normal	☐ Excessive		☒ Other	
Biology	☐ None	☐ Insects ☐ Algae	☐ Fish ☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail	☒ Other

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☒ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☐ Yes ☒ No **Photo #** _____

Field Screening Samples Collected? ☐ Yes ☐ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? ☐ **Yes** ☐ **No**

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: NO FLOW

Trash Assessment Form

SITE ID: Stevens / Genevieve **DATE:** 9/30/08

LOCATION: San Dieguito **TIME:** 10:40AM

OBSERVER: Danny King

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): N/A

ESTIMATED AREA OF ASSESSMENT L X W (FT): 30 x 30

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ **MS4** ☐ **RECEIVING WATER** ☐ **BOTH**	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ **Threat Human Health**	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ **Threat to Aquatic Health**	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments:

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☐ MS4 ☐ Receiving Water

Site ID	309 Sarna Hills Dr	**Latitude**	(e.g., 33.41174)	**Watershed**	**Hydrologic Unit**	(e.g., 7.00)
Location	San Diego	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10)
Date	9/25/08	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11)
Time	10:17 AM	**Observer**	Danny King		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☒ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☐ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☒ Other No Flow/Dam
Color	☐ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☐ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☐ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☐ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☐ None	☐ Insects ☐ Algae	☐ Fish ☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☒ Irrigation Runoff ☐ Other: _____

Photo Taken ☐ Yes ☒ No **Photo #** _____

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: Catch Basin Dam. No Samples Taken - Over-Irrigation

Trash Assessment Form

SITE ID: 309 Solana Hills Dr DATE: 9/25/08

LOCATION: San Diego CO TIME: 10:17 AM

OBSERVER: Daniel Klug

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): N/A

ESTIMATED AREA OF ASSESSMENT L x W (FT): 10 x 10

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ **Threat Human Health**	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ **Threat to Aquatic Health**	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments:_____

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☐ MS4 ☐ Receiving Water

Site ID	559 GLENCREST AVE	**Latitude**	(e.g., 33.41174)	**Watershed**	**Hydrologic Unit**	(e.g., 7.00)
Location	SAN DIEGUITO	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10)
Date	9/25/03	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11)
Time	10:24 AM	**Observer**	DANNY KING		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☒ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☐ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☒ Other No Flow/Dry		
Color	☐ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other		
Clarity	☐ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other		
Floatables	☐ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other		
Deposits	☐ None	☐ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other		
Vegetation	☐ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other		
Biology	☐ None	☐ Insects	☐ Algae	☐ Fish	☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail	☐ Other

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☐ Yes ☒ No **Photo #** _____

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: CATCH BASIN DRY

Trash Assessment Form

SITE ID: 559 GLENCREST AVE **DATE:** 9/25/08

LOCATION: SAN DIEGUITO **TIME:** 10:24 AM

OBSERVER: DANNY KING

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): N/A

ESTIMATED AREA OF ASSESSMENT L x W (FT): 10 x 10

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ **MS4** ☐ **RECEIVING WATER** ☐ **BOTH**	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ **Threat Human Health**	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ **Threat to Aquatic Health**	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments:_____

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☐ MS4 ☐ Receiving Water

Site ID	WELLS FARGO	**Latitude**	(e.g., 33.41174)	**Watershed**	**Hydrologic Unit**	(e.g., 7.00)
Location	SAN DIEGUITO	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10)
Date	9/25/08	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11)
Time	10:40 AM	**Observer**	DANNY KING		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☒ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☒ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☐ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage			☒ Other No Flow/Dump	
Color	☐ None	☐ Yellow	☐ Brown	☐ White	☐ Gray			☐ Other	
Clarity	☐ Clear		☐ Slightly Cloudy	☐ Opaque				☐ Other	
Floatables	☐ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter			☐ Other	
Deposits	☐ None	☐ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits			☐ Other	
Vegetation	☐ None	☐ Limited	☐ Normal	☐ Excessive				☐ Other	
Biology	☐ None	☐ Insects	☐ Algae	☐ Fish	☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail	☐ Other

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☐ No ☒ Irrigation Runoff ☐ Other:

Photo Taken ☐ Yes ☒ No **Photo #** _____

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: CATCH BASIN DAMP - NOT ENOUGH WATER TO SAMPLE

Trash Assessment Form

SITE ID: WELLS FARGO **DATE:** 9/25/08

LOCATION: SAN DIEGUITO **TIME:** 10:40 AM

OBSERVER: DANNY KING

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): N/A

ESTIMATED AREA OF ASSESSMENT L x W (FT): 10 x 10

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ **MS4** ☐ **RECEIVING WATER** ☐ **BOTH**	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ **Threat Human Health**	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ **Threat to Aquatic Health**	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments:_____

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☐ MS4 ☐ Receiving Water

Site ID	Avocado Place	**Latitude**	(e.g., 33.41174)	**Watershed**	**Hydrologic Unit**	(e.g., 7.00)
Location	San Dieguito	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10)
Date	9/25/08	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11)
Time	10:55 AM	**Observer**	Danny King		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☒ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☐ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☒ Other No Flow / Dry
Color	☐ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☐ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☐ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☐ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☐ None	☐ Insects ☐ Algae	☐ Fish ☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae ☐ Insect/ Snail	☐ Other

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other:

Photo Taken ☐ Yes ☒ No **Photo #** _____

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: Catch Basin Dry

Trash Assessment Form

SITE ID: Avocado Place DATE: 9/25/08

LOCATION: San Diego TIME: 10:55 AM

OBSERVER: Danny King

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): N/A

ESTIMATED AREA OF ASSESSMENT L x W (FT): 10 x 10

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☑ Optimal	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ Suboptimal	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ Marginal	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ Submarginal	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ Poor	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ Threat Human Health	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ Threat to Aquatic Health	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments:

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☐ MS4 ☐ Receiving Water

Site ID	DEL STREET	**Latitude**	(e.g., 33.41174)	Watershed	**Hydrologic Unit**	(e.g., 7.00)	
Location	SAN DIEGUITO	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10)	
Date	9/25/08	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11)	
Time	12:35 PM	**Observer**	DANNY KING		**Discharge Area** (Optional)		

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☒ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☒ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☐ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☒ Other No Flow/Dam
Color	☐ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☐ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☐ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☐ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☐ None	☐ Insects ☐ Algae ☐ Fish ☐ Snails		☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☐ No ☒ Irrigation Runoff ☐ Other: _____

Photo Taken ☐ Yes ☒ No **Photo #** _____

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: CATCH BASIN DAM - EVIDENCE OF OVER-IRRIGATION FROM NEIGHBORHOOD

Trash Assessment Form

SITE ID: Dell Street **DATE:** 9/25/08

LOCATION: San Diego **TIME:** 12:35 PM

OBSERVER: Danny King

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): N/A

ESTIMATED AREA OF ASSESSMENT L x W (FT): 10 x 10

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ **MS4** ☐ **RECEIVING WATER** ☐ **BOTH**	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ **Threat Human Health**	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ **Threat to Aquatic Health**	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments:_____

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☑ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☐ MS4 ☐ Receiving Water

Site ID	SOUTH CEDROS/VIA DE LA VALLE	**Latitude**	(e.g., 33.41174)	Watershed	**Hydrologic Unit**	(e.g., 7.00)
Location	SAN DIEGUITO	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10)
Date	9/25/08	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11)
Time	1:00 PM	**Observer**	DANNY KING		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☑ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☑ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☑ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☑ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☑ > 72 hours ☐ < 72 hours

Rainfall ☑ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☐ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other No Flow/Dry
Color	☐ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☐ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☐ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☐ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☐ None	☐ Insects ☐ Algae ☐ Fish ☐ Snails		☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☐ Flowing ☐ Ponded ☑ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☑ N/A

Evidence of Overland Flow? ☐ Yes ☑ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☐ Yes ☑ No **Photo #** _____

Field Screening Samples Collected? ☐ Yes ☑ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? ☐ Yes ☑ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: CATCH BASIN DRY

Trash Assessment Form

SITE ID: South Cedros/Via De La Valle DATE: 9/25/08

LOCATION: San Dieguito TIME: 1:00 PM

OBSERVER: Danny King

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): N/A

ESTIMATED AREA OF ASSESSMENT L X W (FT): 10 x 10

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ **Threat Human Health**	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ **Threat to Aquatic Health**	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent -- 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments:_____

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☑ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☐ MS4 ☐ Receiving Water

Site ID	605 MARSOLAN	**Latitude**	(e.g., 33.41174)	**Watershed**	**Hydrologic Unit**	(e.g., 7.00)
Location	SAN DIEGUITO	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10)
Date	9/25/08	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11)
Time	1:05 PM	**Observer**	DANNY KING		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☑ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☐ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☒ Other No Flows/Dry
Color	☐ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☐ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☐ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☐ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☐ None	☐ Insects ☐ Algae ☐ Fish ☐ Snails		☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☐ Yes ☒ No **Photo #** _____

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: CATCH BASIN DRY

Trash Assessment Form

SITE ID: 605 MARSOCAN **DATE:** 9/25/08

LOCATION: SAN DIEGUITO **TIME:** 1:05PM

OBSERVER: DANNY KING

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): N/A

ESTIMATED AREA OF ASSESSMENT L X W (FT): 10 x 10

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ **MS4** ☐ **RECEIVING WATER** ☐ **BOTH**	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ **Threat Human Health**	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ **Threat to Aquatic Health**	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments:_____

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☐ MS4 ☐ Receiving Water

Site ID	779 Barbara Ave	**Latitude**	(e.g., 33.41174)	**Watershed**	**Hydrologic Unit**	(e.g., 7.00)
Location	San Diego	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10)
Date	9/26/08	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11)
Time	1:27 PM	**Observer**	Danny King		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☒ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☐ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☒ Other No Flow/Dry		
Color	☐ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other		
Clarity	☐ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other		
Floatables	☐ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other		
Deposits	☐ None	☐ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other		
Vegetation	☐ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other		
Biology	☐ None	☐ Insects	☐ Algae	☐ Fish	☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail	☐ Other

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☐ Yes ☒ No **Photo #** _____

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: Catch Basin Dry

Trash Assessment Form

SITE ID: 779 BARBARA AVE **DATE:** 9/25/08

LOCATION: SAN DIEGUITO **TIME:** 1:27 PM

OBSERVER: DANNY KING

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): N/A

ESTIMATED AREA OF ASSESSMENT L X W (FT): 10 x 10

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ **MS4** ☐ **RECEIVING WATER** ☐ **BOTH**	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ **Threat Human Health**	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ **Threat to Aquatic Health**	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments:_____

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☐ MS4 ☐ Receiving Water

Site ID	North Cedros / Lomas Santa Fe	**Latitude**	(e.g., 33.41174)	Watershed	**Hydrologic Unit**	(e.g., 7.00)
Location	San Dieguito	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10)
Date	9/25/08	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11)
Time	1:35 PM	**Observer**	Danny King		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☒ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☒ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☐ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☒ Other No Flow / Dry			
Color	☐ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other			
Clarity	☐ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other			
Floatables	☐ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other			
Deposits	☐ None	☐ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other			
Vegetation	☐ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other			
Biology	☐ None	☐ Insects	☐ Algae	☐ Fish	☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail	☐ Other

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☐ Yes ☒ No **Photo #** _____

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: Catch Basin Dry

Trash Assessment Form

SITE ID: North Cedros/Thomas Santa Fe DATE: 9/25/08

LOCATION: San Dieguito TIME: 1:35 PM

OBSERVER: Danny King

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): N/A

ESTIMATED AREA OF ASSESSMENT L X W (FT): 10 x 10

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ **Threat Human Health**	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ **Threat to Aquatic Health**	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments:_____

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☐ MS4 ☐ Receiving Water

Site ID	347 Acacia St	**Latitude**	(e.g., 33.41174)	**Watershed**	**Hydrologic Unit**	(e.g., 7.00)
Location	San Diego	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10)
Date	9/25/08	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11)
Time	1:50 PM	**Observer**	Danny King		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☒ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☐ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☑ Other No Flow/Damp
Color	☐ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☐ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☐ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☐ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☐ None	☐ Insects ☐ Algae ☐ Fish ☐ Snails		☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☒ Yes ☐ No ☒ Irrigation Runoff ☐ Other: _____

Photo Taken ☐ Yes ☒ No **Photo #** _____

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: Catch Basin Damp - Over-Irrigation Detected, No Flow

Trash Assessment Form

SITE ID: 347 ACACIA **DATE:** 9/25/08

LOCATION: SAN DIEGUITO **TIME:** 1:50PM

OBSERVER: BARRY KLUG

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): N/A

ESTIMATED AREA OF ASSESSMENT L x W (FT): 10 x 10

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ **MS4** ☐ **RECEIVING WATER** ☐ **BOTH**	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ **Threat Human Health**	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ **Threat to Aquatic Health**	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments:

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☑ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☐ MS4 ☐ Receiving Water

Site ID	SEASCAPE OUTFALL	**Latitude**	(e.g., 33.41174)	**Watershed**	**Hydrologic Unit**	(e.g., 7.00)
Location	SEASCAPE / SAN DIEGUITO	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10)
Date	9/30/08	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11)
Time	8:30 am	**Observer**			**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☒ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☒ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☐ N/A ☐ Low ☐ Incoming ☒ High ☐ Outgoing **Tide Height:** ____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☐ None	☐ Musty	☒ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☐ None	☒ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☐ Clear		☒ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☒ None	☐ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☒ None	☐ Insects ☐ Algae	☐ Fish ☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☒ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other:

Photo Taken ☐ Yes ☒ No **Photo #** _____

Field Screening Samples Collected? ☐ Yes ☐ No

Water Temp (°C)	18.9°C	NH_3-N (mg/L)	3.5	NO_3-N (mg/L)	0	Ortho-PO_4 (mg/L)	0
pH (pH units)	8.22	TURB (NTU)	7	COND (mS/cm)	2.57	MBAS (mg/L)	3

Analytical Lab Samples Collected? ☐ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: SAND IN RECEIVING WATER SAMPLE

Trash Assessment Form

SITE ID: SEASCAPE OUTFALL DATE: 9/30/08

LOCATION: SAN DIEGUITO TIME: 8:30AM

OBSERVER: ANDY KING

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): N/A

ESTIMATED AREA OF ASSESSMENT L X W (FT): 30 x 30

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☒ RECEIVING WATER ☐ BOTH	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ **Threat Human Health**	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ **Threat to Aquatic Health**	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments:_____

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☐ MS4 ☐ Receiving Water

Site ID	248 SIERRA AVE	**Latitude**	(e.g., 33.41174)	**Watershed**	**Hydrologic Unit**	(e.g., 7.00)
Location	SAN DIEGUITO	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10)
Date	9/25/08	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11)
Time	1:55 PM	**Observer**	DANNY KING		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☒ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☐ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☒ Other No Flow / Dry
Color	☐ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☐ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☐ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☐ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☐ None	☐ Insects ☐ Algae	☐ Fish ☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae ☐ Insect/ Snail	☐ Other

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☐ Yes ☒ No **Photo #** _____

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: CATCH BASIN DRY

Trash Assessment Form

SITE ID: 248 Sierra Ave DATE: 9/25/08

LOCATION: San Diegulto TIME: 1:55 PM

OBSERVER: Danny King

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): N/A

ESTIMATED AREA OF ASSESSMENT L X W (FT): 10 x 10

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ **Threat Human Health**	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ **Threat to Aquatic Health**	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments:_____

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☐ MS4 ☐ Receiving Water

				Watershed		
Site ID	SAN ANDREAS (CITY LIMITS)	**Latitude**	(e.g., 33.41174)		**Hydrologic Unit**	(e.g., 7.00)
Location	SAN DIEGUITO	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10)
Date	9/25/08	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11)
Time	2:30PM	**Observer**	DANNY KING		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☒ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☐ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☒ Other No Flow/Dry
Color	☐ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☐ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☐ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☐ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☐ None	☐ Insects ☐ Algae ☐ Fish ☐ Snails		☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☐ Yes ☒ No **Photo #** _____

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: CATCH BASIN DRY - NO FLOW

Trash Assessment Form

SITE ID: San Andreas (City Limits) DATE: 9/25/08

LOCATION: San Diequito TIME: 2:30 PM

OBSERVER: Danny King

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): N/A

ESTIMATED AREA OF ASSESSMENT L X W (FT): 10 x 10

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☑ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ **Threat Human Health**	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ **Threat to Aquatic Health**	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments: _____

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☐ MS4 ☐ Receiving Water

Site ID	Spindrift Way / American Ln	**Latitude**	(e.g., 33.41174)	**Watershed**	**Hydrologic Unit**	(e.g., 7.00)
Location	San Diegulto	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10)
Date	9/25/03	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11)
Time	2:40 PM	**Observer**	Danny King		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☒ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☐ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☒ Other No Flow/Dry
Color	☐ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☐ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☐ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☐ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☐ None	☐ Insects ☐ Algae	☐ Fish ☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☐ Yes ☒ No **Photo #** _____

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: Catch Basin Dry - No Flow

Trash Assessment Form

SITE ID: Soindrift/American Ln DATE: 9/25/08

LOCATION: San Dieguito TIME: 2:40 PM

OBSERVER: Danny Kush

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): N/A

ESTIMATED AREA OF ASSESSMENT L x W (FT): 10 x 10

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ **Threat Human Health**	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ **Threat to Aquatic Health**	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments: _____

CITY OF SOLANA BEACH

JURISDICTIONAL URBAN RUNOFF MANAGEMENT PROGRAM (JURMP) ANNUAL REPORT

SEPTEMBER 2009

Reporting Period:
July 1, 2008 to June 30, 2009

Respectfully Submitted to:
San Diego Regional Water Quality Control Board
In compliance with:
Order No. 2007-0001, NPDES Permit No. CAS0108758

CITY OF SOLANA BEACH
ANNUAL REPORT
STORM WATER PROGRAM
SEPTEMBER 2009

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The City of Solana Beach wishes to expressly thank each Copermittee Storm Water Program Manager/Coordinator and their staff for their efforts during the Regional Stormwater Management Committee meetings and the workgroups and their development of model program components, the sharing of ideas and willingness to cultivate program consistency throughout San Diego County as an effective means of improving water quality in the Region. The level of collaboration among agencies and across jurisdictional boundaries is unique and a credit to the professionalism and efforts of the San Diego County Copermittees.

The activities described in this report are not merely *written words on a page*, but are the result of *tremendous efforts* of City staff to integrate many new activities into their daily routines and tasks. The City's Fiscal Year 2008/2009 (FY 08/09) Storm Water Program Coordinator wishes to thank the Storm Water Team for their assistance, dedication and collaboration to make the City's FY 08/09 storm water program successful *and meaningful.*

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A big thank-you also to the Public Works Crew for all their hard work!

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CITY OF SOLANA BEACH
ANNUAL REPORT/ STORM WATER PROGRAM
SEPTEMBER 2009

TABLE OF CONTENTS

ACKNOWLEDGEMENTS ii
LIST OF TABLES ix
Acronyms x
Executive Summary 2
Certification Statement 6
Chapter 1: Introduction 8
1.1 Report Organization 8
1.2 Common Activities 9
1.3 Report Content 9
1.4 Program Goals 10
CHAPTER 2: Development Planning Component 12
2.1 Assessment and Modification of General Plan 12
2.2 Project Approval and Environmental Review Process Modifications 13
2.2.1 Project Requirements 16
2.2.2 SUSMP 17
2.2.3 Low Impact Development (LID) 18
2.2.4 Treatment Control BMP Maintenance Tracking 18
2.2.5 Treatment Control BMP Maintenance Inspections 20
2.2.6 Priority Development BMP Verification Prior to Occupancy 21
2.2.7 Hydromodification Plan (HMP) 22
2.3 Education 22
2.4 New Activities and Improvement for FY 09/10 23
2.5 Summary 24
CHAPTER 3: Construction Component 26
3.1 Introduction 26
3.2 Modification of Grading Ordinance 26
3.3 Modification of Construction and Grading Approval Process 27
3.3.1 SUSMP BMPs Installation and Tracking 27
3.4 Construction Site Inventory 28
Table 3-1 Construction Site Inventory 30
Grading Projects 2008/2009 30
Table 3-2 Construction Site Inventory 32
Small Private Projects Requiring Plan Review/Modifications 2008/2009 32
Table 3-3 Public Projects Pre-Construction Meetings 2008/2009 34
3.5 Construction Follow-Up Activities: 34
Table 3-4 Construction Violations 2008/2009 35
3.6 Capital Improvement Projects Inventory 37
Table 3-5 Construction Site Inventory 38

Capital Improvement Projects 2008/2009\ 38
3.7 Threat to Water Quality Prioritization 39
3.8 BMPs and Pollution Prevention Methods 40
3.9 Enforcement and Inspections 41
3.10 New Activities and Improvements in FY 09/10 47
3.11 Summary 48

Chapter 4: Municipal Component (Existing Development) 51
4.1 Introduction 51
4.2 Inventory of Municipal Facilities 51
4.2.1 Inspection Frequency of Municipal Sites 52
4.2.2. Follow-up Activities 54
4.2.3 Implementation of Pesticides, Herbicides and Fertilizer BMPs 54
4.3 Pollutant Source Identification 54
4.4 Threat to Water Quality Prioritization 56
4.5 Pollution Prevention Methods 57
4.5.1 Proactive Approach to Pollution Prevention – JURMP Requirements 59
4.6 Pollution Prevention Strategy Effectiveness 69
4.7 New Activities and Improvements for FY 09/10 73
4.8 Summary 74

Chapter 5: Industrial And Commercial Component 77
5.1 Introduction 77
5.2 Industrial Facilities Section 78
5.2.1 Inventory of Industrial Facilities 78
5.2.2 Pollutant Source Identification 78
5.2.3 Threat to Water Quality Prioritization 80
5.2.4 Pollution Prevention Methods 80
5.2.5 Industrial Inspections 80
5.2.6 New Activities and Improvements for FY 09/10 81
5.2.7 Summary of Industrial Section 81
5.3 Commercial Facility Section 82
5.3.1 Inventory of Commercial Facilities 82
5.3.2 Pollutant Source Identification 86
5.3.3 2008 Dry Weather Monitoring Results 89
5.3.4 Threat to Water Quality Prioritization 89
5.3.5 Business Community Education Campaign 90
5.3.6 Pollution Prevention Methods 91
5.3.7 New Pollution Prevention Methods 92
5.3.8 Ensuring Implementation through Commercial Property Inspections 93
5.3.9 Enforcement 94
5.3.10 Mobile Businesses 95
5.3.11 New Activities and Improvements for FY 09/10 95
5.3.12 Summary of Commercial Section 97

CHAPTER 6: Residential Component 99
6.1 Introduction 99
6.2 Pollution Prevention Methods 99
6.3 BMP Implementation 100
6.3.1 Hazardous Waste and Used Oil Collection and Recycling 100
6.3.2 Annual Bulky Item Clean-up Day and Coastal Clean-Up Day 103
6.3.3 24-hour Hotline 104

6.3.4 Pet Waste Bag Dispensers 104
6.3.5 Education and Outreach 104
6.4 Threat to Water Quality Prioritization 108
6.5 Implementation of BMPs 109
6.6 Enforcement Actions 109
6.7 New Activities and Improvement for FY 09/10 110
6.9 Summary 110
CHAPTER 7: Illicit Discharge Detection and Elimination Component 114
CHAPTER 8: Education Component 116
8.1 Introduction 116
8.2 Pollution Prevention through Education – Jurisdictional Activities 117
8.2.1 Staff Training 118
8.2.2 Annual Beach Cleanup Days 119
8.2.3 Storm Drain Tile Marker Installation 119
8.2.4 Local Community Events 119
8.2.5 School Programs 120
8.2.6 Marine Safety Department Educational Presentations 121
8.2.7 Kids Korps Educational Presentations 123
8.2.8 Targeted Education for Underserved Community 123
8.2.9 Water Conservation 124
8.2.10 Educational Brochures 126
8.2.11 City Newsletter (Shorelines) 127
8.2.12 Web Site 128
8.2.13 Business Community 128
8.2.14 Special Events Permit 129
8.3 Pollution Prevention through Education – Regional Activities 129
8.3.1 Regional Monitoring 130
8.3.2 Model Programs 130
8.3.3 Linking to Regional Resources 130
8.4 Pollution Prevention through Education – Watershed Activities 131
8.5 New Activities and Improvements for FY 09/10 132
8.6 Summary 133
Chapter 9: Public Participation Component 136
9.1 Introduction 136
9.1.1 Chapter Content 137
9.2 Community Events 137
9.2.1 Fiesta Del Sol 137
9.2.2 Beach Clean Up Opportunities 138
9.2.3 Adopt-A-Beach Program 138
9.2.4 Beach Blanket Movie Night 138
9.2.5 San Elijo Lagoon Day 139
9.2.6 Paws in the Park 139
9.3 City Council Meetings 139
9.4 Copermittee Meetings 140
9.5 Collaborative Community Partnerships 140
9.5.1 Solana Beach Clean and Green Community Committee 143
9.6 Other Opportunities 144
9.6.1 City Storm water Hotline 144

9.6.2 Website 144
9.6.3 Local Media 145
9.7 New Activities and Improvements for FY 09/10 145
9.8 Summary 146
CHAPTER 10: Fiscal Analysis 148
10.1 Introduction 148
10.2 Revenue Sources 148
10.3 FY 2008/2009 Expenditures 149
10.4 FY 2009/2010 Proposed Budget 150
10.5 Summary 152
CHAPTER 11: Effectiveness Assessment Component 156
11.1 Introduction 156
11.2 "A Framework for Assessing the Effectiveness of Jurisdictional Urban Runoff Management Programs" 156
11.3 Level 1: Compliance with Activity-Based Permit Requirements 158
11.4 Levels 2&3: Changes in Knowledge/Awareness and Behavioral Changes 158
Municipal Component 158
Industrial Component 162
Commercial Component 163
Residential Component 166
Land-Use Planning for New Development Component 168
Construction Component 169
Illicit Discharge Detection and Elimination Component 172
Education Component 172
Public Participation Component 173
11.5 Level 4: Load Reductions 174
11.6 Levels 5&6: Changes in Discharge and Receiving Water Quality 176
11.6.1 Dry Weather Monitoring Data 176
11.6.2 Coastal Water Quality 176
CHAPTER 12: Special Investigations 180
12.1 Introduction 180
"The Mystery of the Bacteria at Seascape Sur…" 180
12.2 Background 180
12.4 The 2002 Investigation 182
12.4.1 More Testing 183
12.4.2 Traveling Further Upstream 184
12.4.3 Just When We Thought the Problem was Solved… 185
12.4.4 Brainstorming 186
12.4.5 Not again! 186
12.4.6 Action Taken By Property Owners During FY 03/04 Annual Reporting Period 187
12.4.7 What Happens Next…? 188
12.4.8 Where We Were in FY 04/05 189
12.4.9 Special Pilot Program FY 07/08 190
12.5 Timeline of Significant Actions 192
12.6 Where We Are Now 194
12.7 Future Activities 196

12.8 Summary 197
CHAPTER 13: Non-Emergency Fire Fighting 199
CHAPTER 14: JURMP Revisions 201
CHAPTER 15: Conclusion and Recommendations 204
15.1 Conclusion 204
15.1.1 2008/2009 Accomplishments 205
15.2 Recommendations 207
Appendix A: Street Sweeping Materials Form 209
Appendix B: Smoking Ban Ordinance 210
Appendix C: Special Event Vendor BMP Guidelines 214
Appendix D: Shorelines Newsletter Summer 2009 215
Appendix E: Fiesta Del Sol Flyer 2008 218
Appendix F: Shorelines Newsletter Fall 2008 219
Appendix G: Shorelines Newsletter Winter 2008/2009 221
Appendix H: Shorelines Newsletter Spring 2009 223
Appendix I: Construction BMP Brochure 225
Appendix J: Storm Water Plan Check Comment Form 227
Appendix K: Building Plan Check Routing Form 228
Appendix L: Public Project Pre-Con Meeting Agenda (Sample) 229
Appendix M: Civil Penalty Matrix 231
Appendix N: Rainy Season Reminder 236
Appendix O: General Construction "Good Neighbor" Brochure 238
Appendix P: Underground Utility District Special BMP Handout 240
Appendix Q: Solana Beach PTA Education 241
Appendix R: Beach Blanket Movie Night Flyer 242
Appendix S: Special Events Permit Conditions of Approval (Sample) 243
Appendix T: Summer Camp Programs/Classes 245
Appendix U: 2009 Dry Weather Monitoring Program Results i
Appendix Z: Effectiveness Assessment Table i

LIST OF TABLES

LIST OF TABLES

Table 3-1 Construction Site Inventory- Grading Projects 2008/2009.....30
Table 3-2 Construction Site Inventory Minor Projects.....32
Table 3-3 Public Projects Pre-Construction Meetings 2008/2009.....34
Table 3-4 Construction Violations 2007/2008.....35
Table 3-5 Capital Improvement Project Inventory.....38
Table 4-1 Existing Municipal Facilities, By Priority Level.....52
Table 5-1 Existing Industrial Facilities.....78
Table 5-2 Inventory Of High Priority Commercial Facilities.....82
Table 5-3 303(d) Water Bodies and COCs.....87
Table 5-4 High Priority TTWQ Commercial Facilities by Type of Business 90
Table 12-1 FY 07/08 Storm Water Budget.....149
Table 12-2 FY 08/09 Storm Water Management Proposed Budget.....150
Table 11-1 Municipal Inspections.....159
Table 12-1 DWMP Initial Results (Sampled August 6-7, 2002).....182
Table 12-2 Upstream Testing Results.....185

ACRONYMS

Acronym	Description
BMP	Best Management Practices: minimum standards that everyone and every business must adopt to reduce or eliminate urban runoff. BMPs are part of all storm water programs.
DWMP	Dry weather monitoring program: the procedures, requirements and program to collect samples during the dry season each year. Samples are typically collected over a one-two day period and then sent to the lab for analysis.
HHW	Household Hazardous Waste
IC/ID	Illegal Connection and Illicit Discharge: the term used to discuss connections to the MS4 that are not approved (illegal) or non-storm water (illicit) discharges.
JURMP	Jurisdictional Urban Runoff Management Program
MEP	Maximum Extent Practical: A term used by the RWQCB, and Copermittees to refer to the "best efforts," or "as much as possible."
MS4	Municipal Separate Storm Sewer System: references the City's storm water drainage system and the City's wastewater conveyance system.
NPDES	National Pollution Discharge Elimination System: the Federal program created by the 1972 Clean Water Act that governs State water quality / storm water programs.
Permit	Order 2007-0001 issued by the RWQCB, which requires cities to adopt and implement the JURMP, WURMP, and SUSMP.
PPM	Pollution Prevention Measure: a method, procedure, and/or process to control, reduce, prevent, or eliminate pollution.
RWQCB	Regional Water Quality Control Board. The Board is a California board, but for the *purposes of this report,* RWQCB represents the local water quality board (San Diego Regional Water Quality Control Board).
SUSMP	Standard Urban Storm water Mitigation Plan: a plan as to how the City will alter its review of construction plan (public and private) and estimate the extent of pollutant contributions from the site; the plan must specify BMPs that the City will require.
WURMP	Watershed Urban Runoff Management Program: programs that focus on urban water runoff from a larger point-of-view, which is the entire watershed (a watershed is aka a hydrological unit). Programs must specify how cities will work together on planning urban projects and solving water quality problems.
WWMP	Wet weather monitoring program: the procedures, requirements and program to collect samples during the wet season each year. Samples are collected on a monthly basis, depending on weather.

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

During reporting period Fiscal Year 2008/2009 (FY 08/09), the City worked with the other Copermittees to continue developing model guideline programs and implementing all the established requirements of Permit No. R9-2007-0001 (Permit). This was the first complete year of implementation of the City's new Jurisdictional Urban Runoff Management Program (JURMP) that was developed and submitted in March, 2008 to comply with the new Permit, Order R9-2007-0001. This Annual Report (Report) is slightly different from the reports completed in the past, as updates to the JURMP have occurred and the reporting format has subsequently changed as a result. All efforts have been made to keep the Report as close to the previous reports for ease of comparability, however there are some significant changes as a result of the updated JURMP.

This is the second year of implementation of the requirements of the new Permit, but first full year implementing the new JURMP. The new activities will be discussed in their respective chapters of this Report, with some chapters modified or removed. The City began the process of developing the new programs in cooperation with the other Copermittees, and any new programs that were actually implemented in this reporting period will be discussed in this Annual Report.

The City is confident that it has implemented all programs required of them during the five year permit cycle of Order 2001-01. The City is also actively working on developing and implementing improved programs for the next five year permit cycle in compliance with Order R9-2007-0001. During the last five year permit cycle, the City was able to create a storm water team consisting of staff from various departments, implemented all of the components of the JURMP and trained all pertinent staff as to the expectations of the Permit.

Accomplishments to prevent and reduce pollution, eliminate contamination and improve water quality include the following:

- *The City successfully implemented comprehensive educational, inspection and enforcement procedures for municipal, commercial, residential, industrial and construction component activities as described in the City's JURMP.*
- *The City maintains a storm water team approach that integrates staff from various departments, bringing diverse expertise and strengths to the program.*

- *The City monitors a dedicated Storm Water Hotline and email address to receive complaints, questions, and general information 24 hours a day, seven days a week, 365 days a year.*
- *The City maintains an inventory of all municipal, commercial and industrial properties in the City, including prioritization of those that pose a threat to water quality.*
- *The City inspected the minimum amount of high priority businesses as stated in the new JURMP and notified all high-priority businesses of specific BMPs related to each type of business.*
- *The City collaborated with neighboring jurisdictions within their respective watersheds to develop educational brochures, surveys, and host community events and distributed hundreds of brochures to residents and the business community.*
- *The City continues to modify plan-check review processes to include a requirement for Erosion Control Plans, BMPs, structural change and runoff mitigation alterations in project proposals and/or construction activities.*
- *The City participated in the 2008/2009 San Diego County Wet Weather Monitoring Program.*
- *The City continues to enforce a smoking ban at all local beaches and parks, the first jurisdiction in the nation to do so. In addition, the City strengthened its tobacco ordinance to ban smoking in all public parks, restaurants and buildings.*
- *The City provided several opportunities for public participation including educational workshops/classes, community events, Copermittee meetings and Household Hazardous Waste home pick-up and permanent drop-off collection sites.*
- *The City continues to implement the new "Environmental" review to ALL building/grading permit applications to ensure every project that gets approved by the City is reviewed for storm water management.*
- *The City Council lowered the grading threshold from 200 cubic yards to 50 cubic yards for all projects within the City. This caused more projects to be assessed by the City engineers to implement pre, during, and post construction BMPs than previously.*
- *The City co-sponsored the fourth annual "Beach Blanket Movie Night" that provided residents a night of free movies and environmental education. The City had a booth co-sponsored by the Solana Center for Environmental Innovation that contained educational materials and games for attendees, and the films shown were dedicated to environmental protection of our ocean resources.*

- *The City authorized a part-time Code Enforcement Officer to continue weekend and off-hour patrols for storm water violations.*
- *The City added storm water specific language and reporting duties to new "standard" street sweeping contract to be used in all current and future contracts.*
- *The City modified its Municipal Code to comply with the new requirements of the Permit*
- *The City adopted the new model SUSMP*
- *The City participated in the development of the new Low Impact Development (LID) and Hydromodification Plan (HMP)*
- *The City developed and implemented the new post-construction BMP verification, tracking and inspection program*

CERTIFICATION STATEMENT

CERTIFICATION STATEMENT

I certify that the work performed, and the report prepared herein, was conducted under the supervision and guidance of the City of Solana Beach Public Works/ Engineering Department to meet the requirements of the *Waste Discharge Requirements for Discharges of Urban Runoff from the Municipal Separate Storm Sewer Systems (MS4s) Draining the Watersheds of the County of San Diego, the Incorporated Cities of San Diego County, the San Diego Unified Port District, and the San Diego County Regional Airport Authority* (NPDES No. CAS0108758). I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

Mohammed Sammak, P.E. **Date**
Director of Public Works/City Engineer
City of Solana Beach

CHAPTER 1
Introduction

CHAPTER 1: INTRODUCTION

The City of Solana Beach (hereinafter, referred to as "City") has prepared this report in compliance with Order No. R9-2007-0001, NPDES Permit No. CAS0108758, *Water Discharge Requirements for Discharges of Urban Runoff From Municipal Separate Storm Sewer Systems Draining Watersheds of the County of San Diego, the Incorporated Cities of San Diego County and The San Diego Unified Port District and the San Diego County Regional Airport Authority* (hereinafter referred to as "Permit"). The California Regional Water Quality Control Board, San Diego Region (hereinafter, referred to as "RWQCB") issued the new Permit to all "Copermittees" (all cities in San Diego County, the County of San Diego, the Airport Authority and the Port District) in January, 2007.

Under the Permit, each Copermittee is required to submit an Annual Report in September of each year describing its jurisdictional program for the previous fiscal year (July 1 to June 30). The purpose of the report is to document to the RWQCB the City's progress and program accomplishments during the reporting period.

On February 21, 2002 and subsequently updated in March, 2008, Copermittees are required to implement a comprehensive storm water program (Jurisdictional Urban Runoff Management Program [JURMP]) and submit a copy of the program to the RWQCB. The implementation of this program occurred during the reporting period covering July 1, 2008 to June 30, 2009 for this 2009 Annual Report. This Annual Report will cover the second full year of implementation under Permit Order No. 2007-0001, but the first full year of implementation of the new JURMP.

1.1 Report Organization

This Report contains a description of all activities conducted to meet the requirements of the Permit. The information will be discussed in chapters applicable to each component of the JURMP, which occurred during this reporting period.

The organization of this report follows the outline of the new JURMP and includes the following sections:

- Development Planning Component
- Construction Component
- Municipal (Existing Development) Component
- Industrial and Commercial (Existing Development) Component
- Residential (Existing Development) Component

- Illicit Discharges Detection and Elimination Component
- Education Component
- Public Participation Component
- Fiscal Analysis Component
- Effectiveness Assessment Component
- Special Investigations
- Non-Emergency Fire Fighting
- JURMP Revisions
- Conclusions and Recommendations

1.2 Common Activities

The City participated with the Copermittees in several common activities (workshops, educational program component elements, model programs, etc.) that allowed for a sharing of resources and knowledge, which will provide a more cohesive message to the community. The common activities are described in the Copermittee Unified Urban Runoff Management Program (URMP) Annual Report, submitted with this report by the County of San Diego and incorporated herein by reference.

1.3 Report Content

The content of this report includes the activities associated with implementing the storm water program (JURMP). The development of the City's JURMP required the City to inventory and prioritize its municipal facilities, commercial and industrial businesses, develop a method to educate the business and residential community about the new requirements, evaluate existing municipal ordinances, and adopt new laws if needed to ensure enforcement action was available, develop a method for educating agency staff, and develop a commercial, industrial and construction site inspection program.

The content of this report will include discussions about the programs and activities that occurred during this reporting period (July 1, 2008 to June 30, 2009). The City presumes that the reader recognizes that significant activity may occur subsequent to the end of the reporting period for this report. As a result, throughout this report a summary of post-reporting period activities will be discussed (where appropriate) to assist the RWQCB in understanding the City's efforts to reduce urban runoff and pollution and to comply with the Permit.

1.4 Program Goals

The primary goal of the City's JURMP is to reduce or eliminate pollutant discharge into the City's MS4 (municipal separate sewer storm system) and receiving water bodies, including the Pacific Ocean, thus improving the quality of water in the City, neighboring jurisdictions, and region-wide.

The City recognizes that a *scientifically measurable* change in water quality is a long-term goal that would require many years of data collection, research and analysis, extending beyond the life of the current Permit (which expires in 2012). As a result, the City's program includes short-term goals expected to focus the City's program on permit compliance as well as water quality improvements. The following summarizes the City's past and current short-term annual program goals:

FY 02/03: Integration of WURMP(s), SUSMP and JURMP activities

FY 03/04: Complete assessment of JURMP (using regional strategy)

FY 04/05: Complete overall assessment of Regional Programs JURMP, WURMP and SUSMP; prepare for new Permit from RWQCB

FY 05/06: Assessment of JURMP, WURMP and SUSMP in preparation of new Permit anticipated to be adopted in early 2007. This involves the assessment of water quality data to focus on the sources of high priority pollutants locally as well as watershed and regionally.

FY 06/07 Further assessment of JURMP, WURMP and SUSMP to effectively develop new programs for incorporation in the new JURMP, WURMP and SUSMP that will be required by the new Permit (adopted January 2007). The complete program will be assessed to determine the effectiveness of existing programs and to develop better, more efficient programs to include in the next Permit cycle.

FY 07/08 Development and implementation of new JURMP to comply with Permit Order No. 2007-0001. The new Permit includes additional and improved requirements from those included in Order No. 2001-01. Although the City continued the implementation of Order 2001-01 during FY 07/08, significant time and resources were spent developing the new programs included in Order 2007-0001.

FY 08/09 Continue developing the new programs and activities under Permit Order No. 2007-0001, such as the Low Impact Development (LID) and Hydromodification Plan (HMP). In addition, track all SUSMP project post-construction BMPs and develop inspection protocol for annual inspections.

FY 09/10 Continue implementation of the new JURMP to further reduce and eliminate pollutant discharges into the City's MS4 system. The focus of new water quality regulations are shifting to development and implementation of Total Maximum Daily Loads (TMDLs), which the City will actively participate in. The City will continue to be involved in the LID, HMP and new SUSMP requirements development for future implementation.

CHAPTER 2
Development Planning Component

CHAPTER 2: DEVELOPMENT PLANNING COMPONENT

In accordance with Permit Section D.1, this section of the report describes the City's efforts to reduce Development Project discharges of pollutants from the MS4 to the Maximum Extent Practicable (MEP); to prevent Development Project discharges from the MS4 from causing or contributing to a violation of water quality standards; and to manage increases in runoff discharge rates and durations from Development Projects that are likely to cause increased erosion of stream beds and banks, silt pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force.

In each Annual Report to the RWQCB, this section will include new modifications to the City's General Plan (if any), review process for new and redevelopment projects, inventory of current public and private projects and activities associated with the Standard Urban Storm Water Mitigation Plan (SUSMP). Activities conducted post-reporting period may be included if the activity is deemed essential to understanding the City's efforts at reducing urban runoff or permit compliance.

The JURMP (Section 4.0: Development Planning Component) describes the City's plans to integrate new project review processes to require mitigation of urban runoff. In addition, the City adopted the new model SUSMP in February, 2008.

2.1 Assessment and Modification of General Plan

Effective land use planning can provide important water quality protections by controlling the type and placement of activities allowed in critical areas, and by providing a framework within which site-specific control measures may be identified and imposed during land development and redevelopment activities. As such, the General Plan is crucial to the long-term success of its water quality and environmental programs.

There were *no changes* to the General Plan during this reporting period. However, the City has begun the process of updating the General Plan at the time of writing this report, and anticipates the update will take about two to three years to complete. Updates will be given in subsequent annual reports.

There were three modifications to the Municipal Code as a result of the new Permit and subsequent JURMP. These modifications were approved by the City Council in February 2009, but are important to mention in this Report due to their

significance. They include:

1. Minor revisions to Chapter 13.10 Storm Water Management that adds provisions that meet the requirements of the new storm water permit within the timelines required for implementation.
2. The second ordinance change adds a new Chapter 13.30 to the Municipal Code to include the City's storm water mitigation plan (SUSMP) that governs methods of controlling storm water pollution. The SUSMP contains the specific types of best management practices that the city will impose on development.
3. The third ordinance change revises Chapter 15.40 Excavation and Grading, which controls the manner and method of grading properties and excavation within the City. The revised ordinance updates the existing ordinance to include new erosion control measures required by the SDRWQCB.

These modifications were discussed in great detail in last year's Annual Report.

2.2 Project Approval and Environmental Review Process Modifications

The City is tasked with ensuring that land uses in Solana Beach comply with City codes, the General Plan, City Council policies, Engineering standards and State law requirements. Approval of projects through the discretionary review process is generally but not always required prior to issuing grading, building and right-of-way permits. The City Code requires compliance with storm water regulations for all discretionary approvals and ministerial permits. The Planning, Engineering, Environmental, Building and Fire Departments review all building plans that are submitted to the City. The Engineering and Environmental Departments administer all aspects of design and construction for public improvement projects. The Planning Department administers the environmental review (Initial Studies, Negative Declarations, EIRs, etc.) of both public and private projects.

The City has reviewed its General Plan and Municipal Codes and determined that the General Plan meets the requirements of Order No. 2007-0001. The following is a short list of recent improvements to the project review process that ensures all projects are reviewed and properly address storm water concerns:

FY 05/06 - Every applicant who inquires about a particular project at the City Hall counter was given a copy of the City's Construction BMP Brochure (Appendix I). This is being done to ensure that every person will have received a copy of the City's educational guide, often times more than once.

FY 05/06 - Any project that increases the impervious area of a site by a minimum of 1,000 square feet must complete a Storm Water Plan Check Comment Form (Appendix J). This sheet requires a variety of information to ensure that there will be no additional run-off as a result of the project. The first requirement is the preparation of an Erosion Control Plan. Also, the applicant must demonstrate that the project *does not increase storm water runoff*. Lastly, the applicant must demonstrate that they are implementing and maintaining all precautionary measures necessary to ensure that pollutant discharges from the site *will be reduced to the maximum extent practicable*. All additional storm water must be completely contained and treated onsite. This is not required by the Permit, but the City believes that it would be prudent to address this issue on such a small scale because of the relative abundance of these smaller projects within the jurisdiction and the lack of larger scale projects that would otherwise be dealt with through the SUSMP process. Instead of ignoring these projects all together, the City felt it would be in its best interests to review these “minor” projects to ensure that most new construction and redevelopment would address these storm water concerns.

FY 06/07 - City continued to evaluate its project approval process and made some modifications to the process for approving new and redevelopment projects. The plan check routing sheet was further modified to include additional information regarding storm water management. The intent of the modifications is to ensure that pollutants and runoff from development will be reduced to the maximum extent practicable (MEP) standard and/or will not contribute to an exceedance of receiving water quality objectives.

FY 06/07 - Project Applicants (Applicants) are required to submit a detailed project application, which addresses a variety of concerns, including urban runoff and environmental impacts. The project application provides an opportunity for City staff to determine whether or not the project will be exempt from the California Environmental Quality Act (CEQA) process. If the project is subject to CEQA, the environmental impacts of the project must be reviewed and depending on the potential impacts, a more substantial environmental impact report (EIR) may be required.

FY 06/07 - The plan check routing sheet was further modified to include another section titled *Environmental* (Appendix K). This section was included to ensure that *all* plans submitted would be reviewed for storm water implications, no

matter how small or relatively insignificant. Previously, plans would be routed through the Engineering Department and if the Engineering Technician determined that it warranted further review, the plans would be passed through to the Environmental Programs Manager. The process was modified to ensure that all plans would be reviewed just in case something was missed or overlooked. The City believes that plan review is essential to ensuring storm water compliance, so we are doing everything possible to make sure it is done thoroughly and accurately. This new and improved process resulted in the Environmental Programs Manager reviewing 224 plans during this reporting period.

FY 08/09 – The City implemented a complex and highly efficient computer database (BEACH) that greatly improved the internal plan review process. This database was developed by a local resident and was tailored to the specific needs of the City's departments. The database was built after extensive comment and review from the various departments to maximize the efficiency and streamline the process, while at the same time incorporating all the necessary information for each department. This process and subsequent database has greatly improved the Environmental plan review process by ensuring that all comments of the Environmental review are addressed prior to initial permit issuance, as well as final permit occupancy. This will be explained in further detail later in the Report, but it has been a tremendous success.

In addition to the CEQA review process, all applicants must obtain a permit from the California Coastal Commission (CCC) because the City does not have a Local Coastal Plan. The City also has strict environmental standards requiring compliance and governing land-use planning and construction.

The application includes some of the following questions:

- Financial interest of all parties who own, or intend to own the property.

- Proof that all owners of record within 300 feet of the exterior boundaries of the property have been noticed of the intent to develop (this allows opportunity for public participation in the process).

- Present use of property and proposed development description (commercial, residential, mixed use, etc.).

- Current floor area ratio (FAR) and proposed (this allows review of the

proposed change in impervious to pervious surface area). The City has a strict FAR and prohibits development within 40 feet of the western edge of the coastal bluffs.

- Proposed area to be graded (this allows the Engineering Department to assess potential erosion and runoff).

- Environmental condition of property (vegetation, drainage, noise, etc.) and neighboring properties.

- Business Applicants are required to submit information pertaining to the types of hazardous materials, whether or not industrial wastewater will be discharged in the property *and/or* off the property.

2.2.1 Project Requirements

As mentioned above, applicants are required to submit plans for all new and redevelopment of current structures to both the Planning and Engineering Department prior to approval. The Engineering Department (which includes Environmental Review) reviews the project's grading and construction plans for potentiality of contributing to urban runoff. The City Engineering Department also determines the appropriate BMP requirements for each project and attaches the Storm Water Plan Check Comment form to the project plans and returns the plans to the applicant for modification, if required. Applications may be required to submit one or more of the following:

- An Erosion Control Plan (which requires BMPs to manage storm water and non-storm water discharges from the site at all time and shall emphasize sediment control).

- Evidence that the project will not increase storm water runoff.

- Storm Water and Non-Storm Water Runoff Control (this requirement address long-term control of runoff and may require structural modifications to direct discharges into permeable areas such as landscaping).

In addition, all grading projects are required at a minimum to include the following:

- Source control BMPs for all projects expecting to generate runoff.

- Implementation of site design/landscape measures to reduce and/slow runoff, minimize impervious to previous ratio, maximize infiltration and promote alternative driveways and parking lots to include pervious land surfaces (as described in detail in the City's JURMP).

- Implementation of buffer zones for natural water bodies, where feasible and if not, trees, lighting and access restrictions are required.

Industrial applicants are also required to provide evidence of coverage under the California General NPDES Permit for Storm Water Discharges Associated with Industrial Activities.

Applicants are required to be in compliance with the City's current grading and storm water management ordinances, inspection requirements, general requirements for construction activities during the wet and dry season and implementation of appropriate BMPs to control erosion and runoff.

2.2.2 SUSMP

The City participated with other Copermittees in the development of the original model Standard Urban Storm Water Mitigation Plan (SUSMP), which was approved by the RWQCB on June 13, 2002. The Solana Beach City Council adopted the City's SUSMP on December 3, 2002, which was submitted to the RWQCB on December 13, 2002. The City adopted the updated model SUSMP that complies with all requirements of the new Permit in February 2008.

The SUSMP addresses post-construction urban runoff pollution from new development and redevelopment projects that are designated as "priority projects" under the Permit. Most of the criterion that specifies which projects will be priority projects will not be applicable to the majority of City projects. The reason for this is that the City of Solana Beach is more than 95% "built-out" and primarily a residential community with small-business commercial properties (there are a few large commercial sites in the City). As a result, the City made few modifications to the Model SUSMP that was developed collectively by the Copermittees for its SUSMP. Over time, City staff will evaluate the effectiveness

of the SUSMP and discuss changes to the Plan in this section of the Annual Report.

During this reporting period, the City of Solana Beach had *no SUSMP projects submitted or approved*. The majority of the development in Solana Beach consists of single-family construction and remodeling projects. The largest project that was under construction during this reporting period was the Interstate 5 Interchange project, but that is a CalTrans project subject to their specific Permit and requirements. The City worked closely with CalTrans and had our own Inspector monitor the site, but compliance was solely the responsibility of CalTrans. If the City's Inspector observed any discharge or potential violation, contact was immediately made with CalTrans. The City took a very proactive approach to monitoring this site even though it was out of our jurisdiction due to the fact that any discharges could impact our MS4 system.

The City's Planning Department (also referred to as Community Development Department) is well aware of the SUSMP requirements and is consistently on the lookout for potential projects that may fall under the SUSMP requirements. The Engineering Department handles all of the BMP review for the City, however, the Planning Department is the first department to review applicant plans.

2.2.3 Low Impact Development (LID)

LID is one of the most significant new requirements of the new Permit. The Permit states that each Copermittee shall develop and require each Priority Development Project to implement LID BMPs which will collectively minimize directly connected impervious area and promote infiltration. The City's new JURMP describes the LID site design BMPs required at each Priority Development Project. The LID requirements are being developed by the Copermittees on a regional level to promote consistency for the development community. The City is participating in the development of the LID requirements and will implement the requirements into the City's program once finalized and within the timeline required by the new Permit.

2.2.4 Treatment Control BMP Maintenance Tracking

The City has developed a database to track and inventory approved treatment control BMPs and treatment control BMP maintenance for Priority Development Projects within the City. The database contains all necessary information as required by the new Permit. In addition, the City has developed a program to

verify that approved treatment control BMPs are operating effectively and have been adequately maintained. The City's current treatment control BMP inventory is listed below. Not all projects are a result of the SUSMP process because they were built prior to the requirements; however the City still lists them in their inventory and inspects annually.

Private Project Treatment Control BMP Inventory

Address	Type of Project	Type of BMP(s) Installed	Maintenance Agreement	Inspection Date
533 Lomas Santa Fe	Boys and Girls Club Remodel/Construction	CDS Unit (1), Storm Chamber Infiltration Basins (2), Drainage Inserts (2)	Yes	6/24/09
420 Steven's Avenue	Office Building Construction	CDS Units (3)	Yes	6/24/09
667 San Rodolfo	Shopping Center Remodel	CDS Unit (1)	Yes	6/24/09
634 Steven's Ave	Commercial Building Construction	Bio-Swale	No	6/24/09
601 North Cedros Ave	Single Family Sub-Division (23 Units)	CDS Unit (1)	No – City Maintained	6/24/09
641 Valley Ave	Mixed Use Comm/Res	Bio-Swale, pervious concrete	No	6/24/09

715 Valley Ave	Park	Bio-Swale	No - City Maintained	6/24/09
111 South Sierra Ave	Park	CDS Unit, Low Flow Diverter	No- City Maintained	6/24/09
749 Genevieve St	Parking Lot >15 spaces	Bio-Swale, Pervious Pavers	No	6/24/09

2.2.5 Treatment Control BMP Maintenance Inspections

City staff conducted the annual inspections of the projects listed above as required by the Permit. Due to the relatively small amount of projects, all initial inspections were completed on 6/24/09. City staff sent out Verification Letters to all sites prior to the initial inspection. The following is a list of the sites that were in compliance on the initial visit:

- 634 Steven's Avenue
- 601 North Cedros Avenue
- 641 Valley Avenue
- 715 Valley Avenue
- 111 South Sierra Avenue
- 749 Genevieve Street

The other three projects were not in compliance with the post construction BMPs maintenance requirements of the Permit. City staff confirmed that all the BMPs were installed; they had just not been maintained during this reporting period. Here is a summary of the inspection results:

- 533 Lomas Santa Fe Drive:

As reported above, City staff sent out Verification Letters to all sites in the

database. The property owner contacted Staff regarding the letter to inquire what this program was about. The property owner verified that no maintenance activities were conducted on the CDS Unit or drainage inserts, and requested City staff assistance on how to comply. City staff met with the Boys and Girls Clun staff onsite on 6/24/09 to inspect the BMPs and confirmed that they were out of compliance with the maintenance requirements. City staff had to show the Boys and Girls staff where the BMPs were located and then gave them the contact information for the manufacturer to schedule the maintenance. The maintenance activities were scheduled at the time of writing this report.

- 420 Steven's Avenue and 667 San Rodolfo Drive

Both of these properties are owned and operated by the same corporation, and were inspected jointly on 6/24/09. Similar to the situation above, City staff received a call from the property owners regarding the Verification Letter they received prior to the inspection. City staff met with the property owners and inspected the BMPs, confirming the proper maintenance was not conducted. City staff has since worked with the property owner to schedule maintenance for the BMPs.

Since this is the first full year of implementation for the BMP verification and maintenance inspections, City staff has taken an educational approach. Both properties are willing and cooperative and want to come into compliance, so Staff has taken the approach of education and helping the properties into compliance. However, all properties were put on notice that next year's inspections will be enforcement driven and maintenance activities must be conducted.

2.2.6 Priority Development BMP Verification Prior to Occupancy

Although there were no priority development projects approved during this reporting period, the City does have a BMP verification process set up to ensure all BMPs are installed prior to occupancy. This process is not only conducted for priority development projects, but grading and building projects that require post construction BMPs (small infiltration pits, roof drains to landscaping, etc). As mentioned in last year's Annual Report, the building permit routing sheet that goes to each department reviewing the plans was modified to include check boxes in the "Environmental Review" section. These check boxes are for projects that require a post construction BMP of any kind, and if they are checked for any project, the Building Department will not issue final occupancy permits until the Environmental section is complete. This includes an inspection either during

construction for BMPs underground (to ensure they were installed prior to being covered by landscaping) or final inspection if the BMPs can be identified at the end of the project. It is the responsibility of the contractor to notify the Environmental staff for inspection or the “pink card” will not be signed and the final Permit will not be issued. This ensures that all post-construction BMPs are installed prior to the final permit being issued for occupancy.

2.2.7 Hydromodification Plan (HMP)

The HMP has not been finalized at the time of writing this Report. However, it is not anticipated that any projects in Solana Beach will be subject to the requirements. The City has participated in the development of the HMP and has paid our share for the development, realizing that this is a regional issue and as a Copermittee we have a responsibility to assist the other Copermittees in complying with the Permit requirements. If any project is subject to the HMP, it will be reported in this section of each Annual Report.

2.3 Education

Municipal Staff Education

The City of Solana Beach is a very intimate, cooperative group. All departments work very well with one another because they are forced to work together on a daily basis to serve the relatively small community. This makes training and education a much easier task.

The previous formation of the storm water team brought together the directors of all the different departments (Planning, Engineering, Public Works, Assistant City Manager, Public Safety Chief, Code Enforcement Officers, Environmental Programs Manager, City Attorney and City Inspector) and provided them a forum to discuss storm water issues and come up with solutions collectively. In turn, the directors would educate their respective employees on the specific tasks they were to perform. This was a very effective and efficient way to educate the Municipal Staff when the Permit was first adopted and the JURMPs were initially being implemented.

City staff welcomes additional training opportunities and often seeks outside training opportunities to keep up with the ever-changing storm water world. In addition, Staff welcomes presentations from consultants regarding the latest technologies in the protection of water resources, including techniques to reduce erosion, bacteria and other COCs in urban runoff. City staff is always seeking

new training opportunities to stay on top of this rapidly evolving field. Specific trainings are listed in their appropriate sections throughout this Report.

Owner / Developer Education

The City, along with the other North County Copermittees, developed a Construction BMP Brochure (Appendix I) which describes the construction storm water regulations and required BMPs. The BMPs are generic with a simple diagram of a "typical" construction site, which has been very well received by the development community. It is simple and easy to understand, and City staff makes certain developers and contractors know every site is different and has unique characteristics. These brochures are distributed at the counter, at pre-construction meetings and in the field during inspections.

In addition, the City sends a "Rainy Season Reminder" (Appendix N) to all current and active private projects within the City as a tool to educate and remind project owners and developers about the need to strictly adhere to the erosion control requirements during the rainy season. These letters are sent out in the beginning of October as a "friendly reminder" that they need to ensure their sites are in compliance before the rain events start, or risk increased enforcement actions.

Inspections are another opportunity staff utilizes to educate owners and developers about City and State runoff and erosion requirements. During inspections, the City Inspector points out problem areas and requires mitigation compliance immediately. If an owner or developer fails to comply, increased enforcement including fines can be levied and the City Inspector has the authority to halt construction activities with a Stop Work notice.

The City has implemented similar procedures for public projects as those utilized for private projects. During mandatory pre-construction meetings (for all grading and public projects) the requirements for erosion control and runoff management are discussed. In addition, City staff notifies the primary contractor that they are ultimately responsible for all actions of their subcontractors, and violations of the City's storm water requirements will result in enforcement actions.

2.4 New Activities and Improvement for FY 09/10

The City will continue implementing the activities described in the Development Planning Component of the City's JURMP. In addition, with the development and implementation of the new SUSMP and LID requirements, the focus for FY 09/10

will include the continued implementation and education of planning staff, builders, residents, and the community at-large as to how regulations of the SUSMP and LID will impact construction.

The BEACH database will continue to be implemented and updated during this reporting period with improvements and advancements made as necessary. One major improvement to the BEACH database that is occurring at the time of writing this Report is the inclusion of a field for inputting and maintaining records of post-construction BMPs. The goal is to also modify the database to include maintenance and inspections records so that all information on a particular project will be contained in one electronic location. Currently, these maintenance records are being kept in an Excel spreadsheet, but the BEACH database will ultimately be the most effective and efficient location for all project records.

2.5 Summary

The City has successfully implemented the Development Planning Component of the JURMP. Some of the key accomplishments include:

- Education of planning staff, owners/developers and the community regarding changes in planning processes.
- Implementation of new procedures to ensure new and redevelopment projects do not contribute to an exceedance in water quality standards.
- Addition of Environmental section of permit routing sheet to ensure *all* plans/projects are reviewed by Environmental Specialist for storm water issues. Addition of post-construction BMP tracking and inspection box on routing sheet to ensure all BMPs are installed according to approved plans.
- Increased cooperation between City departments in implementing SUSMP requirements.
- Developed and implemented new post-construction BMP inventory and inspection tracking database.
- Modified Municipal Code to include new requirements of Permit Order No 2007-0001.
- Development and implementation of new BEACH database to store all pertinent information regarding parcels in Solana Beach. This includes environmental fields that are used during plan review and permit issuance as well as housing all the necessary information for post-construction BMP tracking and maintenance.

CHAPTER 3
Construction Component

CHAPTER 3: CONSTRUCTION COMPONENT

3.1 Introduction

In accordance with Permit Section D.2, this section of the report describes the City's efforts to reduce construction site discharge of pollutants from the MS4 to the MEP and prevent construction site discharges from the MS4 from causing or contributing to a violation of water quality standards.

In each Annual Report to the RWQCB, this section will include modifications to the City's inventory of active construction sites (private and public), modifications to the City's policies or Municipal Code with respect to construction activities, modifications to identified potential threats to water quality. In addition, this section of each Annual Report will include results from the City's efforts to require BMPs at construction sites and program accomplishments. Also, a summary of activities conducted post-reporting period may be included if the activity is deemed essential to understanding the City's efforts at reducing urban runoff or Permit compliance.

During this reporting period, the City conducted an evaluation of its construction practices and inventoried existing construction sites in an effort to understand potential sources of pollution, threats to water quality, and to develop a plan to mitigate or eliminate urban runoff and pollution from these construction sites by requiring BMPs.

3.2 Modification of Grading Ordinance

There were *no significant modifications* of the Grading Ordinance during this reporting period as a result of new requirements in the Permit. During last reporting period, Chapter 15.54 (Excavating and Grading) was modified on February 13, 2008 to include the new requirements of the Permit. The amendments update and strengthen the City's regulations regarding storm water pollution controls. The two main areas of impact in the updated ordinance deal with two new concepts (Hydromodification Plan (HMP) and Low Impact Development (LID)). Hydromodification is a state mandate that requires all local jurisdictions to regulate erosion control and other land-shaping impacts from storm water runoff.

Low Impact Development is a new requirement including in the new storm water permit. It deals with using various techniques to channel storm water runoff and

the pollution it contains away from the storm water conveyance system and into landscaping and other on-site features to limit the amount of pollution escaping from individual parcels.

Previously, the last significant modification to the City's grading ordinance occurred June 30, 2005 in which the grading threshold was lowered from 200 cubic yards to 50 cubic yards for all construction projects, meaning much smaller projects that would not normally be scrutinized for storm water management would now be required to go through the grading permit process. This gave City staff more discretion on smaller projects to require storm water mitigation, and with it, gave Staff more power to enforce the installation and/or site design modifications to that would not have been required if a grading permit were not necessary.

3.3 Modification of Construction and Grading Approval Process

The modifications to the City's processes for project approvals are described in detail in the previous chapter of this report (Chapter 2). Although Chapter 2 specifically addresses Development Planning, the discussion included a description of various processes that project applicants must proceed with in order to obtain approval of their construction plans. Chapter 2 also describes the improvements made to the plan check database BEACH as well as the increased education efforts City staff has made to ensure Permit compliance.

The Storm Water Plan Check Comment Form (see Appendix J) may require the applicant to submit an Erosion Control Plan, proof that the project does not increase runoff from the property and/or implementation of structural changes to redirect runoff onto impervious surfaces.

3.3.1 SUSMP BMPs Installation and Tracking

The City continued implementation of the updated SUSMP process during this reporting period, but there were *no projects that required the SUSMP process review.*

The City does not anticipate many projects that will fall under the SUSMP guidelines, since the City is 95% "built out." However, any project that may be proposed that fall under the guidelines will be put through the process. Planning staff and Engineering staff have been trained and are aware of the SUSMP requirements, and will implement the program when appropriate.

As reported in previous Annul Reports, a significant improvement to the building permit routing sheet that recently occurred was the addition of the *Environmental* review section (Appendix K). As noted previously in this Report, the routing sheet was modified to ensure *all* permit applications were thoroughly reviewed by Environmental staff. Even though the revision occurred before this reporting period, it's significant to mention because it brings the Environmental Programs Manager into the review process for all projects, regardless of size or type. This is significant because no projects will slip through the cracks, and all will be required to address storm water concerns. In addition, as mentioned above, the routing sheet also contains an area to mark if the project requires the installation of post-construction BMPs. Final permit approval and building occupancy will not be granted until a final inspection confirms the BMPs were installed correctly, according to approved plans.

3.4 Construction Site Inventory

This section of each Annual Report will include an inventory of construction sites active during this reporting period. Given that the reporting period for these Annual Reports ends prior to the submittal of the report, the inventory will most likely be slightly outdated by the time the report is reviewed by the RWQCB. However, the City maintains an inventory of current construction project sites, which is always available for review.

The construction inventory is updated periodically, but at a minimum monthly, to ensure all active projects are included and inspected according to the frequency set forth in the JURMP. The update process consists of reviewing the Building Department files of active sites. In the past, the inventory was updated as soon as a building permit was approved. However, it was discovered that often times, construction activities would not commence for many months after permit issuance. This led to a significant amount of wasted time and resources for limited City staff to visit multiple sites where there were no construction activities occurring. Since the Building Department staff is required to be onsite when the project begins, review of their files is the most appropriate and accurate manner to update the construction inventory. Review of the Building Department files is now possible due to the fact that they are now housed at the City of Solana Beach City Hall. This is a major improvement over the last few years when the files were located at the City of Encinitas City Hall, along with Building Department staff.

As shown on Table 3-1, there are currently ten construction sites that required a grading permit active within the City. In addition, City Engineers are in constant discussions with private project property owners during the plan check process to ensure their projects include an Erosion Control Plan, modify drainage alterations to re-route runoff to pervious surface areas, proof that the project would not result in an increase in runoff from the site or other various structural BMPs, and require all projects to control and mitigate all run-off before it reaches the City's MS4 system. Table 3-2 shows all construction projects that have a potential to discharge pollutants but did not require a grading permit. These projects had extensive plan review by City staff and storm water/erosion control conditions placed on them even though a grading permit was not required.

Table 3-3 shows all the pre-construction meetings that were conducted for projects that were deemed high priority as well as all public projects. Pre-construction meetings are vital to storm water compliance, as all issues are discussed as well as warnings given before there are storm water violations. The City takes this opportunity to educate the contractors as well as warn them about violation fines and citations, to let the contractors know how serious the City is about storm water regulations. Table 3-4 shows all the construction related violations. Table 3-5 shows all Capital Improvement Projects (CIP) and their priority and inspection frequencies.

The City had no projects subject to the HMP or requiring advance treatment during this reporting period. In addition, there were no projects over 1 acre in size, which is very common considering the City is 95% built-out and most projects are in-fill and redevelopment projects.

Table 3-1 Construction Site Inventory
Grading Projects 2008/2009

Project Name and Location	Inspection Frequency	Type of Construction	Start Date	Project Size	Watershed	FY 08/09 Active Wet Season / # Inspections	FY 08/09 Active Dry Season / # Inspections	FY 08/09 Total # Inspections
548 North Rios Avenue	Medium	Single Family Home	Jul-2008	<1 acre	San Dieguito	28 Weeks / 7 Inspections	24 Weeks / 3 Inspections	10
401 Glencrest Drive	Medium	Single Family Home	May-2008	<1 acre	San Dieguito	28 Weeks / 7 Inspections	24 Weeks / 2 Inspections	9
118 Brookdale Place	Medium	Single Family Home	Jan-2008	<1 acre	San Dieguito	28 Weeks / 7 Inspections	24 Weeks / 1 Inspection	8
327 Pacific Avenue	Medium	Upper Bluff Maintenance	Sep-2008	<1 acre	San Dieguito	28 Weeks / 7 Inspections	24 Weeks / 2 Inspections	9
417/423 Pacific Avenue	Medium	Upper Bluff Maintenance	Dec-2008	<1 acre	San Dieguito	28 Weeks / 7 Inspections	24 Weeks / 2 Inspections	9
583 Canyon Drive	Medium	Single Family Home	Nov-2008	<1 acre	Carlsbad	28 Weeks / 7 Inspections	24 Weeks / 4 Inspections	11
311-319 Pacific Avenue	Medium	Upper Bluff Maintenance	Nov-2008	<1 acre	San Dieguito	28 Weeks / 7 Inspections	24 Weeks / 2 Inspections	9
147 North Sierra Avenue	Medium	Single Family Home	Aug-2008	<1 acre	San Dieguito	28 Weeks / 7 Inspections	24 Weeks / 4 Inspections	11

153 N Hwy 101	Medium	Office Building	Oct-2007	<1 acre	San Dieguito	28 Weeks / 7 Inspections	24 Weeks / 5 Inspections	12
214 S Rios Avenue	Medium	Single Family Home	Nov-2008	<1 acre	San Dieguito	28 Weeks / 7 Inspections	24 Weeks / 2 Inspections	9

Table 3-2 Construction Site Inventory
Small Private Projects Requiring Plan Review/Modifications 2008/2009

Project Name and Location	Inspection Frequency	Type of Construction	Start Date	Project Size	Watershed	FY 08/09 Active Wet Season / # Inspections	FY 08/09 Active Dry Season / # Inspections	FY 08/09 Total # Inspections
603 Canyon Pl	Low	Residence	Dec-08	<1 acre	Carlsbad	20 Weeks / 3 Inspections	8 Weeks / 1 Inspection	4
702 Castro St	Low	Residence	Jun-08	<1 acre	San Dieguito	28 Weeks / 3 Inspections	20 Weeks / 2 Inspections	5
205 Estrella St	Low	Residence	Nov-07	<1 acre	San Dieguito	28 Weeks / 3 Inspections	24 Weeks / 2 Inspections	5
242 S Granados	Low	Residence	May-08	<1 acre	San Dieguito	28 Weeks / 2 Inspections	24 Weeks / 2 Inspections	4
1438 Highland Dr	Low	Residence	Dec-08	<1 acre	San Dieguito	20 Weeks / 3 Inspections	8 Weeks / 1 Inspection	4
153 N Highway 101	Low	Commercial	Apr-08	<1 acre	San Dieguito	28 Weeks / 5 Inspections	24 Weeks / 2 Inspections	7
645 Ida Avenue	Low	Residence	Apr-08	<1 acre	San Dieguito	28 Weeks / 3 Inspections	24 Weeks / 1 Inspection	4

837 Ida Avenue	Low	Residence	Sep-08	<1 acre	San Dieguito	28 Weeks / 3 Inspections	12 Weeks / 1 Inspection	4
627 Nardito	Low	Residence	Dec-08	<1 acre	San Dieguito	20 Weeks / 2 Inspections	8 Weeks / 1 Inspection	3
274 Pacific Ave	Low	Residence	Sep-08	<1 acre	San Dieguito	28 Weeks / 4 Inspections	12 Weeks / 2 Inspections	6
624 Ridgeline Pl	Low	Residence	Jan-08	<1 acre	Carlsbad	16 Weeks / 3 Inspections	8 Weeks / 1 Inspection	4
516 N Rios	Low	Residence	Feb-08	<1 acre	San Dieguito	12 Weeks / 3 Inspections	8 Weeks / 1 Inspection	4
558 San Lucas	Low	Residence	Nov-08	<1 acre	San Dieguito	24 Weeks / 2 Inspections	8 Weeks / 1 Inspection	3
571 San Lucas	Low	Residence	Aug-08	<1 acre	San Dieguito	28 Weeks / 2 Inspections	16 Weeks / 1 Inspection	3
506 Seabright	Low	Residence	May-08	<1 acre	Carlsbad	28 Weeks / 5 Inspections	24 Weeks / 2 Inspections	7
751 Seabright	Low	Residence	Jun-07	<1 acre	Carlsbad	28 Weeks / 5 Inspections	24 Weeks / 2 Inspections	7

Table 3-3 Public Projects Pre-Construction Meetings 2008/2009

DATE	PROJECT	DETAILS
7/10/2008	2008 Street Repair and Slurry Seal Project I	Erosion Control/Storm Water requirements discussed.
10/20/2008	Seascape Sur Access Stairway Pier Rehabilitation	Erosion Control/Storm Water requirements discussed.
10/23/2008	2008 Street Repair and Slurry Seal Project II	Erosion Control/Storm Water requirements discussed.
11/24/2008	Coastal Rail Trail Completion at Cliff Street Bridge	Erosion Control/Storm Water requirements discussed.
4/20/2009	Fletcher Cove Park Railing/Fence Replacement	Erosion Control/Storm Water requirements discussed.
5/20/2009	City Hall Parking Lot Modifications	Erosion Control/Storm Water requirements discussed.

**Table 3-4 is not meant to be part of the Construction Inventory. This table is simply to demonstrate that the City conducts Pre-Construction Meetings prior to public projects and that storm water issues are discussed. The projects that require storm water inspection oversight from this table are included in their respective tables (Table 3-1 and 3-2).*

3.5 Construction Follow-Up Activities:

The City is very aggressive with its construction inspections and follow-up, and unless otherwise stated, all follow-up corrective activities were properly addressed and corrected within seven (7) working days. Many times the corrections are made immediately, however the City's policy is to allow the responsible party seven days to correct the violation. However, if there is an immediate threat to public health or safety, the City can require immediate corrective actions.

As stated above, the City takes a very pro-active approach toward construction projects. Plans are heavily scrutinized and discussions with the contractors often happen before the project even begins. The City has found that initiating contact with the contractor before the project even starts and maintaining contact throughout the construction process, leads to continued compliance with storm water regulations. Since the City of Solana Beach is relatively small and built out, the City's inspector has the ability to visit sites almost daily, and at a minimum weekly. Due to this high level of supervision, sites are not allowed to get out of compliance with storm water BMPs. That being said, there are instances where accidents do take place, most often when concrete trucks and pumpers are involved. The only violations from construction sites are listed

below in Table 3-5. As you can see, no construction sites were cited for rainy event discharges or lack of BMP implementation and maintenance. All the construction related violations were due to discharges at small sites that occur frequently. All violations were corrected within the timeframe allocated by the City, and there are no outstanding compliance issues.

Table 3-4 Construction Violations 2008/2009

DATE	COMPANY	VIOLATION	ACTION	COMPLIANCE ACHIEVED
7/8/2008	Pride Pumping	Concrete spill, no secondary containment system	$100 Citation issued	Yes. Contractor immediately stopped work and cleaned up discharge
8/5/2008	Valley Short Pour Concrete	Concrete spill into street	$200 Citation issued	Initial compliance did not occur, violator was uncooperative. Action raised from verbal warning to $200 citation. After citation issued, spill cleaned up. Secondary containment area installed
8/7/2008	Distinctive Carpet	Washing down driveway	Verbal Warning	Yes. Washing activities stopped
8/25/2008	Crew Builders	Power washing driveway	Verbal Warning	Yes. Washing activities stopped
8/26/2008	Dean Russell	Concrete spill into street	Verbal Warning	Yes. Contractor immediately stopped work and cleaned up discharge
9/25/2008	Alvarado Construction	Washing color coat and sealer off driveway	$100 Citation issued	Yes. Contractor immediately stopped work

				and cleaned up discharge
10/31/2008	JC Baldwin	Sand tracking into the parking lot at Fletcher Cove	Verbal Warning	Yes. Contractor called out street sweeper to clean parking lot

3.6 Capital Improvement Projects Inventory

In addition to the inventory for private projects, City staff believes it is equally important to discuss both public (Capital Improvement Projects [CIPs]) and private projects under construction.

CIPs are held to the same *or stricter* standards for reducing runoff as private projects. BMPs, Erosion Control Plans, and structural changes to reduce or mitigate runoff pre and post-construction are required. Most, if not all, CIPs in Solana Beach are constructed by private contractors selected through the standard public bid process. Contractors are informed *prior to submitting a bid,* that the City requires adherence to RWQCB standards, Permit and City storm water regulations. To ensure compliance the City Inspector conducts a daily inspection of each CIP site during construction. Stop Notices are issued if the contractor fails to comply with any storm water / erosion control regulations.

Additionally, the Environmental Programs Manager is included in pre-construction meetings that are required for *all* public projects. A line item discussing NPDES regulations and requirements is standard for all public project agendas (Appendix L). This is just another way to ensure that all contractors are aware of the requirements before the project begins, and to help with possible enforcement actions.

In FY 08/09, the City Inspector did not issue any Stop Notices to contractors for failing to comply with storm water/erosion control regulations.

Table 3-5 below shows the inventory of CIP projects during FY 08/09. The City had two projects, and placed both of the projects in the high priority category. This was done to ensure that the City's projects would be inspected at a very high frequency in order to ensure compliance at all times. The City even hired a consultant to monitor the Eden Gardens Pump Station project daily because of the sensitivity of the project, and so the site was technically inspected daily, but as far as compliance inspections are concerned, they were conducted at the frequency outlined in the JURMP. For the Plaza Street Improvements, the City's Engineering Inspector was onsite daily to monitor the site.

Table 3-5 Construction Site Inventory
Capital Improvement Projects 2008/2009

Project Name and Location	Inspection Frequency	Type of Construction	Start Date	Project Size	Watershed	FY 08/09 Active Wet Season / # Inspections	FY 08/09 Active Dry Season / # Inspections	FY 08/09 Total # Inspections
Eden Gardens Pump Station	High	Sewer Pump Station	Jun-08	<1 acre	San Dieguito	28 Weeks / 14 Inspections	24 Weeks / 6 Inspection	20
Plaza Street Improvements	High	Street and Landscape Improvements	May-08	<1 acre	San Dieguito	28 Weeks / 14 Inspections	24 Weeks / 6 Inspections	20

3.7 Threat to Water Quality Prioritization

In accordance with Permit Section F.2.e., the City described the criterion for designation of construction projects as high, medium, or low priority, in its JURMP. *There are **no changes** to report in the City's criterion for determining a project's impact or threat to water quality.* The City's prioritization criterion meets the requirements of the new Permit, so no changes were needed.

Of the active projects currently under construction, *there are no changes to report with respect to the potential threat to water quality*. The City is 95% "built out" which does not leave much room for major development projects. The only projects that would fall under the high priority would be significant redevelopment projects, which there were none of during this reporting period. The City is closely monitoring two potential projects that may fall under the high priority in the next reporting period, pending permit approval. It is important to note that City staff is currently working with the prospective developers to ensure they integrate beneficial storm water designs during the design phase. The following projects are being closely monitored by City staff:

1) Multiple plans have been submitted to the City to build a hotel/restaurant and condos on the east side of Highway 101 at the northern tip of the City (commonly referred to as the Magellan site), however it has been met with some opposition within the community and a compromise is being sought. Plans still have not been adopted by the City Council at the time of this report. If a project is accepted for development in that area during the next reporting period, it will be a high priority project subject to the SUSMP process because of its proximity to the San Elijo Lagoon, a 303 (d) listed water body.

2) Another *potential* high priority project that is being discussed is a large multi-use residential/commercial development on what is currently the North County Transit District's (NCTD) train station property. This proposed project has also come under heavy scrutiny from the public and no plans have been approved by the City. If a project is accepted for development on this site during the next reporting period, it will be a high priority project because of its size. It will be subject to the SUSMP requirements much like the project mentioned above.

One of the projects including in this list in last year's Annual Report was approved by City Council in April 2009. The project is the redevelopment of a

portion of a commercial property located just east of Interstate 5 at Lomas Santa Fe. However, like mentioned above, it often takes many months for a project to actually get started after the approval process. Construction activities at this site are projected to begin in October 2009, and will be added to the active construction inventory at that time.

The City's Capital Improvement Projects, available upon request, will be considered at least a medium priority for several reasons. First, priority categories may only result in a change in the frequency of oversight and the City Inspector visits each public construction site on a daily basis, which therefore eliminates the need for delineation in priority. Second, given the City's proximity to the Pacific Ocean, all erosion, sediment and runoff control practices are very important and are expected to be very beneficial to the community. Therefore, the designation of "medium or high priority," improves the likelihood that CIPs will not contribute to an exceedance of water quality standards. It doesn't make sense to categorize a CIP project as low priority since the City holds itself to a higher standard than the rest of the community. The City strongly feels it should lead by example, and since the City Inspector is onsite everyday at CIP projects, storm water issues are addressed daily.

3.8 BMPs and Pollution Prevention Methods

As noted in the City's JURMP, the City requires general and specific BMPs for construction sites and with the modifications in the development review process; the City is able to require site design, source control and treatment BMPs prior to construction. Owners and developers are provided a BMP Construction Brochure (see Appendix I), and they meet with engineering staff to develop methods to ensure that runoff is not increased as a result of their proposed project. The City believes that working with the contractors during the plan approval process is the most critical time period to ensure that appropriate BMPs (structural, pre-and post-development) are built into the project *before* pollutants are allowed to enter the storm drain conveyance system.

BMP Selection

The City does not require a specific or certain type of BMP (except for SUSMP projects) for all projects similarly designed. Instead, staff members evaluate each project on its own merit and determine if modifications to the plans are required to control erosion and/or reduce runoff. City staff works together with property owners and developers to find satisfactory solutions to project problems.

Pollution Prevention Methods (PPM)

Construction limitations – the City limits construction during the wet season when construction plans warrant and when it is feasible. Implementation of this PPM reduces the potential for pollution.

Education – the City sends out letters to all active public and private construction projects at the start of the wet season to remind them of the importance of implementing the required BMPs (see City JURMP for a description) and the importance to take precautions during storm events (Appendix N). Additionally, a BMP Construction Brochure is attached to all permit approvals and distributed at City Hall Engineering and Planning counters to all prospective developers and interested members of the community.

Inspections – as discussed below and elsewhere in this report, the City Inspector and Environmental Programs Manager visit construction sites and keep a record of BMP implementation and effectiveness. When a developer does not comply with the City Inspector's request to modify practices to reduce runoff or erosion, construction activities can be halted at the site and fines may be levied.

3.9 Enforcement and Inspections

Enforcement of the City's Municipal Code is conducted by the City's Code Enforcement Officers. The City Inspector and Environmental Programs Manager conduct inspections of construction site BMPs, but if enforcement actions above written NOVs are necessary, Code Enforcement Officers are notified.

Code Compliance

The City has developed procedures to track and monitor citations issued to property and business owners, visitors, and developers. These procedures include the implementation of an Administrative Fine process which was adopted by the City Council on June 18, 2002. This process allows Code Enforcement Officers to issue administrative citations and penalties in between $100 and $1,000 for each day the violation occurs; this applies to construction sites, public and private.

In addition to the administrative fine process, the City adopted a Civil Penalty Matrix (Matrix). This is a very significant tool that has greatly enhanced the enforcement of storm water violations. The City felt it was necessary to develop a matrix to evaluate each violation in the field, and to respond to them in a

consistent and appropriate manner. The Matrix was designed so that anybody in the field who witnesses a violation can apply the parameters of the Matrix to decide the appropriate way to respond. This greatly enhanced the efficiency of the storm water program, as now not all violations would require multiple staff to respond or, if a fine was necessary, staff did not have to wait for approval from upper management to issue it. This would sometimes take as long as month, but with the Matrix, this could happen instantaneously in the field.

The Matrix was modeled after the City of San Diego's Civil Penalty Matrix. The Matrix was scaled down and modified for the type of violations most often encountered in Solana Beach, but the foundations are very similar. The Matrix basically breaks down the violation into two categories, Environmental Significance and Compliance Significance. These two categories are further broken down into Moderate, Major, and Severe. According to the type of violation and the history of the violator, the penalties will be placed in the appropriate section of the Matrix. This ensures that all violations are treated consistently, and the feelings of the investigating officer do not interfere, so the enforcement actions do not vary. This, according to our Code Enforcement Department, is extremely important if a fine gets challenged in court. The Matrix is currently being used, and a fine has not been successfully challenged yet. The Matrix was developed in cooperation between the City's Environmental Specialist and Code Enforcement Officer, further showing the great working relationship between City Departments.

The Matrix is used for all violations, not just construction related offenses. It can be applied to municipal, commercial, and residential offenses. For the complete Civil Penalty Matrix, see Appendix M.

The City also utilizes special radios that are used to communicate between Staff to report storm water violations. The radios were purchased so communication can be made at all times with appropriate staff, in the case of a storm water violation. The radios also can connect with the City's Code Enforcement Department, Fire Department, and Marine Safety Department, as well as the City of Del Mar Code, Fire, and Marine Safety Departments. This allows for immediate contact with appropriate staff to respond to any situation, including storm water. Before the radios, people either had to be paged or had to be at their desks, which proved to be very inefficient. The delays would often cause staff to miss violations because they did not get the information in time. The radios have allowed for much better communication and increased enforcement, as violators are often contacted while the violation is occurring.

Site Inspections

All construction sites that have a potential to discharge pollutants are inspected by the City Inspector and Environmental Programs Manager, this includes public and private development projects. The City Inspector and Environmental Programs Manager have been visiting all development projects in the City, unless the project is an indoor remodel. In that case, the City Inspector would only visit the property if time and resources permit, and if prohibited activity is noticed, a letter is sent to the property owner.

The sites are inspected at the rate of frequency established in the JURMP. At a minimum, each site that is determined to be high inspection frequency priority will be inspected at least every two weeks during the rainy season (October 1st through April 30th). Medium inspection frequency priority projects are to be inspected at least monthly during the rainy season. Low inspection frequency priority construction sites will be inspected on an as-needed basis during the rainy season. All construction sites will be inspected for storm water management compliance on an as needed basis during the dry season.

With the combination of the City Inspector and Environmental Programs Manager, the City is often times able to inspect construction sites more frequently than required by the Permit. Both the City Inspector and Environmental Programs Manager devote time out of their schedule to visually monitor all construction sites. Sometimes this is done in tandem, but often times it is simply a drive by of all sites. They meet at the end of the day and discuss any problems observed, if any. This has been very successful in preventing pollution from leaving construction sites, as most problems are fixed before any illegal discharges leave the property. Since there are not too many projects in the City, this type of monitoring is highly successful, as private project managers and city staff communicate very effectively.

If any possible violations are noticed during either the visual inspections or on-site inspections, City staff may stop and talk with the property owner, write a letter, request Code Compliance to issue a citation, issue a “stop work notice” or a combination of these activities. The City’s new adopted Civil Penalty Matrix, discussed previously, is also used for construction related violations.

In addition, City staff conducts informal visual inspections at all medium and high priority construction sites prior to a rain event to ensure all BMPs are installed correctly and working properly. A follow-up informal visual site inspection is then

conducted after the rain event to monitor how effective the installed BMPs were and if any modifications need to be done. Construction sites are constantly evolving and require constant monitoring, which the City staff understands and enforces.

All inspections conducted during this reporting period addressed all the required inspection steps to determine full compliance. There were no sites that required multiple follow-up inspections or reporting to the RWQCB, as all were either in compliance at the time of inspection or made the necessary corrections after the initial inspection and were in compliance during the follow-up inspection.

Enforcement of BMPs

During inspection of construction sites, City staff verifies that appropriate BMPs have been implemented and are effective (sediment is on-site, erosion control methods in place, runoff mitigated or not leaving property, etc.). In addition, City staff has the authority to immediately require new BMPs if erosion control, runoff, or other activity is taking place that contributes pollutants into the City's MS4.

During this reporting period, the City staff conducted inspections of all CIPs and mandatory inspections of private projects within the City's jurisdiction and did not need to report any non-compliant sites to the RWQCB. Any site that was determined to be out of compliance was immediately notified and the problems were resolved within the time frame specified by the City.

Educational Activities

The education activities conducted for construction sites consisted mainly of verbal conversations between the contractor/developer and City staff. Because of the relatively few projects in the City, it is possible and practical to discuss issues on-site with the contractors. Also, they are given the Construction BMP brochure and storm water issues were specifically brought up. The City believes that it is much more effective to talk with the contractor face-to-face about these concerns and, since we are a small city, it has been and continues to be very effective.

An educational brochure (Appendix O) was developed by the City that focuses on general construction site requirements relating to all City codes. The brochure, titled "Construction Site Supervision in Solana Beach: Code Requirements and Good Neighbor Practices," was requested by the City Council

as a general educational tool to be distributed to all contractors. This has been very well received by the development community because it addresses everything from construction hours to permitting to storm water BMPs. This is another example of the City's proactive approach to community education.

Another tool that was developed and discussed in last year's Annual Report is the Construction BMP Brochure (Appendix I). This was developed by the North County Storm Water Program to provide a consistent message and requirements to all contractors/developers in the region, regardless of where they are doing work. This brochure was meant to supplement each individual cities educational outreach to ensure that the development community was receiving a consistent message regarding proper construction practices. This brochure has been very well received by the development community and in Solana Beach has replaced the Construction BMP Guide as the primary educational tool distributed to the development community.

Additionally, as discussed previously, the recent addition of the *Environmental* section to the building permit checklist has afforded the City another opportunity to educate the applicant/contractor on the storm water regulations. Every project that has the potential to discharge pollutants to the MS4, regardless of size or type, is reviewed by the Environmental Programs Manager and commented on.

Another educational tool utilized by the City to get the word out to our residents was a series of articles published in the newsletter "Shorelines" put out by the City. The newsletter is updated and distributed four times per year and is received by everyone in the community. A variety of storm water topics are touched upon, including construction. These articles are intended for smaller projects such as remodeling and single home construction, but it is still very important nonetheless. These smaller projects hold a much higher priority in our City because of the lack of larger projects; so educating the individual homeowners is extremely vital. Also, the City has found that the smaller projects have the most potential violations, as most are owner/contractor situations where they are not aware of the storm water regulations. The larger projects often have erosion control specialists and employees who are required to attend storm water education classes. The newsletter comes out four times a year, and are included as Appendices and described in previous Chapters of this Report.

<u>Special Project BMP Education</u>

A new tool that was recently implemented was the development of a specialized BMP notice given to a specific type of construction activity. For example, a large scale effort is being made to underground overhead power lines for view impact reductions around the City. These were special projects that did not go through the normal permitting process. Therefore, these plans would not have been reviewed by the normal parties, and since the City is dedicated to storm water protection, City staff developed a special "Undergrounding Utility District Construction Best Management Practices" handout (Appendix P). This was a one page handout to be included in every permit application submitted by those participating in this program. Since the process of undergrounding utilities involves moving a lot of dirt, the City felt it prudent to take this extra precaution to ensure the proper BMPs are in place.

If any special projects in the future require project specific BMPs, the City is dedicated to developing materials to distribute to the applicants.

Post Construction BMP Inventory and Inspection

Another major change that recently occurred, as a result of the new Permit, is the requirement that the City must develop an inventory of all post construction BMPs and conduct annual inspections for Priority Development Projects (SUSMP). The City now has the ability to ensure that all post construction BMPs are installed and maintained by the contractor and/or property owner. The *Environmental* review section on the routing sheet contains a section that can be marked for inspection required prior to installation or prior to final approval of the project. This was done to ensure post construction BMPs required on the plans are actually installed and ensures maintenance through a special agreement that is recorded through the County of San Diego. The City found in some cases that the post construction BMP(s) are sometimes buried in the ground before inspection, thereby making it impossible to inspect and ensure it was actually installed. So, there is now a spot on the routing sheet that will put the onus on the contractor to call for an inspection during the installation to ensure it is actually being done. This way it can be more efficiently documented and inspection required before the permit gets final approval. In addition, this allows the Environmental Programs Manager the ability to document in a spreadsheet the type of BMP, location and inspection frequencies as the plans are being reviewed. This will assist City staff with post construction inspection requirements way before the project even begins.

Construction and Demolition Debris Recycling Ordinance

In January 2008, the City Council adopted a Construction and Demolition Debris Recycling Ordinance (C&D Ordinance). This ordinance requires all demolition projects and construction projects over a valuation of $100,000 to submit an approved Waste Management Plan (WMP) detailing how the contractor will recycle at least 50% of the waste generated from project. The contractor will not receive final permit approval until it's proven at least 50% of the waste was recycled.

This is an extremely significant accomplishment for the City and its clean water efforts. According to the National Association of Home Builders (NAHB) Research Center, the building of a 1,700 square foot home requires:

- 9,700 board feet of lumber
- 750 copper wire
- 2,500 square feet of insulation
- 6,484 square feet of drywall
- 170 feet of copper pipe
- 55 gallons of paint
- 55 cubic yards of concrete

This is a significant amount of waste that would normally end up in the local landfills, or worse, illegally dumped in the environment. This new ordinance requires contractors to recycle their used materials, guaranteeing that it does not pollute the environment. This is another example of the progressiveness of the community as a whole when it comes to protecting the environment.

3.10 New Activities and Improvements in FY 09/10

City staff will continue to review all plans, enforce BMP (site, source and treatment) installation, conduct inspections and keep an accurate inventory of the private and public projects and post construction BMPs. The City is committed to working with the other cities within its respective watersheds (Carlsbad and San Dieguito) to ensure compliance with all storm water regulations and continue to develop watershed educational information.

The primary focus for FY 09/10 will be the continued development and implementation of the LID, HMP and SUSMP programs. These are major program components and the City is committed to working with the other Copermittees to develop a high quality work product that can be implemented region-wide. These three components are extremely important to maintaining and enhancing the water quality in the region as more and more land is developed. Training of appropriate City staff on these new requirements will be a priority to ensure successful implementation of the new programs.

3.11 Summary

The City has been effective at implementing a plan-check process that has resulted in the implementation of BMPs, site design modifications, structural changes and runoff mitigation activities in project proposals and/or construction activities. Both public and private construction projects are subject to the City's strict standards, which provide a consistent approach to reducing urban runoff from construction activities. The City has effectively integrated the new stricter standards of the Permit, including the SUSMP, into its plan-check review process. The City has also begun developing project specific construction BMPs for large-scale specialized construction activities such as the Undergrounding Utility Districts that are forming around the community.

The City will continue to actively analyze the construction program and make necessary improvements/modifications to ensure the protection and enhancement of the local water quality. An example was the addition of the Environmental review section of the permit routing sheet. The City felt like some smaller projects, although not specifically required to be plan reviewed and inspected by the Permit, may have the potential to be overlooked. Therefore, now *all* plans are reviewed by the Environmental Programs Manager and necessary changes can be made before plans are approved. Also, the reduced grading ordinance modification demonstrates the City's commitment to reviewing as many projects as possible and integrating storm water management requirements to projects that would have been overlooked in the past.

The City is actively working with the other regional Copermittees on the development and implementation of the two significant new requirements, the HMP and LID. These two programs are significant additions that will require City staff to work with the other Copermittees to develop regional programs to address runoff from construction projects. These new programs will also include an educational component, which the City will develop in conjunction with the

region. The City is committed to participating with the regional Copermittees to develop and implement these respective programs, even though the HMP is not expected to affect any projects within the City. The City values itself as an active Copermittee, and allocated funds to the HMP development, even though it is highly unlikely to affect any projects within the City's jurisdiction.

CHAPTER 4
Municipal Component

CHAPTER 4: MUNICIPAL COMPONENT (EXISTING DEVELOPMENT)

4.1 Introduction

In accordance with Permit Section F.3.a, this section of the report describes the City's efforts to prevent or reduce pollutants in runoff from municipal land use areas and activities.

In each Annual Report to the RWQCB, this section will include modifications to the City's inventory of municipal facilities, pollutant source identification and potential threats to water quality. In addition, this section of each Annual Report will include results from the City's efforts to implement BMPs at municipal facilities, program accomplishments and activities. Also, a summary of activities conducted post-reporting period may be included if the activity is deemed essential to understanding the City's efforts at reducing urban runoff or Permit compliance.

Municipal facilities and areas within the City of Solana Beach include public parks, public buildings, streets, roads, and parking lots, a public works yard, and the MS4 system. During this reporting period, the City conducted a comprehensive re-evaluation of its municipal sites to understand potential sources of pollution, threats to water quality, and to develop a plan to mitigate or eliminate urban runoff and pollution from its facilities by implementing Best Management Practices (BMPs). This was accomplished through inspections of all public facilities.

4.2 Inventory of Municipal Facilities

During this reporting period, in response to the requirements of the Permit and in an effort to improve the quality of water in the region, the City once again inventoried its municipal sites and activities. Table 4-1 presents the City's municipal facilities, by prioritization level. *There are no changes in the City's inventory of municipal sites from those submitted to the RWQCB in the City's last Annual Report.*

The City's municipal facilities include five public buildings (City Hall, Fire Station, Marine Safety Center and the community centers at La Colonia Park and Fletcher Cove), one Public Works Yard, six public parking lots, City streets and roads, the Municipal Separate Storm Sewer System (MS4) and the beach (which consists of four access locations: Del Mar Shores, Seascape Sur, Tide Beach Park, and Fletcher Cove).

Table 4-1
Existing Municipal Facilities, By Priority Level

Facility Name	Facility Address	Type of Activity	Priority
Public Works Department	1764 Highland Drive	Materials storage, fleet parking, administration	High
North Seascape Sur Surf Park	Public beach access west of Highway 101	Public beach	High
Roads, streets	Citywide	Circulation	High
MS4 System	City-wide	Storm-water conveyance system	High
Fletcher Cove Parking Lot	North end of Plaza St.	Parking	High
Distillery Parking Lot	Sierra and Lomas Santa Fe		
Solana Beach and Tennis Club	West end of Dahlia St.		
Seascape Sur Parking Lot	Seascape Sur Easement		
Del Mar Shores Parking Lot	Sierra Ave. near Del Mar Terrace		
Del Mar Beach Club East Parking Lot	Sierra Ave. east of Del Mar Beach Club Dr.		
City of Solana Beach Fire Department	500 Lomas Santa Fe	Public Building - Fire Station, fleet and fire equipment storage	Medium
City of Solana Beach City Hall	635 S. Highway 101	Public Building -Administrative	Low
Marine Safety Department, Fletcher Cove	111 S. Sierra Ave.	Public Building Administrative, marine safety equipment storage	Low
Fletcher Cove Community Center	111 S. Sierra Ave.	Public Building – Community Center	Low
La Colonia Park and Community Center	715 Valley Ave	Public Park and Building – Community Center, administrative, park	Low
Tide Beach Park	302 Solana Vista Drive	Public beach	Low
Del Mar Shores	190 Del Mar Shores	Public beach	Low

4.2.1 Inspection Frequency of Municipal Sites

The City inspects all of its municipal sites listed above on a continuous basis. The inspections addressed all the required inspection steps to determine full compliance. Every winter, prior to the wet season, the Public Works Yard (Yard) is given a complete inspection and all Public Works employees are given a complete storm water refresher training seminar. Also, the Public Works Crew is put through a practice run of the Weather Triggered Action Plan to prepare for the upcoming wet season. At this annual inspection, the current inventory of the storm water BMPs kept on-site (gravel bags, bio-filter rolls, straw rolls, etc) is

documented and additional supplies are ordered if necessary. Visual inspections are conducted on a daily basis by the Public Works Crew. Here are the specific dates and numbers of inspections for the City's municipal areas:

Public Works Yard: Weekly facility visual inspections by City staff and training every October to prepare for wet season. Inspection and training conducted last year on June 22, 2009.

Roads and Streets: Daily visual inspections by City Staff. Every street is swept at least once per month. Main arterial streets and collector roads are swept twice per month. These frequencies are set based on the size and frequency of use by vehicles on a daily basis.

Parking Lots: Weekly visual inspections by City Staff. Every City parking lot is swept once per month. In addition, the Fletcher Cove Park parking lot is swept monthly during the summer months due to an increase in use during the summer.

MS4 System: Weekly visual inspections by City Staff. Highest priority catch basins cleaned annually (those with accumulated debris inside). All 309 catch basins and 15 unimproved channels were inspected and 13 catch basins were cleaned. Approximately five (5) cubic yards of debris was removed from the MS4 system during this reporting period.

Fire Department: Daily visual inspection by City Staff. Last inspection was conducted on June 22, 2009.

City Hall: Daily visual inspection by City Staff. Last inspection was conducted on June 22, 2009.

Marine Safety: Daily visual inspection by City Staff. Last inspection was conducted on June 22, 2009.

La Colonia Community Center: Daily visual inspection by City Staff. Last inspection was conducted on June 22, 2009.

Beaches: Daily visual inspection by City Staff (Marine Safety Department).

4.2.2. Follow-up Activities

The City had one follow-up activity as a result of municipal inspections. The Fire Department had some minor corrections to make after the initial inspection on June 22, 2009. The inspection revealed some miscellaneous oil containers and paint containers located outside of the trash dumpsters in the trash enclosure. These items were being stored temporarily until the next Household Hazardous Waste (HHW) pickup occurred. However, the containers should have been covered and above ground, shielded from the environment. A follow-up inspection was conducted on June 29, 2009 and the facility was found to be in compliance. The leftover containers were placed in a protective storage shed, and will be kept there until the next HHW pickup. Staff at the Fire Department was educated and will ensure that all future oil and paint containers will be placed inside the protective shed.

All other facilities were implementing the necessary BMPs and all employees were properly trained. The Public Works Yard required no corrective action as everything remained in compliance. The Wet-Weathered Action Plan was successfully implemented and the employees were trained again and had a practice run prior to the beginning of the wet season.

4.2.3 Implementation of Pesticides, Herbicides and Fertilizer BMPs

A significant change occurred during this reporting period in regards to pesticides, herbicides and fertilizers. As reported in last year's Annual Report, the City used to house a small amount of these materials at the Public Works Yard. However, City staff no longer handles any pesticides, herbicides or fertilizers and does not store any of this material onsite. Instead, all applications are conducted by the City's contracted landscaping company and no material is kept in the City.

In addition, the City has recently switched to using only organic pesticides, herbicides and fertilizers on City property. This change was approved by the City Council and additional funds were allocated to implement the program. The City is extremely proud of this transition, as the chemically produced materials can create significant water quality degradation. This major transition (including financially) was approved and encouraged by the City Council, which reflects the environmentally conscientious attitude of the community.

4.3 Pollutant Source Identification

To assist the City in determining the source of pollutants in its receiving water

bodies, and/or the receiving water bodies of neighboring jurisdictions, the municipal facilities were also identified by Watershed in the City JURMP*. There are no changes to report in the municipal facility by watershed classification.*

During this reporting period, staff continued to evaluate the possible types of pollution that could be generated from each municipal facility. The evaluation included the following:

- Type of materials stored or used on site
- Activities conducted on site
- Proximity to conveyance system, or environmentally sensitive areas
- Any additional activities that may affect water quality such as additional storage or new materials kept on-site

Results from the evaluation indicate that most City facilities are a low threat to water quality. Parking lots, streets and roads, and the Public Works Yard are the highest priority of municipal facilities as they could introduce pollutants into the conveyance system, which could impact water quality.

The City is committed to implementing BMPs that will reduce pollutants from parking lots, streets and roads and the Public Works Yard in particular. The City has installed and maintains a BioClean filter in one of the upstream catch basins that lead to the problem Seascape Sur pipe. In addition, the City installed a curb inlet screen at the same catch basin upstream from Seascape Sur to prevent debris, and possible pollutants, from entering the catch basin.

During this reporting period, an additional BMP catch basin inlet screen was installed in the opposite catch basin across the street as a pilot test project. This inlet screen automatically opens up during a rain event to prevent flooding, but remains in place during dry weather periods. The sturdy screen also contains a filter in the basket behind the screen to further filter out pollutants prior to entering the Seascape Sur storm drain. These two BMPs will be studied and sampling results analyzed to determine if they are effective BMPs for the problem pipe. The results will be described in more detail in Chapter 12 (Special Investigations)

The Public Works Yard is visually inspected weekly and BMPs are maintained and reinforced as needed. In addition, the City utilizes results from its dry-weather-monitoring program to determine if pollutants are entering the system from its municipal facilities.

The City's 2008 Dry-Weather-Monitoring Program (DWMP) was completed by

the City in September 2008. The results indicated a concern at Seascape Sur, which has been an ongoing problem in the City (see discussion in Chapter 12, Special Investigations) where elevated levels of bacteria were detected. An investigation into the identification of the pollutant source is ongoing, and the City is looking into alternatives ways to address the situation. No municipal facilities were found to be contributing the pollutants.

The City utilized the information from the 2002-2008 dry-weather-monitoring programs and the criteria established by the Permit (Order 2007-0001) to further develop its 2009 Dry-Weather-Monitoring Program. The results of the 2009 program will not be available until after this reporting period, but if any exceedances are detected, follow-up actions will be taken immediately. The results of the 2009 DWMP will be included in Chapter 7 (IDDE) of this Report, which will be submitted separately in December 2009 as agreed to by the RWQCB.

4.4 Threat to Water Quality Prioritization

The City utilized the criteria prescribed in Permit Section F.3.a. (3)(a) and (b) to prioritize the facilities based on their potential Threat To Water Quality (TTWQ) from storm water runoff. In addition, dry-weather monitoring data and previous complaint records were included in the evaluation. As noted in the City's JURMP, results from the 2008 dry-weather monitoring program indicated that there were no illegal discharges or illicit connections associated with existing municipal facilities. However, the City still classified its public parking lots, MS4 system, streets and roads and the Public Works Yard as *high priority* using the criteria of the Permit. As also noted in the JURMP, the City classified the beach at Seascape Sur as a *high priority* because results from historic dry-weather monitoring and Coastal Monitoring programs indicated elevated levels of bacteria (see Chapter 12, Special Investigations).

The Fire Department facility was the only municipal site classified as medium-priority. The City Hall building, the Community Center at La Colonia Park, Tide Beach Park, Fletcher Cove Community Center and the Marine Safety Center facility were classified as low priority primarily due to the activities conducted at those sites.

There are no changes to report in the City's prioritization of its municipal facilities.

It should be noted that in the 2003 Annual Report, the results of the 2003 Wet

Weather Monitoring Program revealed very high levels of the pesticide Diazinon within the watershed. The City focused its efforts on reducing the use of Diazinon within the City and by municipal landscaping contractors through educational activities. The City is happy to report that Diazinon was not found in any of the samples analyzed by the lab for our 2004, 2005, 2006, 2007 or 2008 dry weather programs. This is consistent with the overall trend region-wide showing that diazinon levels have been steadily decreasing. The City can now focus on other pesticides or high priority pollutants in the ongoing effort to improve water quality in the region. This is a success story that can be celebrated by the entire region, and is a great case proving the validity of the storm water program as a whole.

4.5 Pollution Prevention Methods

As described throughout the Municipal Component Section of the JURMP, the City has established pollution prevention methods that focus on municipal operations, including operation and maintenance of its MS4 system with the goal of preventing and reducing pollutants in runoff. The following is a list of some of the methods in place to accomplish this goal:

- Annual inspection and cleaning of the City's MS4 system
- Routine street sweeping (schedule is on the City's web site and available upon request)
- Daily trash removal from high priority streets and parks
- Sediment and erosion control methods (application of Visqueen, materials coverage, silt fences, etc.)
- Facility and ground maintenance conducted in a manner that would not contribute pollutants to a conveyance systems and expected to reduce pollutant runoff during storm events
- The use of bio-filter roll(s) as a PPM at municipal facilities
- The installation and maintenance of additional permanent treatment BMPs at City facilities (Two CDS units, Sand Trap and a large Bioswale)
- Maintenance of the MS4 including routine inspections, annual cleaning and proper disposal of captured materials
- Spill response procedures (street and road spills, facility spills)
- Household Hazardous Waste Collection (Note: the City participated in a reciprocal use agreement with the Cities of Vista, Poway and Escondido for use by Solana Beach residents to recycle their

household waste materials.) The City also offers a door-to-door program (more on this later in the Report).
- Installation and maintenance of two catch basin inlet filters and debris screens at ongoing problem area directly upstream from Seascape Sur beach outfall.

In the City's JURMP, the above pollution prevention methods were expanded for implementation at all City municipal facilities, depending on the type of activities conducted at each facility. To assist in developing appropriate BMPs, the facilities were categorized into the following types:

- Landscape and recreational facilities
- Roads and streets maintenance
- Public buildings
- Public Works Yard
- Parking facilities
- Storm Drain Conveyance System (MS4)

Specific BMPs were then developed for each category type identified and presented in the City's JURMP. For example, BMPs for the Public Works Yard (JURMP, Section 6) include:

- Materials storage alterations
- Visual inspections
- Improved operations and maintenance
- Good housekeeping procedures
- Preventative maintenance
- Spill prevention
- Sediment and erosion control
- Employee training
- Vehicle and equipment maintenance operation alterations
- Waste disposal and recycling
- Vehicle equipment and washing
- Storage tanks
- Outside storage

During this reporting period, the City implemented pollution prevention methods (BMPs) for each facility type based on what was presented in the City's JURMP. Municipal facilities were inspected by City staff to ensure the implementation of BMPs was occurring.

4.5.1 Proactive Approach to Pollution Prevention – JURMP Requirements

Because of the City's proximity to the Pacific Ocean, the City has been proactive in its approach to urban runoff and pollutant mitigation and reduction, not only during this reporting period but also prior to the implementation of the JURMP.

Annual Inspection and Cleaning of Storm Drain System

The City conducts an annual inspection of its storm drain system – citywide. Public Works staff inspects all 309 catch basins in the City and prioritize each based on the severity of sedimentation and trash build-up in accordance to the Permit**.** All catch basins that contain trash or sediment build-up in excess of the Permit requirements are cleaned using a Vactor truck. During this reporting period, the City inspected all 309 catch basins and 15 unimproved channels. Thirteen (13) catch basins had accumulated debris and all 13 were cleaned, resulting in five (5) cubic yards of material removed from the storm drain system (which includes open channels, etc.). The material, primarily sediment and debris, was properly disposed of at the San Elijo Wastewater Reclamation Facility.

Special Events Vendor BMP Requirements

The City developed a "Special Events Vendor BMP Guidelines" (Appendix C) for all events that require a Special Events Permit. The guidelines include BMPs for food vendors, event coordinators and event workers. The guidelines include BMPs such as:

- Protecting all adjacent catch basins
- Trash and recycling containers required
- Portable restroom secondary containment
- No dumping into storm drains
- Proper clean-up practices (No water)

These requirements are all included in the Special Events Permit. For larger events, such as the City sponsored Fiesta Del Sol and Beach Blanket Movie Night, the City holds multiple meetings prior to the event with the organizers and all issues are discussed. The organizers are required to submit their BMP plans to the City, and City staff monitors the events throughout their entirety. The City schedules post-event street sweeping through its street sweeping contractor for all major events.

Pet Waste Bag Dispensers

The City actively installs Pet Waste Bag Dispensers and maintains the dispensers to encourage proper pet waste disposal. Several years ago, the City placed these dispensers and signs along both sides of Sierra Avenue to encourage their use to prevent pollutants from entering the MS4(Sierra Avenue is the street closest to the beach, and runs parallel to Highway 101). The City implemented this BMP in response to results from its dry weather and coastal outfall monitoring, which indicated the presence of fecal bacteria at Seascape Sur. In an effort to educate the community about pet waste, the City periodically includes discussions about its pet regulations, which prohibits dogs in some locations of the City and on all beaches, in its community newsletter and recreation guide *Shorelines.* In addition, City staff meets with property managers of the condominiums along Sierra Avenue and educated them on storm water regulations and solicited their help in educating their residents.

The City recently completed its much anticipated Coastal Rail Trail. This trail runs parallel to Highway 101 the length of the City, and has become a popular walking/jogging spot for not only the residents, but their pets as well. The City required the project to include additional pet waste dispensers, and have found them to be used very frequently. In addition, the City recently completed the Fletcher Cove Park project, which is located adjacent to the ocean. One of the many environmental protection measures implemented as a part of this project was the installation of pet waste dispensers. City staff maintains these new dispensers as well. This shows the City's proactive approach to protecting the integrity of the local waterways. This practice of requiring pet waste dispenser's at all new public and private projects will continue as it has been received very well by the community.

As part of the Public Works Department routine tasks, the pet bag dispensers are refilled daily. The amount of material that is prevented from entering the City's MS4 system as a result of this PPM is unknown and there is no acceptable method of estimating it, however, the City's Public Works Crew refilled approximately 1,380 bags per week. This is up from 1,116 bags per week during the last reporting period. This is relatively consistent from the 1,298 bags per week during FY 06/07. For reference sake, these are the numbers from the previous years; 775 (FY 05/06), 625 (FY 04/05), and 550 the first year this was documented (FY 03/04). The total amount for FY 08/09 comes out to approximately 72,000 total bags at a cost of approximately $2,880 (4 cents per bag). Those numbers are up from 58,000 bags and approximately $2,320 from

last reporting period.

Solana Center for Environmental Innovation

The City is proud to be associated with the Solana Center for Environmental Innovation (formerly Solana Recyclers), hereinafter referred to as Solana Center. Due in large part to the efforts of this group, the City was the first city in San Diego County to have a comprehensive *curbside* recycling program. In addition, to help educate the community, the Solana Center routinely writes articles for the City *Shorelines*. Also, Solana Center administers the City's Used Oil Recycling Program, providing education for schools, community groups and City events on the proper disposal of used oil. For a complete listing of articles written in the *Shorelines,* please see Chapter 6, Residential Component.

Recycling Efforts

The total amount of material recycled throughout the City during this reporting period is unknown at the time of this report (numbers will be available after March 15, 2010). However, the last reporting period ending in 2008 showed the City at a 62% recycling rate, which is on the upper tier of cities in the county and well within compliance with the 50% rate required by Assembly Bill 939 (AB939).

The City implemented a new residential solid waste and recycling automated single stream commingled collection program in November, 2006. This will be described in greater detail later in this report, but it should be noted that after the first year of implementation, residential recycling increased by 48% (about 816 tons) and after the second year is was up 20% (345 tons) which is pretty remarkable.

The City Council also adopted a Construction and Demolition Debris Recycling Ordinance in January 2008. This ordinance is discussed in more detail in the Construction Component of this Report, however it's important to mention because it once again demonstrates the City's progressive commitment to protecting the environment.

Hazardous Materials Management Team

The City's Fire Department contracts with San Diego County Hazardous Materials Management Division and established an Emergency Response Program to contain hazardous materials that result from automobile accidents, spills, illegal dumping or any other activities within the City of Solana Beach. Generally, the County's Hazardous Materials Team handles recovery and

disposal of the materials, although work crews from the City's Public Works Department also contain some small spills and are on call 24 hours a day, 7 days a week to respond to all spills that occur within City limits.

Storm Drain Inventory and Stenciling

The City has inventoried all of its storm drain conveyance structures (inlets and catch basins). The inventory list includes addresses, cross streets and a bit-map. This information was then utilized to implement a program that affixed a stenciled tile at each location that reads, *"No Dumping! This drains to the ocean."* The City has successfully completed application of the tiles at *every* storm drain inlet and catch basin. In addition, the City requires all new or re-development projects that install a storm drain curb inlet or catch basin to include the a stenciled tile. The City constantly monitors the catch basins and if a tile is broken or has been removed, another one is immediately installed.

The City also participated with the non-profit group I Love A Clean San Diego (ILACSD) to sponsor an ongoing Tile Stenciling Program in which the City provides volunteers with a GIS map of all catch basins in the City and a box of tiles so they can compass the City and replace any tiles that are damaged or missing. This was a highly successful program/partnership that the City will continue to ensure all catch basins have tiles permanently affixed to them.

Street Sweeping

The City already had a comprehensive street sweeping program prior to the Permit and the implementation of the JURMP. The residential streets are swept once each month, while major arterial streets and collector roads are swept twice per month. In response to the comments received from the RWQCB on the FY 02/03 annual report, the City developed a form to characterize and measure the amount of material collected by the street sweeper (Appendix A). The driver of the street sweeper completes the form after every trip and it is verified by the appropriate Public Works employee.

As reported in the City's FY 2005/06 Annual Report, the City was having significant problems with its contracted street sweeping company. The contractor was not performing up to contract specifications, and the City was having a difficult time getting the proper reports from the drivers. A contractual battle ensued and documentation was not submitted. The City eventually relieved the street sweeping company of their duties and selected another contractor. The new contractor has been much more effective and responsive.

This reporting year, the amount of debris collected by the street sweeper totals 274 cubic yards, which is almost identical to last year's amount of 275 cubic yards and a slight decrease over the total of 299.1 cubic yards recorded in FY 06/07. The relatively consistent amount of debris collected by the street sweeper can be attributed to the fact that most of the debris consists of organic materials, including leafs and green waste. There is relatively no trash collected, which is a good indication that the City, and community's, efforts at trash and litter reduction are successful. The City will continue to monitor the street sweeping debris to see if there are certain areas where trash is more prevalent and litter reduction campaigns can be implemented. However, at this time, most of the debris is organic green waste materials.

To demonstrate the City's commitment to documenting the amount of debris collected by the street sweeper, and to ensure that all activities were conducted in compliance with the storm water regulations, the City included specific language in its new street sweeping contract. This language will be used in every subsequent street sweeping contract to ensure all contractors are adhering to all storm water regulations, which was a comment made by the RWQCB in its JURMP Annual Report Review.

As mentioned above, and now required by the new Permit, the City sets sweeping frequencies based on the type of street. The larger, more frequently used by vehicles, are swept more often. The streets are classified based on SANDAG's Vehicle Miles Traveled (VMT) parameters. The lesser traveled streets, like residential streets and parking lots, are swept once per month. The other higher frequency traveled streets such as arterials and collectors are swept twice per month. A complete schedule can be found on the City's website or upon request.

The Permit requires the Copermittees to identify the total distance of curb-miles of improved streets, and highways for high, medium, and low sweeping frequencies.

High Priority (twice per month):
Lomas Santa Fe – 4.06 miles
Highway 101 – 3.89 miles
South Sierra – 1.62 miles
Stevens/Valley – 3.29 miles
Cedros – 2.63 miles

Medium Priority (once per month):
All residential streets – 90.71 miles

Low Priority (once per month):
Parking Lots – 12 total lots, 59,750 square feet

These streets were cleaned on the set schedule listed above.

The Permit also requires Copermittees to identify the total distance of curb miles swept.

The City sweeps all (100%) streets and parking lots at least monthly. The high priority streets are swept twice per month. The total distance swept per year is:

High Priority: 402.74 miles per year
Medium Priority: 1,088.52 miles per year
Low Priority: 717,000 square feet per year

Spill Prevention

The City's Public Works Department maintains on-site at the Public Works Yard, a 55-gallon drum and specially equipped vacuum to handle small hazardous materials spills. The drum and vacuum are small enough to travel with the work crews and have been utilized to contain oil from an automobile accident, spillage of work-related materials (paint and debris), and collection of minor hazardous materials. In the event the material exceeds the amount that can be collected by the work crews, the City's Fire Department initiates its spill response plan (discussed above). Currently, City work crews do not have the resources to weigh the amount of material collected or to track and document the amount of material collected. Significant spills for which the work crews responded to are discussed in Chapter 7: Illicit Discharges Detection and Elimination.

Staff Trainings

As reported in previous Annual Reports, the staff trainings used to occur at the monthly citywide staff meetings. However, these trainings had to be general in nature because of all the varying departments and staff that attended. During this reporting period, staff decided to take a more proactive approach and implement a department specific training focusing on the sections of the Permit that pertained to their respective duties. Staff felt that more focused, detailed trainings would be a much more effective approach, and this turned out to be extremely

successful. This approach will be used more frequently, while ensuring that all new employees receive the general training as well when they are hired. Details about specific staff trainings are discussed in the Education Chapter of this Report.

Storm water Hotline

To assist the public in directing their calls for complaints and service, the City maintains and responds to a 24-hour storm water hotline telephone recording (858) 720-4424. When the number was first established, it was checked twice each day. However, to facilitate a quicker, more effective response time, the City now links all calls to the direct extension of the City's Environmental Programs Manager. Therefore, all calls that are made to the City regarding storm water issues will be handled immediately. This has been proven very successful, as the issues are addressed immediately. This leads to much quicker responses, which result in more efficient spill response and enforcement actions. The City informs the public about the hotline number at City Council meetings, on flyers and handouts at workshops, on business cards, on educational materials and during inspections.

Materials Storage

Although only minor quantities of hazardous materials are stored at municipal facilities (as noted in the City's JURMP), the City stores those materials indoors when feasible. Only non-hazardous materials, such as Class 2 gravel, temporary stockpiles of topsoil, etc., are stored outdoors for short periods of time. When this does occur, City Staff ensures all storm water BMPs are installed around the piles and they are covered, if necessary, to ensure nothing leaves the Public Works Yard.

Sediment and Erosion Control

The City Public Works Department augmented the City's supply of Visqueen as a method to reduce or prevent sediment and erosion control. The Visqueen is utilized at the Public Works Yard on the sand and soil that is kept on-site. In addition, the work crews utilize bio-filter rolls to catch runoff. As added insurance, the City's Operations Manager always orders extra erosion control BMPs before the wet season to store on-site for emergency situations. Most of these practices were instituted as a result of suggestions made by the RWQCB during their inspection in August 2002.

Storm Drain Inlet/Catch Basin Insert

The City is currently participating in an ongoing experimental application of two catch basin inserts in one problem location in its MS4 curb inlets. The inserts are being studied to determine its effect on the elevated levels of bacteria in the inlets, located above the Seascape Sur outfall. Although early results from the pilot program are inconclusive regarding bacteria, the catch basin filters have been extremely effective in eliminating large quantities of trash and organic matter from the MS4 system. Public Work Crews empty the filters on a scheduled weekly basis and routinely remove about half a trash bag full of debris. Additionally, inspection of the catch basin insert has revealed occasional violations of the adjacent landscapers as a large amount of grass clippings were found in the catch basin. An investigation resulted in a Notice of Violation (NOV) to the landscaping company and a discussion with the property management company. No additional violations have been reported.

Smoking Ban on Public Beaches and Parks

During a previous reporting period (December 2003), the City of Solana Beach jumped to the forefront of pollution prevention, on a nation-wide scale. The City was the first city in the nation to ban smoking at its public beaches and parks. The ordinance (Ordinance 316, see Appendix B) bans smoking at all public beaches and parks, and is actively enforced by the Marine Safety Department and Code Enforcement Department. The public has been very responsive to this ordinance, and the City has had many requests from other jurisdictions, as far away as Australia. The City appears to be a trend setter, as the City of Los Angeles and other Orange County cities are following suit with their own ordinances in the works. More locally, the City of Del Mar and San Diego have followed with their own ordinances and other cities such as Oceanside are investigating the possibility. This is a significant pollution prevention action the City has undertaken, as cigarette butts are routinely found as the most abundant type of debris collected in beach clean-ups. The impact on the local beaches will be extremely beneficial, and the City is proud to be the trend setter in another environmental arena (the City was the first jurisdiction in San Diego County to provide curbside recycling).

In addition, although it occurred after this reporting period, the City approved an enhanced No Smoking Ordinance that extends further than the one listed above. On August 7th, 2009, a much more stringent ordinance was adopted by the City Council that extended the ordinance to include the following no smoking areas:

- All enclosed or unenclosed dining areas and bars
- Street Fairs
- Farmer's markets
- On, near or around the Coastal Rail Trail
- Within 20 feet of all entry ways and all enclosed areas available to and customarily used by the general public and all businesses patronized by the public
- Tot lot and Playground

This will, without a doubt, significantly reduce the amount of smoking outdoors in Solana Beach, and therefore reduce the amount of cigarette butts that end up in our MS4 and receiving waters. The City is excited to start implementing this ordinance and reducing the amount of pollution that comes with smoking.

Recycling/Trash Containers

The City, and community, places a high priority on recycling, as evidence by the extremely high recycling diversion rate, discussed previously in this Report. The City has made a conscientious effort to increase the amount of public recycling containers over the last few years. As discussed in previous annual reports, the City has focused on placing dual trash/recycling containers at all popular public locations throughout the City, including parks, beach accesses and the Coastal Rail Trail. The City receives an annual grant through the Department of Conservation as well as an annual grant through the Regional Solid Waste Association, and these funds have been used to purchase and install the dual trash/recycling containers throughout the community. This has dramatically increased the amount of public recycling, and the City anticipates continuing this program in the coming years.

Not only is the City focusing on implementing a public recycling program, but as previously mentioned, the City recently implemented a large scale residential recycling program. The City, along with its waste hauler Waste Management, recently converted the traditional source separated recycling program to a streamlined, single stream commingled recycling program. This has been a huge success as the residential recycling rates have dramatically increased by 20%, or 345 tons.

Another example of the City's proactive approach to pollution prevention occurred during this reporting period. The City had a particular problem location where a private commercial dumpster was constantly overflowing with trash and

was a popular illegal dumping location. The dumpster was shared between two private businesses that didn't get along and would not talk to each other or take responsibility for maintaining the trash area. The City, acknowledging the problem and need for a solution, invited both business owners into a meeting, and threatened increased enforcement actions if they didn't cooperate. The end result was a joint agreement between the two businesses to build a locked trash enclosure which has eliminated the illegal dumping problem and increased their service to eliminate the overflowing trash situation. This is a significant accomplish that was fostered by the City which eliminated a significant trash situation, preventing it from entering the City's MS4.

Plastic Bag Advertising Ban

Another progressive action the City Council took was passing an ordinance banning the use of plastic bags for advertising. The ordinance bans the recently popular style of advertising used by companies in which they use small plastic bags full of rocks because often times it is unsolicited and the bags never get picked up, eventually ending up in the City's MS4. This emerging type of advertising is typically conducted by small residential and commercial support businesses such as landscapers, pool cleaners, housekeepers, and handyman type services. This is another example of the City taking a proactive approach to litter in the MS4. Plastic is the number one pollutant found in the ocean worldwide.

Plastic Bag Recycling Program

A significant new accomplishment that occurred during this reporting period was the implementation of a revolutionary plastic bag recycling program. This unique program is an unprecedented public/private partnership between the City and Trex, Inc., a private company that makes durable, high quality plastic building materials. This partnership is believed to be the first of its kind, in which the City designates specific "drop-off" locations throughout town in which the community can take their used plastic bags and drop them off. The City then takes these bags and compresses them into small bales that are taken to Trex's facilities for reuse.

This is an extremely unique and highly successful program that demonstrates the City's ability and willingness to think outside the box when it comes to dealing with the single highest pollutant in the world's waterways, plastic. Currently, there are no recycling programs established in the country in which plastic bags are

collected locally and processed locally into reusable, high quality products. All plastic bag recycling occurs overseas due to the lack of "washing" facilities in the United States. The amount of contamination problems with current common plastic bag recycling programs requires the bags to be shipped overseas to China, where the lack of environmental regulations brings into question the reliability of recycling the bags at all. Often times, the material ends up in the local environment anyway, so the amount of resources it takes to ship the material overseas negates the environmental benefit of recycling the bags. However, the City has fostered a relationship with a local business that guarantees the bags are properly handled and recycled. The City is extremely proud of its plastic bag recycling program, and the results to date are pretty remarkable. As mentioned above, over 150,000 bags have been recycled and prevented from reaching our local waterways.

Ensuring Implementation

To ensure that the PPMs are implemented, City staff meets periodically with all Department Directors to review the BMPs, Permit requirements and program expectations. Department Directors are responsible for ensuring that their staff carries out the BMPs for their facilities. The City Engineer meets every Wednesday with the Operation Manager, his public works crew and the City Inspector at the Public Works Yard for safety meetings. It was decided that at these meetings, storm water issues, including BMPs, should be discussed and the Yard will be inspected to ensure compliance. The Environmental Programs Manager will also conduct random compliance inspections. During this reporting period, there were no violations observed at the City's municipal facilities and all appropriate BMPs were being properly installed and maintained.

4.6 Pollution Prevention Strategy Effectiveness

One of the issues that the City faces is developing an appropriate process to determine the effectiveness of the pollution prevention methods and strategies, (BMPs). The City is committed to developing a consistent approach that could be agreed upon by all Copermittees. It is important to collect data and analyze results in a consistent manner – county/region wide – in order to be able to share results and draw conclusions across agencies, particularly given that water is not restricted by jurisdictional boundaries.

To address this issue, the Copermittees met several times in the fall of 2002 and in 2003 to work out a more appropriate strategy. A guidance document was

prepared by the Copermittees and submitted to the RWQCB on October 16, 2003, titled *"A Framework for Assessing the Effectiveness of Jurisdictional Urban Runoff Management Programs".* This guideline presents a comprehensive assessment strategy that initially focuses on programmatic assessments and moves toward water quality-based assessments to determine program effectiveness. More specifically, it addresses six levels of assessment:

Compliance with Activity-based Permit Requirements

- Changes in Knowledge/Awareness
- Behavioral Changes
- Load Reductions
- Changes in Discharge Quality
- Changes in Receiving Water Quality

The City implemented this assessment program during the last reporting period, which is described in more detail in the Effectiveness of JURMP Assessment Component of this report.

Compliance with Maintenance Activities

Tables 4-2 and 4-3 below outline the MS4, sewer system and permanent City BMPs maintenance schedules. The City has an extremely aggressive maintenance program to ensure the systems are clean and functioning properly.

Table 4-2
MS4 Maintenance Activities 2008/2009

Type	Frequency	Date	Total Number (and Distance)	Number Inspected (and Distance)	Comments
Inspection and Cleaning of MS4	Annual	Ongoing between May-October	309 catch basins– 14.5 Miles of MS4	309 catch basins- 0.5 Miles of MS4 pipe inspected	All catch basins inspected, 0.5 miles of pipe inspected (Seascape Sur) 13 catch basins were found with accumulated debris and 13 cleaned, 5 cubic yards removed
Inspection and Cleaning of Unimproved Storm Drains (Brow Ditches, Channels, etc)	Monthly	The 30th of every month	15 – 0.8 miles of Unimproved Storm Drains (Brow Ditches, Channels, etc)	15 – 0.8 Miles of Unimproved Storm Drains (Brow Ditches, Channels, etc)	All unimproved storm drains inspected on the 30th of every month and cleaned as needed.
Inspection and Cleaning of Sewer Lines	Annually (entire City)	Ongoing	Entire System	Entire System	The entire sewer system is inspected and cleaned annually, and 1/3 of the system is televised annually

The tables above represent the inspection and cleaning activities related to the City's MS4 and sewer system. As you can see, the City conducts the annual inspections of the entire MS4 as the Permit requires, but goes above and beyond the inspection and cleaning requirements with monthly unimproved storm drain (brow ditches, channels, etc) inspections and cleaning of the entire sewer system annually. The unimproved storm drains are handpicked by City Staff on an as needed basis as a result of the inspections. The City also has an aggressive sewer videoing program that televising one-third of the system each year, identifying possible leaks, infiltration into the City's MS4, grease build-up and root intrusions that may lead to sewer spills. This is an extremely aggressive sewer maintenance program, which reflects the commitment the City has to maintaining a healthy system and preventing spills into the environment.

In addition, the City has designated sewer "hot spots" that are cleaned quarterly (every three months). These "hot spots" are areas with historical problems such as heavy grease buildup, root intrusion, and flat lines that may need increased cleaning to prevent sewer backups. The program includes an aggressive "root foaming" procedure in areas with historical root intrusion problems.

Table 4-3
Municipal Treatment Control BMP Maintenance Activities 2008/2009

BMP Type	Location	Frequency	Total Number	Number Inspected	Comments
Low Flow Diverter	Fletcher Cove Park	Monthly	1	1	Low Flow Diverter is cleaned once per month and inspected daily
Sand Trap	Fletcher Cove Park	Monthly	1	1	Sand Trap is cleaned monthly

CDS Unit	Fletcher Cove Park and North Rios Avenue	Monthly	2	2	The CDS units are cleaned monthly
Sewer Siphon	San Elijo Lagoon	Monthly	1	1	The siphon is cleaned monthly
Bio-Swale	La Colonia Park	Annually	1	1	The Bio-Swale is cleaned annually prior to rainy season and inspected weekly

The City has an aggressive maintenance program for all City-maintained permanent BMPs. The monthly maintenance frequency for the Sand Trap and CDS units are much higher than suggested by the manufacturer. The daily inspections of the Low Flow Diverter are conducted to ensure it is functioning at all times and redirecting the urban runoff away from the beach and into the sewer system.

4.7 New Activities and Improvements for FY 09/10

The City anticipates continuing the activities of the Municipal Component as specified in the JURMP. However, as noted earlier and what will be a recurring theme throughout this Report is the development and implementation of the new JURMP activities in relation to the new Permit Order No 2007-0001. The focus will be continuing the cooperation among different departments, ensuring municipal facilities are in compliance with the Permit, and collaborating with other Copermittees. The Department Directors were required to integrate more responsibilities into positions in order to implement the Watershed Urban Runoff Management Programs (WURMP), Standard Urban Storm Water Mitigation Plan (SUSMP) and Low Impact Development (LID) program. Because of our team

approach, this transition occurred rather seamlessly. The Planning Department and Engineering Department worked closely together in implementing the respective requirements.

As mentioned previously in this Report, the new JURMP document was adopted in March 2008. This contained new elements that will require additional/modified requirements/duties of different Departments within the City. Additional staff trainings will be required to ensure that all Staff activities will be in compliance with the new Permit and some job duties will have to be altered. Since the new Permit has now been adopted, the majority of the City's efforts will be spent implementing programs to meet the requirements of the new Permit. These changes will have to be implemented on the fly, and will require all Departments within the City to work collaboratively to accomplish the goals within the new Permit. The City is confident that the infrastructure of the City as a whole will allow for a relatively seamless transition to the requirements of the new Permit. Some of the new programs include:

- Minimum street sweeping and priority requirements
- Post-Construction BMP verification, tracking and inspections
- SUSMP implementation
- Low Impact Development (LID) development and implementation
- Hydromodification Plan (HMP) development and implementation

4.8 Summary

The City has been successful at implementing the Municipal Component of the JURMP, establishing BMPs for its municipal facilities and providing informative and meaningful staff trainings. The City made significant advancements in the manner in which its storm water program is integrated into the routine tasks of various staff and has developed an effective interdepartmental working relationship. The Environmental Programs Manager position has greatly enhanced the coordination and implementation of the Permit, as well as other environmental programs (solid waste, Used Oil Recycling, HHW, etc.)

Highlights of some of the accomplishments of the City's Municipal Program Component include:

- Implementation of two comprehensive WURMPs
- Creation of an effective municipal inspection process
- Implementing storm water issues and inspections of Public Works Yard at weekly safety meetings between the City Engineer and Public Works Operations Manager and crew
- Annual inspection and cleaning of the City's storm drains resulting in five (5) cubic yards of debris diverted from receiving water bodies
- Continued implementation of street sweeping tracking form that allows the City to evaluate the effectiveness of the street sweeping program.
- Provision of public pet waste bag dispensers (72,000 bags were utilized by the community during this year at a total cost of $2,880 (4 cents per bag)
- Addition of new trash/recycling receptacles in high traffic area of City to promote recycling and prevent trash/litter from entering storm drain system
- Enforcement and enhancement of Smoking Ban on Public Beaches and Parks Ordinance which has significantly reduced amount of pollution on local beaches and parks
- Implementation of weekly task for Public Works Crew to conduct weekly storm water inspections at the Public Works Yard
- Implemented scheduled cleaning of Fletcher Cove Sand Trap and CDS unit monthly
- Maintenance of Bioswale at La Colonia Community Center
- Maintenance of City-owned CDS unit at North Rios monthly
- Maintenance of filter basket at upstream catch basin of Seascape Sur outfall on a weekly basis
- Routine scheduled inspection and maintenance on unimproved channels on a monthly basis and after all rain events
- Routine scheduled inspection on Fletcher Cove Low Flow Diverter to ensure it is functioning properly on a daily basis
- Implementation of unique public/private plastic bag recycling program, resulting in the recycling of over 150,000 bags to date

CHAPTER 5
Industrial/Commercial Component

CHAPTER 5: INDUSTRIAL AND COMMERCIAL COMPONENT

5.1 Introduction

In accordance with Permit Section D.3.b, this section of the report describes the City's efforts to prevent or reduce industrial and commercial discharges of pollutants into the MS4 to the MEP. In compliance with the Permit, the City evaluated businesses within the City and categorized them as commercial or industrial, as noted in JURMP sections 7.0 (Industrial and Commercial Component).

In each Annual Report to the RWQCB, this section will include modifications to the City's inventory of industrial and commercial facilities, pollutant source identification and potential threats to water quality. In addition, this section of each Annual Report will include results from the City's efforts to implement and enforce BMPs at industrial and commercial sites, related accomplishments and activities. Also, a summary of activities conducted post-reporting period may be included if the activity is deemed essential to understanding the City's efforts at reducing urban runoff or permit compliance.

During the last reporting period (July 1 2008 to June 30, 2009), the City conducted a complete evaluation of the commercial and industrial facilities doing business within the City. Facilities were identified as industrial and commercial sites based on criteria required by the Permit, which included activities conducted on site and also included a site visit for verification. The City prepared an inventory of the facilities in order to understand potential sources of pollution, threats to water quality, and to develop a plan to mitigate or eliminate urban runoff and pollution from the facilities by implementing Best Management Practices (BMPs). The City submitted the complete inventory list in the JURMP.

As a result of the new Permit, this chapter now combines two previous Chapters in the old Permit. The old Permit separated the Industrial and Commercial Sections; however, they are now combined. To keep consistency and for ease of readability, the following sections in this chapter separate the two components, so each can be analyzed according to their respective concerns.

5.2 Industrial Facilities Section

5.2.1 Inventory of Industrial Facilities

There is currently one industrial site operating within the City (Baker Iron Works). Table 3-1 presents the City's industrial facility, including its prioritization level. *There is no change in the City's inventory of industrial sites from those submitted in last year's Annual Report.*

Table 5-1
Existing Industrial Facilities

Facility Name	Facility Address	Narrative Description	SIC Code	Priority
Baker Iron Works	710 Valley Ave	Iron works / metal fabrication	3441	High

5.2.2 Pollutant Source Identification

To assist the City in identifying potential sources of pollutants in its receiving water bodies, and/or the receiving water bodies of neighboring jurisdictions, City staff evaluated the possible types of pollution that could be generated from each industrial facility. The evaluation included the following:

- Type of materials stored or used on site
- Activities conducted on site
- Proximity to conveyance system, or environmentally sensitive areas
- Watershed location

Results from the evaluation concluded that the City's only industrial facility could be a potential source of pollutants (Baker Iron Works),

The conclusion that Baker Iron Works could be a potential source of pollutant discharge was due to the fact that the facility generally uses metal materials in the fabrication of structural devices; most of their work is performed outdoors and is potentially exposed to storm water, and runoff from the property can potentially enter the City's conveyance system. However, the City has worked closely with Baker Iron Works to minimize the potential for pollutants to run off their property and into the City's MS4 system. Baker Iron Works has been more than willing to work with the City to ensure compliance with the Permit, and has completed numerous tasks suggested by the City. These include:

- Permanently covering all stock piles of metal materials kept outside to shield it from rain events.

- Cleaning of yard as needed but no less than weekly with a magnetic device to pick up all loose metal shavings.

- Moving all chemicals indoors to ensure that they will not run off the property and into the City's MS4 system.

- Training all staff on proper storm water BMPs and general housekeeping for all activities that may impact the City's MS4 system.

- Installation of low flow sump/infiltration structure at the northwest corner of the facility to handle all low flows from the entire facility. The low flows will enter a small drain that extends across the driveway and enters into a small infiltration well structure to prevent the water from entering the MS4. This structure has worked very well in eliminating all low flows from leaving the site. Baker Iron Works employees routinely monitor and maintain the infiltration well to ensure proper functionality.

- Permanently sealing a trench drain near office building that used to drain directly to street. Now the runoff bypasses the drain and travels down to the low flow sump/infiltration structure mentioned above.

The results of the 2008 dry weather program indicate that no related pollutants were found downstream from this industrial facility. This is consistent with the 2001, 2002, 2003, 2004, 2005, 2006 and 2007 dry-weather-monitoring program results which also indicated that no related pollutants were found downstream from this facility. The City will continue to inspect and monitor these locations in the future to further ensure that they are not contributing to downstream pollution. In addition, Baker Iron Works has agreed to forward all results from their required water quality monitoring under the Statewide General Industrial Permit to City staff, upon request, for review during rain events.

The City utilized the information from the 2008 dry-weather-monitoring program, the criteria established by the Permit, and the evaluation of the potential sources of pollutants (discussed in this chapter and Section 7 of the City's JURMP) to develop its 2009 dry weather monitoring program. Similar to last year, one site downstream and one site upstream from Baker Iron are selected for testing. The City will continue to monitor runoff downstream from this facility as long as it is in operation.

5.2.3 Threat to Water Quality Prioritization

In the City's JURMP, the industrial sites were classified as a high, medium or low priority, based on their potential threat to water quality from storm water runoff. The classification utilized criteria prescribed in Permit Section F.3.a. (3)(a), (b).

There are no changes to report in the City's classification of its industrial facilities from last year's Annual Report. Baker Iron Works is still classified as a high priority industrial site.

5.2.4 Pollution Prevention Methods

The City realized that since Baker Iron Works is the only high priority industrial site in the City, it would be prudent and feasible to monitor their site frequently. Although the Permit requires only annual inspections, the City dedicated more time to ensure that the site was always in compliance. This pro-active approach that occurred in the beginning of this Permit cycle has proved to be well worth the effort. By spending the extra time and effort the first couple of years of this Permit to get this facility into compliance have built a strong working relationship between the owners and the City. This facility has had no violations the last couple of years and continues to stay in compliance.

The City has confirmed that Baker Iron Works is *in compliance* with the state GISW and is currently adhering to all requirements.

Baker Iron Works employees use a large magnet to clean their entire yard as often as needed but no less than once per week. This magnet is very effective in cleaning up small steel waste products that result from daily activities. The parking lot is swept and water is never used. All chemicals are kept in a locked storage shed that has secondary containment and is kept above ground, which was a recommendation of RWQCB staff.

5.2.5 Industrial Inspections

As stated in last year's Report, during FY 07/08, the City changed its inspection practices. Prior to FY 07/08, City staff conducted all industrial and commercial facility inspections. However, in FY 2007/08, the City hired an independent contractor that specializes in storm water inspections. This change occurred due to limited staff time to conduct the inspections, as well as to provide an increased service to the residents of Solana Beach. By hiring a contractor that specializes in storm water inspections, the City, and residents, can be assured that it is

getting the highest quality service.

The City contracted out these services to Environmental Compliance Inspection Services (ECIS) again in FY 08/09. Baker Iron Works was inspected on June 19, 2009 and all designated BMPs were implemented and the facility was found to be in compliance in all areas. The inspection addressed all the required inspection steps to determine full compliance. City staff will also continue to visually inspect the facility at least once a month, and always before the wet season and during rain events. If the City observes a non-compliant facility, the City will inform its appropriate representative at the RWQCB.

5.2.6 New Activities and Improvements for FY 09/10

City staff will continue to work closely with the proprietors of Baker Iron Works to 1) ensure functionality and maintenance of the BMPs, 2) ensure compliance with the City's storm water regulations and 3) educate the business owners and employees about the importance of protecting the community's water resources. In addition, if any new requirements or activities are developed targeting industrial facilities on a watershed or regional basis, the City will communicate these requirements directly to Baker Iron Works and assist them in coming into compliance.

City staff will also monitor business license applications to ensure if another industrial facility opens up that it will be added to the inventory and inspected to ensure full compliance.

5.2.7 Summary of Industrial Section

The City has been effective at working with owners of the one industrial site to ensure compliance with Permit and City regulations. The owners have installed and properly maintained the filtration system at the northwest corner of the property to collect and infiltrate all on-site low flow runoff before it enters the MS4 system. The City has established a great working relationship with the owners/operators of the site and they have made drastic strides to maintain compliance. City Staff will continue to monitor and inspect the facility frequently to ensure compliance with the Permit. Baker Iron Works have been very responsive and immediately remedy any problems encountered during inspections. They have gone above and beyond what is required to ensure they are in compliance with the Permit.

5.3 Commercial Facility Section

5.3.1 Inventory of Commercial Facilities

During the process of revising the JURMP, submitted in March 2008, the City updated the inventory of commercial facilities. The City selected locations based on the requirements of the new Permit, and placed higher priorities on such facilities as automotive servicing, gas stations, repair and fueling, commercial rental yards, and golf courses (high Threat To Water Quality, TTWQ). The City's JURMP inventory has 77 stationary facilities, however 3 stationary facilities were removed (no longer in business) as a result of the inspections conducted during this reporting period, 67 of these facilities are classified as high Threat To Water Quality (TTWQ). The City will continue to update the inventory list as new businesses apply for permits or site inspections reveal changes. In addition, any facility that has the potential to release high priority pollutants into the City MS4 will be added to the list of high priority facilities.

Table 5-2 Inventory Of High Priority Commercial Facilities

Address	Street	Business	Type	Watershed
741	Academy Drive	Academy Animal Hospital	Animal Facility	San Dieguito
435	Cedros Avenue South	KMP Plumbing Company Inc.	Commercial/ Outside Storage Area	San Dieguito
659	Lomas Santa Fe	Henry's Farmers Markets	Grocery Store	San Dieguito
124	Lomas Santa Fe	Subway	Restaurant	San Dieguito
905	Lomas Santa Fe Drive	Baskin Robbins	Restaurant	San Dieguito
124	Lomas Santa Fe Drive	Caffe la Bocca	Restaurant	San Dieguito
705	Lomas Santa Fe Drive	Caspian Petroleum DBA LSF Mobil	Gas Station	San Dieguito
124	Lomas Santa Fe Drive	Chief's Burgers and Brew	Restaurant	San Dieguito
683	Lomas Santa Fe Drive	CVS/Pharmacy #9187	Retail	San Dieguito
663	Lomas Santa Fe	Dixieline Lumber	Retail	San Dieguito

	Drive	Company		
911	Lomas Santa Fe Drive	Einstein Bros Bagels	Restaurant	San Dieguito
689 - D	Lomas Santa Fe Drive	Jamba Juice	Restaurant	San Dieguito
280	Lomas Santa Fe Drive	Kings' Garden	Restaurant	San Dieguito
917	Lomas Santa Fe Drive	Lomas Santa Fe Cleaners	Dry Cleaning	San Dieguito
1550	Lomas Santa Fe Drive	Lomas Santa Fe Country Club	Golf Course	San Dieguito
124	Lomas Santa Fe Drive	On the Spot Cleaners	Dry Cleaning	San Dieguito
661	Lomas Santa Fe Drive	One Hour Martinizing	Dry Cleaning	San Dieguito
689	Lomas Santa Fe Drive	Panda Express #1029	Restaurant	San Dieguito
945	Lomas Santa Fe Drive	Pizza Nova Solana Beach LLC	Restaurant	San Dieguito
979	Lomas Santa Fe Drive	Samurai Japanese Restaurant	Restaurant	San Dieguito
124	Lomas Santa Fe Drive	Solana Beach Fish House	Restaurant	San Dieguito
124	Lomas Santa Fe Drive	Solana Donut House	Restaurant	San Dieguito
691	Lomas Santa Fe Drive	Togo's Eatery	Restaurant	San Dieguito
931	Lomas Santa Fe Drive	Vons Companies Inc. #2327, The	Retail	San Dieguito
136	North Cedros Avenue	Bill Smith Automotive	Auto Repair	San Dieguito
146	North Cedros Avenue	CA Auto Tech, Inc. DBA Test-Only Smog	Auto Repair	San Dieguito
128	North Cedros Avenue	D & B Automotive Specialties	Auto Repair	San Dieguito
421	North Highway 101	Clark's Auto Repair and Radiator SVC	Auto Repair	San Dieguito
243	North Highway 101	Java Depot	Restaurant	San Dieguito
435	North Highway 101	Mohawk Car Wash (Parent-CCSB Inc.)	Auto Washing	Carlsbad

369	North Highway 101	Moreland Choppers	Auto Repair	Carlsbad
135	North Highway 101	Pizza Port- Grain to Green	Restaurant	San Dieguito
445	North Highway 101	Roberto's Mexican Food Inc.	Restaurant	Carlsbad
435	North Highway 101	Shine Auto Detailing	Auto Detailer	Carlsbad
355	North Highway 101	Solana Succulents	Nursery	Carlsbad
125	North Highway 101	Station Sushi	Restaurant	San Dieguito
271	North Highway 101	T's Cafe	Restaurant	San Dieguito
221	North Highway 101	Tidewater Tavern Inc.	Restaurant	San Dieguito
225	Plaza Street	Solana Sushi	Restaurant	San Dieguito
235	S Hwy 101	El Camino Rental	Rental Yard	San Dieguito
663	San Rodolfo Drive	Panera Bread Solana Beach #4283	Restaurant	San Dieguito
665	San Rodolfo Drive	Top of the Bagel	Restaurant	San Dieguito
106	Solana Hills Drive	Carls Jr./M and N Foods LLC	Restaurant	San Dieguito
154	Solana Hills Drive	Premiere Cleaners	Dry Cleaning	San Dieguito
143	South Cedros Avenue	Belly Up Tavern/Wild Note Café	Restaurant	San Dieguito
330	South Cedros Avenue	Cedros Gardens, Inc.	Nursery	San Dieguito
507	South Cedros Avenue	R F McKenna Construction Company	Commercial/ Outside Storage Area	San Dieguito
132	South Cedros Avenue	Zinc Café	Restaurant	San Dieguito
731	South Highway 101	Bangkok Bay	Restaurant	San Dieguito
159	South Highway 101	Beach Grass Café	Restaurant	San Dieguito
437	South Highway 101	Beachwalk Cleaners	Cleaners	San Dieguito
437	South Highway 101	California Pizza Kitchen Inc.	Restaurant	San Dieguito

615	South Highway 101	Dynamite Shine	Auto Detailer	San Dieguito
305	South Highway 101	Long Drug Store #593	Retail	San Dieguito
647	South Highway 101	New Paroli Italian Bistro	Restaurant	San Dieguito
315	South Highway 101	Nobu Gourmet Japanese Restaurant	Restaurant	San Dieguito
437	South Highway 101	Pacific Coast Grill	Restaurant	San Dieguito
247	South Highway 101	Rancho Solana Pet Spa	Pet Grooming	San Dieguito
437	South Highway 101	Rubios' Fresh Mexican Grill Inc. #13	Restaurant	San Dieguito
437	South Highway 101	Solana Beach Coffee Company	Restaurant	San Dieguito
731	South Highway 101	Spotless Dry Cleaners	Dry Cleaning	San Dieguito
125	South Highway 101	Waters Fine Foods to Go	Restaurant	San Dieguito
106	South Sierra Avenue	Naked Café	Restaurant	San Dieguito
168	South Solana Hills Drive	Beverage and More	Retail	San Dieguito
136	South Solana Hills Drive	Perfect Pet Salon	Pet Grooming	San Dieguito
126	South Solana Hills Drive	Round Table Pizza	Restaurant	San Dieguito
524	Stevens Avenue	Anne's Café and Deli	Restaurant	San Dieguito
524	Stevens Avenue	Bongiorno's New York Pizzeria	Restaurant	San Dieguito
524	Stevens Avenue	Rudy's Taco Shop ad Market	Restaurant	San Dieguito
1580	Sun Valley Road	Lomas Santa Fe Ex. Golf Course 408	Golf Course	San Dieguito

637	Valley Avenue	Daniel Morgan's Automotive	Auto Repair	San Dieguito
650	Valley Avenue	Don Chuy's Restaurant	Restaurant	San Dieguito
607	Valley Avenue	Fidel's Little Mexico Inc.	Restaurant	San Dieguito
621	Valley Avenue	Tony Jacal's Inc.	Restaurant	San Dieguito
512	Via De la Valle	Del Mar Bagel Cafe	Restaurant	San Dieguito
640	Via de la Valle	Fish Market Restaurant	Restaurant	San Dieguito
514	Via de la Valle	Pamplemousse Grille	Restaurant	San Dieguito
550	Via de la Valle	Red Tracton's Restaurant	Restaurant	San Dieguito
660	Via del la Valle	AM/PM/ Mini-Market #704	Gas Station	San Dieguito
110	West Plaza Street	Solana Beach Do It Yourself Dogwash	Pet Grooming	San Dieguito

The commercial property inventory was utilized to identify potential sources of pollution (high TTWQ), prioritize the businesses and to develop an inspection frequency program, as noted in the City's JURMP.

5.3.2 Pollutant Source Identification

Eight percent (8%) of the City's 2,211 total drainage acres (roughly 177 acres) are zoned for commercial use. Some of the areas within the City zoned for commercial use drain to environmentally sensitive water bodies and 303(d) listed waters (impaired water bodies), as noted in the City's JURMP. Some of the 303(d) listed water bodies have been identified as having *constituents of concern (COC)* or pollutants that are of particular concern to those water bodies. Table 5-3 identifies the 303(d) water bodies and COCs that are impacted by drainage from the City of Solana Beach. There is *no change* to report in the City's source identification of pollution. As reported in last year's Annual Report, based on water quality data analysis of the past few years, Diazinon has been removed from the San Elijo Lagoon COC list.

Table 5-3 303(d) Water Bodies and COCs

303(d) Water Body	Constituent(s) of Concern
San Elijo Lagoon and Ecological Reserve	Coliform, sediment, nutrients
San Dieguito Lagoon (and its tributary, Stevens Creek)	Coliform, TDS
Pacific Ocean	Coliform

Using the inventory list, businesses were classified by types of activities conducted on the property in order to identify potential sources of pollution in accordance with Permit section F.3.c.(2). The Permit specified 25 possible high-priority business categories for each Copermittee. Upon review of the City's business license inventory, the high priority business categories applicable to the City of Solana Beach include automobile servicing and repair; automobile/vehicle washing; retail or wholesale fueling; pest control services; eating and drinking establishments; mobile carpet, drape, or upholstery cleaning; cement mixing or cutting; landscaping; nurseries; and golf courses.

Potential pollutants for each of the ten (10) categories identified above include, but are not limited to the following.

- *Automobile servicing and repair facilities have the potential to generate pollutants such as heavy metals (Cu, Zn, Cr, Ni, Pb), oil, grease, engine and transmission fluids, antifreeze, brake fluids, suspended solids, phosphates, litter, organic debris, fluids, sediments, paint, solvents, paint chips/dust, sand and broken glass.*

- *Automobile/vehicle washing facilities have the potential to generate pollutants such as suspended solid(s), pH, oil, grease, phosphates, heavy metals, detergents, engine and transmission fluids, litter, organic debris, fluids, sediments, paint, solvents, paint chips/dust and sand.*

- *Retail or wholesale fueling facilities (gas stations) have the potential to generate pollutants such as detergents, oil, grease, engine fluids, suspended solids, phosphates, litter, organic debris, fluids and sediments.*

- *Pest control services have the potential to generate pollutants such as harmful chemicals, pesticides, fertilizers, herbicides, nitrogen salts, and phosphorus and in particular, the chemical "Diazinon."*

- *Eating and drinking establishments have the potential to generate pollutants that occur due to improper waste disposal of oil and grease, improper application of pesticides, litter along sidewalks and parking lots, and sediments from equipment cleaning.*

- *Mobile carpet, drape, or upholstery cleaning businesses have the potential to generate pollutants such as BOD, COD, suspended solids, organic matter, cleaning solutions, animal-related wastes, litter and organic debris along sidewalks and parking lots.*

- *Cement mixing or cutting facilities have the potential to generate pollutants such as suspended solids, oil and grease, heavy metals, hydrocarbons, solvents, and metals*

- *Landscaping and maintenance activities have the potential to generate pollutants such as sediments, oil, grease, organic matter, fertilizers, herbicides, pesticides, nitrogen salts, nitrogen and phosphorus.*

- *Nursery (greenhouse) facilities have the potential to generate pollutants such as sediments, fertilizers, herbicides, pesticides, suspended solids (roof coating), nitrogen salts, phosphorus, oil, grease and organic matter.*

- *Golf courses conduct activities that may produce pollutants associated with landscaping and maintenance activities including litter, BOD, COD, sediment, bacteria/viruses, oil/grease, heavy metals, manure, pesticides, fertilizers and detergents.*

5.3.3 2008 Dry Weather Monitoring Results

Results from the 2008 Dry Weather Monitoring Program (DWMP) were collected and analyzed by the City in September 2008 (but are already outdated at the time of this report). The 2008 program utilized the criteria established by the Permit (and the Copermittee Monitoring subcommittee). The City reviewed the results from the 2008 Dry Weather Monitoring Program looking for the pollutants listed above, and in particular, COCs described in Table 5-3. The results indicated one potential problem area, the bacterial levels at Seascape Sur outfall (which drains to the Pacific Ocean) continued to exceed the action levels established in the Permit and the IDDE investigation continued (see Chapter 12).

The City continues the non-point source investigation (see Chapter 12), and utilized the results to help design its 2009 Dry-Weather Monitoring Program. The results from the 2009 monitoring program will not be available until after this report is submitted to the RWQCB. *As a result of Addendum 2 adopted by the RWQCB in September, 2008, the 2009 Dry-Weather Monitoring results will be submitted in December, 2009.*

5.3.4 Threat to Water Quality Prioritization

The inventory of businesses for the City included identifying those that potentially posed a high threat to water quality (TTWQ) as set forth in the Permit and JURMP. As noted above, the City also categorized its businesses by the potential to generate the pollutants described. A detailed inventory of the high priority commercial businesses was provided in the JURMP.

The City's JURMP identified 77 stationary commercial sites, of which 67 are high priority Threat To Water Quality (TTWQ) facilities. *There are three changes to report in the number of commercial businesses within the City, from the JURMP submitted in March 2008.* The re-inventory process that occurred, as a result of the facility inspections conducted during this reporting period, revealed that the number of stationary facilities dropped from 77 (as reported in the JURMP) to 74. Table 5-4 (below) summarizes the stationary businesses in the City's inventory by the general description.

It is important to note that many commercial businesses change very frequently, especially restaurant facilities. The City will make inventory adjustments as inspections reveal changes are necessary. This is an ongoing procedure that will continue into further reporting periods.

Table 5-4 High Priority TTWQ Commercial Facilities by Type of Business

Type of Business	Number
Animal Services	4
Automobile servicing and repair	6
Automobile/vehicle washing	3
Retail/Grocery Stores	3
Eating and drinking establishments	46
Golf courses	2
Dry Cleaning	5
Iron Works	1
Nurseries	2
Retail or wholesale fueling	2
Total	**74**

5.3.5 Business Community Education Campaign

City staff has implemented an aggressive education campaign for the business community. As stated in previous annual reports, education is conducted during the annual storm water inspections. The City, along with the North County Storm Water Program (the cities of Carlsbad, Encinitas, Escondido, Oceanside, Solana Beach, San Marcos, and Vista) developed two commercial BMP posters. The first is aimed toward automobile repair shops and the second toward restaurants. These posters are distributed by City staff during inspections. The business owners are required to place the posters in a noticeable location for all employees to see. On subsequent follow-up inspections, City staff or contracted inspectors check to see if they comply.

Additional educational/training tools developed to be distributed to the local businesses are the “Green Wrench Guide” and the “What’s Cookin’ Guide” developed by the Regional Outreach Workgroup. These guides are also distributed during site inspections as an extra training tool to help these businesses come into compliance. These guides have room designated in the back for employee to sign after they read the material to show educational compliance.

The City believes that distributing these educational tools directly to the businesses during inspections will have the greatest impact. Not only will we have their undivided attention, but we can also guarantee delivery and track who

has received the informational guides. Therefore, when it comes to compliance issues, we can easily determine who has and has not been informed of the regulations. These education tools will be discussed further in the Educational Component of this Annual Report.

By the time this inspection program was fully implemented, City staff and contracted inspectors found that a majority of business owners were “aware” or had some “basic knowledge” of storm water requirements. The City, along with the other Copermittees in the Carlsbad Watershed, developed a knowledge/awareness rating and included it on all inspection forms. This will help better assess the overall knowledge of the business community in relation to not only other businesses in the city, but in the watershed as well. This is discussed more in the Educational Component.

5.3.6 Pollution Prevention Methods

Because of the City’s proximity to the Pacific Ocean, the City has been proactive in its approach to reducing urban runoff, not only during this reporting period, but prior to the implementation of this Permit as well. For example, prior to the implementation of the original JURMP, the City had several pollution prevention methods (PPMs) in place for commercial properties, which continues through to the new JURMP during this reporting period and included, but were not limited to:

- Prohibition of all non-storm water discharges to the City’s storm water conveyance system (SBMC 13.10.060).
- Measures to reduce pollutants to the maximum extent practicable (MEP) were required of business owners (SBMC §13.10.090).
- Persons owning or operating a parking lot (or impervious surface) were *required* to “clean those structure thoroughly as is necessary to prevent the discharge of pollutants to the City of Solana Beach storm water conveyance system to the maximum extent practicable, but not less than once prior to each wet season” (SBMC 13.10.090).
- The City maintained by municipal code the authority to inspect business properties for compliance with the provisions of Solana Beach Municipal Code, Chapter 13 (SBMC 13.10.110).
- Required maintenance of commercial property (trash cans covered, litter removal, etc.) and appropriate waste disposal.
- Routine articles in the citywide community newsletter, *Shorelines* to educate the community about pollution prevention (see Chapter 9).

5.3.7 New Pollution Prevention Methods

In the City's JURMP, the above pollution prevention methods were expanded for commercial facilities, depending on the type of activities conducted at each business. Numerous activity-specific BMPs were also developed for each business type identified. Complete tables describing the BMPs in detail are included and presented in the City's new JURMP, submitted to the RWQCB in March, 2008. *There are no changes to report with respect to BMPs designated for existing commercial properties.*

Common Commercial Property BMPs

Many of the BMPs provided to commercial property owners/managers were activity-specific to the type of business conducted on-site. However, there are several BMPs common to all commercial properties, which are described below.

Employee Training: The training of employees on proper business practices to prevent or reduce urban runoff is listed as a BMP for all businesses. Knowledge of pollution prevention methods requires instruction from one person to another, particularly as the requirements are new to many employees and given that employees handle the majority of tasks at a commercial business, staff has explained to proprietors the importance of adequate employee training.

Good housekeeping pollution prevention BMPs are required of most commercial facilities. Good housekeeping includes the proper disposal of waste materials and proper coverage over waste dispensers, dry sweep outdoor areas, keeping the facility in generally good repair and maintained in good operating condition to prevent deterioration of materials.

A *Spill Response Plan* (SRP) is required of most commercial facilities as noted in the JURMP. An effective SRP should prevent on-site hazardous materials from leaving the private commercial property and entering the City's storm drain conveyance system. Commercial property proprietors are being educated about an SRP and are now required during inspections by City staff.

Minimize Use of Water for Washing / Cleaning: The BMPs associated with a reduction in the use of water for washing and cleaning is suggested for most commercial facilities operating within the City. It has been common practice for many years to use power-washing methods to clean the outside of buildings, windows, and out-door eating areas at restaurants. In addition, it has been

common practice by commercial property owners (and their contractors) to hose-down the sidewalks in front of their businesses to collect trash, debris, and landscaping remnants. These types of cleaning procedures use a lot of water and it is likely that the water will run off of the property and into the City streets or storm drain system, bringing with the water a significant amount of pollutants. For that reason, commercial property owners are requested to find new methods of cleaning, reduce the amount of water used, and prevent the runoff from leaving their property.

Various other activity-specific BMPs are required or suggested to commercial property owners and are listed in the City's JURMP.

Other Pollution Prevention Methods Affecting Commercial Properties

Municipal Code and General Plan Amendments

There were no changes to the Municipal Code or General Plan that affect the Industrial and Commercial Section of the Permit.

Brochures

The City worked collaboratively with other North County cities (see Chapter 9, Education Component) to jointly develop brochures in order to provide a consistent message to the community, and in particular, commercial property owners/managers. The brochures were utilized by City staff to inform and educate the community, including commercial businesses. Public works crews, Code Enforcement, Planning and Engineering staff pass out brochures when an educational opportunity presented itself. Staff also visited many businesses and distributed the brochure, "*Only Rain in the Drain"* and spoke to business owners about the need for pollution prevention.

5.3.8 Ensuring Implementation through Commercial Property Inspections

During this reporting period, the City once again decided to contract out the inspection services to ensure that they are being conducted thoroughly and also to further enforce the City's grease management regulations. City staff is stretched very thin with all the new storm water and Fats, Oils and Grease (FOG) requirements, so in order to ensure that the proper time and effort was being utilized on these important inspections, the City contracts out the services. In addition, the City wanted to begin enforcing its grease management regulations to ensure that all required eating establishments had the proper grease management devices installed and were being properly maintained. It is well

documented that the number one cause of sewer spills is grease build-up, so the City is taking a pro-active approach to ensure that grease is being properly managed at all eating establishments.

The City hired Environmental Compliance Inspection Services (ECIS) again this reporting period to conduct the inspections in accordance with the new JURMP. According to the JURMP, the City has 77 stationary facilities, of which 67 are identified as a high "Threat To Water Quality" (TTWQ). The inspection frequency of high priority businesses increased from 50% the first year to 100% this year during this reporting period (as required in the new Permit). The City, through its contractor, inspected all 77 stationary facilities, which is above and beyond the 67 inspections required by the Permit. The commercial inspections addressed all required inspection steps to determine full compliance. The results are described below.

5.3.9 Enforcement

As mentioned above, the City hired ECIS to conduct the facility inspections. However, the City is still responsible for the follow-up enforcement actions, if necessary. The inspection protocol consisted of ECIS conducting an initial inspection and then one follow-up if the site was out of compliance for a minor violation (trash dumpster lid open, training logs incomplete, etc.). If there is a major violation, ECIS would contact the City immediately for proper follow-up actions. If the facility was still out of compliance after the second visit, then ECIS would notify the City and City staff would follow-up from there, taking increased enforcement actions including fines, if necessary. The results are as follows:

First Inspection:

Total Inspections: 77

Facilities in compliance after first inspection: 43

Facilities not in compliance after first inspection: 31

Facilities no longer in business: 3

Second Inspection:

Total Inspections: 31

Facilities in compliance after second inspection: 18

Facilities not in compliance after second inspection: 13

The remaining 13 facilities were still out of compliance after the second inspection and were handed over to the City for follow-up. The majority of violations were all relatively minor infractions consisting of dirty trash enclosures and grease bin areas. The City followed up with meetings with the property owners and managers, and all facilities have since come into compliance. No citations were issued as a result of the inspections.

The complete database of commercial and industrial inspections is available upon request. The City maintains the database and will build on it as the new Permit cycle continues.

5.3.10 Mobile Businesses

The new Permit requires regulation of mobile businesses within each jurisdiction, which is a new requirement. The new Permit states that each Copermittee shall develop and implement a program to reduce the discharge of pollutants from mobile businesses to the Maximum Extent Practicable (MEP). The mobile business program is being addressed on the regional level, and the City is participating in the development of the program. However, the City has always taken a proactive approach in dealing with mobile businesses, especially mobile car detailers and carpet cleaners. The City has issued several citations in the last few years to mobile businesses that do not have the necessary BMPs in place to prevent pollutants from entering the City's MS4. These violations will be described in the IDDE Chapter of this Report (Chapter 7), which will be submitted in December, 2009.

It should be noted that there are *no mobile businesses* currently in City's inventory. The Planning Department has been notified of these new requirements targeted mobile businesses, so if one applies for a business license, Planning staff will notify the Environmental staff. Environmental staff will take a proactive approach to educating the new business on the storm water regulations.

5.3.11 New Activities and Improvements for FY 09/10

The City is confident that the new inspection process for commercial facilities is a significant improvement for this program. The City anticipates continuing to budget for consultant inspection services to focus on storm water and grease management device inspections. In addition, the City will continue to update the commercial facility inventory as new business licenses and inspections reveal changes.

A significant new requirement of the Permit requires the City to develop a mobile business program. As mentioned above, the new Permit requires all Copermittees to develop and implement a program to reduce discharges of pollutants from mobile businesses to the MEP. Since this affects all Copermittees, the region decided to address this on a regional scale. This has become a primary focus and the subject of its own subcommittee, of which the City is involved with. The City will continue to work with the region to develop this program and implement it during the next reporting period.

The City will also look to improve educational materials for commercial facilities, including mobile businesses. The City is committed to working with the other North County Cities (as well as the Regional Outreach Workgroup) to collectively put together educational materials with a consistent message. Additionally, the City will work with the respective Watershed Groups to alter inspection forms or processes if a consensus is met within the group. An example of the benefit of this collaboration was the addition by the member cities in the Carlsbad Watershed Group of two assessment questions at the end of the inspection to gauge the knowledge and/or behaviors of the facility owner/manager. This was included to gain a better understanding of the level of knowledge of the responsible employees and see if their behavior changes over time. Hopefully, this will give the Copermittees a better assessment tool to analyze program strengths and weaknesses.

Another significant improvement to the program that occurred during this reporting period was the addition of a higher level of grease management device inspections. As mentioned in last year's Annual Report, the City decided to contract out inspection services for commercial facilities with the intent to include grease management device inspections as well. The first year (last reporting period) focuses on whether or not a required commercial establishment had a grease management device. During this reporting period, the City increased the focus of the inspections to include whether or not the grease device was the correct size and included the correct connections. The initial inspection was simply to gauge if the necessary commercial facilities had any type of device installed, but during this reporting period, the City increased its efforts to ensure the correct type and size was installed. This is extremely important as simply having a device is not sufficient is it was too small or did not include all the proper connections. This is just another example of the City's proactive approach in preventing sewer spills.

5.3.12 Summary of Commercial Section

The City has successfully updated its JURMP and commercial facility inventory in compliance with the Permit requirements. As a result, the City has identified commercial facilities that pose a high threat to water quality and implemented the new inspection frequencies per its new JURMP. The City has also developed an effective enforcement process and notified all high-priority businesses of required BMPs. For the most part, the businesses in this community have willingly adapted their practices to meet the storm water regulations of the Permit.

The City has successfully updated its JURMP to reflect the new requirements of Permit Order No. 2007-0001. As such, the City has successfully developed a program to comply with all aspects of the new JURMP, and is committed to continually improve on the program in the coming years.

The City's proactive approach of patrolling the City daily and stopping at sites where potential violations may occur before there are discharges has greatly reduced the amount of NOVs and citations issued. The City has discovered that it is much more efficient and worthwhile to put forth the effort to stop a potential violation before it occurs rather than wait and deal with the consequences. So far, this proactive approach has been very successful, as most businesses appreciate City staff working with them, instead of the normal practice of enforcement.

The City has successfully inspected 100% of its commercial businesses and anticipates continuing this procedure for the life of the Permit. The inventories will continue to be updated as new businesses open up and old ones close down, as evidence in the report above. This is a continuous process in which all departments at the City play a key role, and communication is vital.

CHAPTER 6
Residential Component

CHAPTER 6: RESIDENTIAL COMPONENT

6.1 Introduction

In accordance with Permit Section D.3.c, this section of the report describes the City's efforts to prevent or reduce residential discharges of pollutants into the City's MS4 to the MEP and to prevent residential discharges from the MS4 from causing or contributing to a violation of water quality standards.

In each Annual Report to the RWQCB, this section will include any proposed modifications to the City's JURMP (Section 8.0, Residential Component) including prioritization of residential areas and pollutant source identification. Results from the City's efforts to implement BMPs will also be included. A summary of activities conducted post-reporting period may be included if the activity is deemed essential to understanding the City's efforts at reducing urban runoff or permit compliance.

The City conducted numerous community education discussions, distributed flyers and door-hangers and published articles in the City newsletter. The City developed and implemented a new environmental portal on its website titled "Green Flash" consisting of all environmental programs in the City, for easy access by the public. The City also operated a 24-hour hotline for the community to be able to report any suspected violations or contact City staff. In addition, the City conducted its Household Hazardous Waste (HHW) collection and recycling program, which includes door-to-door services.

6.2 Pollution Prevention Methods

Polluted urban runoff in residential areas occur from activities associated with the following activities: automobile use, maintenance, cleaning, and repair; home and garden care (pesticides, herbicides and fertilizers); disposal of trash, pet waste, and household hazardous waste; outdoor washing activities; landscaping and home maintenance. It is imperative to prevent the pollutants that can be generated by these activities (bacteria, detergents, heavy metals, grease, oil, herbicides and pesticides) from entering the City's MS4 to the maximum extent practical.

6.3 BMP Implementation

The City continued several pollution prevention methods that reduce, prevent or mitigate the harmful pollutants in urban residential runoff. The City continued its HHW collection program, operated a 24-hour hotline for reporting violations, sponsored community events and developed flyers, brochures, newsletter and website articles. In addition, the Copermittees decided to develop regional programs to address the residential requirements of the new Permit.

6.3.1 Hazardous Waste and Used Oil Collection and Recycling

Under the 1989 California Integrated Waste Management Act (AB939), cities are required to provide Household Hazardous Waste (HHW) collection programs to residents in order to limit the volume of HHW (used oil, paint, household cleaners, pesticides, car batteries, automobile waste, etc) that might otherwise end up in a landfill, or worse, illegally dumped. For San Diego County, the HHW program had been funded by a tipping fee until 1997, when the County of San Diego sold the landfill system to private companies.

During the FY 08/09, the City of Solana Beach continued its partnership and the reciprocal use agreements with the cities of Vista, Poway and Escondido to provide permanent facility HHW drop-off service to City residents at a cost of $55 per vehicle. To encourage participation, the entire cost is picked up by the City.

During this reporting period, the permanent facilities were utilized by 89 participants. The total weight of the hazardous materials brought to the permanent facilities was 7,936 pounds. Additionally, the City operates a door-to-door program where, for a small co-payment of $10 per visit, a company will come directly to the resident's house to pick up the Household Hazardous Waste so that residents do not have to drive to Poway, Vista or Escondido. The door-to-door home pickup program was utilized by 209 residents. The total weight of the hazardous materials collected through the home pickup program was 24,887 pounds. The total participation in the HHW program was 298 residents and the total weight of hazardous materials was 32,823 pounds. Included in the door-to-door program is a service offered to senior citizens and homebound residents that provided free of charge, with the City paying for the service. These programs are offered to encourage the proper disposal of hazardous wastes to prevent it from entering and polluting our sensitive waterways. The program also includes the disposal of e-wastes, including TVs, computers, VCRs, fluorescent bulbs, batteries, etc.

The City keeps records of how many people utilized the program throughout the FY 08/09 and a questionnaire is provided to the participants at the time of disposal to acquire useful information such as how they heard of the program and what types of wastes were disposed. Many respondents listed local programs such as the City's newsletter "*Shorelines*" and educational brochures as the source of their knowledge of this program. Other sources include the two local trash haulers (EDCO and Coast Waste), Solana Center for Environmental Innovation, the internet, and basic word of mouth. Obviously, this bodes well for the educational work of City staff and is a good indication that the City's educational program is effective at getting the word out to the community about environmental concerns, water quality, and opportunities to participate as the program continues to grow. Additionally, it shows the beneficial cooperation efforts between the City and its contractors.

The City is a member of the Regional Solid Waste Association (RSWA). As a member, the City participates in a multi-city agreement with EDCO Waste and Recycling Services, Inc. (EDCO). As reported earlier, the agreement resulted in a very successful program for elderly and homebound City residents to dispose of HHW at their door, *at no charge to the residents*. This provides a solution for the two largest obstacles for the elderly and homebound residents, providing home pick-up service at no cost. This has been an extremely effective and popular program throughout the entire community.

This agreement is necessary because the City of Solana Beach does not have the capacity to operate its own HHW facility within its jurisdictional boundaries. Without this RSWA agreement, the residents would have very limited options in dealing with the proper disposal of HHW. This would ultimately lead to the improper disposal of HHW, which would threaten the local waterways and sensitive environment. However, due to the foresight of the City government, the formation and participation in groups such as RSWA lead to increased opportunities for the community to protect the local environment. It also allows the City to subsidize the costs of disposal to assist the residents in properly disposing their HHW. For a small city like Solana Beach, becoming members of larger organizations is imperative for keeping costs down and increasing negotiation power. These programs would not be self sufficient if Solana Beach was not part of a larger organization, as the City and community receive the benefits of "strength in numbers." This has helped keep the costs for such important programs low and participation high.

The City also promotes local HHW collection events by advertising the events on

the City's website and sending out Eblast email alerts to registered community members. These events typically occur at the Solana Center located in Encinitas, but the City values proper disposal of HHW, so these events located outside of the City are still publicized by the City. This is just another convenient way for residents to dispose of their HHW.

Battery Recycling Program

A significant new program that occurred during this reporting period was the implementation of a battery recycling program at the City's public library. The City, in conjunction with the entire region, established a battery recycling program at all public libraries throughout the County, which includes the City's library. Batteries were recently added to the HHW list of products that can longer be disposed of in the normal trash, due to the potential of releasing harmful chemicals into the environment. The region applied for a grant to fund the recycling program, and was awarded money through the HD 15 regional grant through the CIWMB. The program was established in December 2008 and ran through March 2009. During this time frame, the Solana Beach library collected 555 pounds of batteries. This is a great demonstration of the region working together to apply for a grant to make recycling easier and more convenient for the residents. The City will look to continue these types of partnerships to bring worthwhile programs to the community.

Recycling

As noted in the Introduction of this report, the City is a proactive agency working to improve the local environment. The City, with assistance from the non-profit environmental group Solana Center (formerly known as Solana Recyclers), was the first city in the county to initiate a curbside recycling program.

Assembly Bill 939 (AB 939) requires cities to divert at least 50% of their total solid waste away from landfills, and the best way to accomplish this is through recycling. The percentage of waste that the community of Solana Beach recycled in 2007 (the latest known total as of this reporting period) is 62%. This shows that the City's programs are working and the awareness of the residents is very high, as many of the cities in the region failed to reach 50%. The process of writing the 2008 AB939 report is underway, but not completed before this report was submitted. These numbers will be included in next year's report.

One significant recent modification to the City's solid waste and recycling collection occurred in November, 2006. The City participated in a pilot study to

determine the feasibility of transitioning from manual trash and recycling collection to automated collection. Studies have shown that automated collection drastically improves recycling rates by providing more efficient "single stream commingled recycling." The large-scale transition resulted in a 20% increase in residential recycling (or approximately 1,161 tons) over the two year period of implementation, which is a huge success.

In addition, the residents received new trash and recycling containers that are more durable and have lids attached. This has drastically cut down on the amount of loose trash that frequently escaped the old resident supplied containers that were much lighter and easier to tip over, and frequently had no lids. This allowed for the animals and birds to get into the cans and spread trash around the neighborhoods, which can enter the City's MS4 system. This has been a significant load reduction BMP, as City Public Works Crews have reported less loose trash around the community.

6.3.2 Annual Bulky Item Clean-up Day and Coastal Clean-Up Day

Each October, the City hosts an Annual Bulky Item Clean-up day. The City's waste hauler provides roll-off containers for the collection of large appliances, yard waste, excess trash and scrap metal. Residents only need to bring their large bulky items and excess trash to La Colonia Community Center to drop off anything that they have, to save them a trip to the landfill, and it's *free of charge*. Additionally, Solana Beach residents can call the City's trash hauler to set up an appointment for *free curbside pick-up* and disposal of up to three bulky items up to three weeks prior to the event. It is well documented that the easier and more efficient it is for people to recycle or dispose of large items the more often they will do it. By offering this convenient, local and free of charge event, the less likely residents will dispose of their large items illegally, and keeping them out of our local waterways. The Bulky Item Clean-up Day held in October 2008 resulted in 26.7 tons of trash and debris being collected and properly disposed off, preventing it from ending up in the City's MS4.

Each September, the City of Solana Beach participates in the annual Coastal Clean-Up Day sponsored by the California Coastal Commission and I Love A Clean San Diego. The City hosted two sites again this year, one at Fletcher Cove and one in the San Elijo Lagoon, where residents came and spent the morning beautifying the local community.

6.3.3 24-hour Hotline

To assist residents in obtaining information, reporting suspected storm water violations or to report illegal dumping, the City operates a 24-hour "storm water hotline" during this reporting period. The hotline (858-720-4424) is available 24 hours a day, seven days a week, 365 days a year. The hotline is linked directly to the voice mail of the City's Environmental Programs Manager to increase efficiency and ensure prompt responses. This way, calls can be immediately fielded and handled in the appropriate manner.

6.3.4 Pet Waste Bag Dispensers

The City installed and maintains Pet Waste Bag Dispensers to reduce the potential of pollution stemming from residents (and visitors) not collecting waste from their pets while walking. This was a measure added to hopefully help the high levels of fecal coliform detected at the Seascape Outfall revealed during wet and dry weather monitoring. The City has posted dispensers and signs to encourage their use. The program appears to be working very well because, during this reporting period, approximately 72,000 pet waste bags (up from 67,500 in FY 07/08, 37,800 in FY 06/07, 30,000 in FY 05/06 and 26,400 in FY 04/05) were utilized by the community.

6.3.5 Education and Outreach

The City's entire education and outreach program is provided in Chapter 8 of this report. Activities associated with the educating of residents are addressed in this section, which may also be repeated in Chapter 8.

<u>*Shorelines* articles:</u>

The *Shorelines* is the City's Newsletter and Recreation Guide for community information. The newsletter is now distributed four times a year (Spring, Summer, Fall and Winter) to each resident and business within the City (up from twice annually in the past). It is one of the best methods to get information to the public about a variety of issues, the environment being a key component. The *Shorelines* newsletter always contains environmental articles and the community has come to rely on this publication as a means of keeping up with City government. This has proven to be an ideal community educational effort.

In the Fall 2008 issue (Appendix F), the City published the following environmental education and storm water activities:

- Green Building is Coming to Your Town
- Environmental Sustainability Update
- Solana Beach Annual Bulky Item Clean-Up Day
- Annual Coastal Clean-Up Day
- Water Conservation
- Don't Sp"OIL" Our Water!
- Free Watershed Presentations
- City Initiates Plastic Bag Recycling Program

In the Winter 2008/09 issue (Appendix G), the City published the following articles relating to environmental education and storm water activities:

- Storm Water (NPDES) Rainy Season Construction Reminders
- City's New "Green Flash" Website
- Save Water Now!!! – Water Conservation
- "Our Lagoon, Our Legacy."
- Solana Center Celebrates 25 Years
- FREE Watershed Presentations
- Holiday Tree Recycling/Collection Program
- "Our Earth – Our Chance" 2009 Arts Alive Banners

In the Spring 2009 issue (Appendix H), the City published the following articles relating to environmental education and storm water activities:

- Solana Beach Commits to Sustainability
- Green Building is Here!
- Green Tips and Recycling Truths
- Free Walks and Programs for Kids at San Elijo Lagoon

In the Summer 2009 issue (Appendix D), the City published the following articles relating to environmental education and storm water activities:

- Things to Remember Before Remodeling/Construction
- Storm Water Hotline
- Green Building is Here!
- Look What's Happening at the San Elijo Lagoon Conservancy
- How to Dispose of Household Hazardous Waste Safely and Easily
- Solana Center for Environmental Innovation – 25 Years of Positive Change
- Plastic Bag Recycling Program

<u>Brochures and Door hangers</u>

The City collaborated with neighboring Copermittees (the cities of Del Mar, Encinitas, Oceanside, Vista, San Marcos, Escondido and Carlsbad) to develop several educational brochures. One particular brochure is referred to as the "door-hanger." The door-hanger is an excellent tool to inform groups or individual residents about pollutants that were found in their area, but may or may not have been contributed by them specifically. The door-hanger has a place for staff to leave their business card, indicate the types of pollution found (from landscaping to pet waste) and lists various specific BMPs for eliminating street and gutter debris in their area. Staff hopes that by placing the brochures around the entire neighborhood, residents will report to the City where the

discharge came from or alter their behavior to prevent the discharge from occurring again.

In addition, the City collaborated with the other North County cities and created a brochure "*Only Rain in the Drain*," which is distributed at local community events and to visitors at City Hall, the Fire Department and Community Center. The brochure is also available at many community businesses. The brochure reviews Best Management Practices for residents and the need to prevent or mitigate pollution to the best extent practical. The brochure also provides a consistent message because all cities in the North County use it.

Staff distributed the door hangers and brochures to residents and business owners throughout the community. These educational materials have been used by Public Works staff, Code Enforcement Officers, and others and have been found to be an informative and effective tool. This includes those given out to neighborhoods during IC/ID and source tracking investigations, those given out individually during routine rounds around the City and any community fairs (Fiesta Del Sol) or regional workshops/events (about 2 a week on average for all activities, totaling approximately 104 distributed).

School Presentations

The Solana Center conducts school presentations for the City to local schools within the City's jurisdiction. As part of both trash haulers' contracts (EDCO and Waste Management) with the City, they are required to provide funds for public outreach and education. Both haulers have chosen to contract out this work to Solana Center. Therefore, Solana Center provides school presentations regarding storm water issues to the local schools. These presentations include discussions about the importance of preventing pollution from entering the streets, gutters and storm drains. The Enviroscape model is also used during these presentations.

Additionally, the City's Park and Recreation staff conducts a summer "ecology camp" for local children to educate them on various environmental issues, including storm water and recycling. The children go on field trips and have classroom discussions. It is a very interactive classroom setting where the children are encouraged to participate and really engage in the various activities. The ecology camp is an annual program that will be utilized to educate the children in all environmental issues.

The City's Marine Safety Department also conducts school presentations that focus on ocean awareness/safety as well as being environmentally aware and responsible. The presentations focus on water quality and the benefits of protecting this valuable asset.

These are reported on in further detail in Chapter 8, Education Component.

Tile Stenciling

All storm drain catch basins in the City currently have tile markers already installed. The construction standard described in the City's JURMP, with respect to the requirement that all curb inlets have a tile marker permanently affixed on the face side, continues to be enforced. All new development/construction projects are required to install tile markers on all new curb inlets. City staff also document broken or missing tiles when detected in the field and report back to the Environmental Specialist to install.

Web site

As mentioned previously in this Report, the City recently unveiled a significant upgrade to the environmental section of its website. Previously, the environmental programs were lumped into the Engineering Department page, which was somewhat difficult to locate. Now, the City has a separate page that has its own icon on the homepage. This shows the type of commitment that the City, and the community, places on the environment. The City has received many compliments regarding the website, and was even recognized by the League of Woman Voter's, North Coast San Diego County for the "Green Flash" section.

6.4 Threat to Water Quality Prioritization

During this reporting period, the City re-evaluated the drainage areas to identify those areas that potentially posed a high threat to water quality as set forth in the Permit section D.3.c(1). The areas are defined in Section 8.2.1 of the City's new JURMP.

There are *no changes* to report in the City's prioritization of high-priority residential areas from those submitted to the RWQCB in the City's new JURMP (submitted March, 2008).

6.5 Implementation of BMPs

As noted in Section 6.1 (Pollution Prevention), the City has implemented various methods to prevent pollution to the Maximum Extent Practical (MEP) standard from entering the City's MS4. The City indicated in its revised JURMP the designation of several BMPs for the High Priority Residential Areas and Activities (see JURMP, Appendix B).

One of the most significant differences between the City and other local agencies, is that runoff from residential automobile washing *is strictly enforced* by Solana Beach Code Enforcement Officials. City staff is often dispatched to reports of people washing their cars, and City procedures allow for several warnings before a citation is given, except in the case of mobile car-washing businesses. In that instance, mobile car detailers are informed to cease their activity and immediately clean up the resulting discharge. Mobile detailers are cited for failure to comply if they refuse to discontinue or remedy the discharge. City staff records all violators and if they encounter them violating the Permit again within the City, they are immediately given an administration citation and fine.

The City also actively enforces minimum BMPs for the following activities:

- Motor Vehicle or Boat Repair and Maintenance
- Motor Vehicle Parking
- Home and Garden Care Activities and Product Use
- Home Care and Maintenance
- Manure and Pet Waste Management
- Private Sewer Laterals and On-Site Wastewater Systems

If City staff witnesses a violation of any of the provisions above, the Administrative Fine Process will be initiated until full compliance is achieved.

6.6 Enforcement Actions

Violations of the storm water Permit and any necessary follow-up actions taken

by the City are described in Chapter 7.0, Illicit Discharge Detection and Elimination (IC/ID) Component, which will be submitted in December, 2009. Since violations in the residential sector often times are discovered during an IDDE investigation, it is appropriate place to discuss the actions.

6.7 New Activities and Improvement for FY 09/10

The City is actively developing and implementing the activities described in the Residential Component of the City's new JURMP. The focus will continue to be education through the new Green Flash website, brochures, flyers, public announcements, community fairs and one-on-one contact.

The new Permit adopted in January 2007 contains increased requirements for the residential sector. This is one key area that the Permit focuses on; so new programs will have to be developed by the City to address these requirements. There is also a focus on watershed and regional programs to address the residential sector, so the City anticipates working with the other Copermittees to develop these programs cooperatively to convey a consistent message. The City will be working to develop these programs for implementation in FY 09/10. These programs will be discussed in more detail in the Unified Urban Runoff Mitigation Program

6.9 Summary

The City has been successful at implementing the Residential Component of the JURMP including among other things:

- Provision of public pet waste bag dispensers (approximately 72,000 bags were utilized by the community during this year).
- Collaborating with neighboring jurisdictions (NCSWP) and the regional Copermittees to develop several brochures, which have been distributed at local events, to City Hall visitors, and throughout the community.
- Collaborating with all Copermittees to develop regional educational programs as required by the new Permit Order No. 2007-0001.
- Using and upgrading the City's website to post informative information about the City's storm water programs.
- Operating a 24-hour, 7 day a week storm water hotline that residents can report any storm water violations.
- Operating a community-wide used oil and hazardous waste collection program that offers door-to-door service for all residents. This program

has been a huge success as 298 residents participated and properly disposed of 32,823 pounds of hazardous waste that might have otherwise ended up polluting the local environment.

- Conducted the Annual Bulky Item Pick-Up Day which resulted in 26.7 tons of waste collected and prevented from entering the City's MS4.
- Implementing a new community-wide curbside single stream commingled recycling program for all residents.
- Providing opportunities for local school presentations regarding storm water issues.
- Implemented new battery recycling program at local Solana Beach library resulting in 555 pounds of batteries recycled from December 2008 to March 2009.

CHAPTER 7

Illicit Discharge Detection and Elimination Component

CHAPTER 7: ILLICIT DISCHARGE DETECTION AND ELIMINATION COMPONENT

This is a placeholder for Chapter 7, which as a result of Addendum No. 2 adopted by the Regional Water Quality Control Board on September 10, 2008, extended the reporting component of this Chapter to December 15, 2009.

CHAPTER 8
Education Component

CHAPTER 8: EDUCATION COMPONENT

8.1 Introduction

In accordance with Permit Section D.5, this section of the report describes the City's educational program that is intended to use all media as appropriate to measurably increase the knowledge of the target communities regarding MS4s, impacts of urban runoff on receiving waters, and potential BMP solutions for the target audience and to measurably change the behavior of target communities and thereby reduce pollutant releases to the MS4 and the environment.

In each Annual Report to the RWQCB, this section will include a description of the City's efforts during the reporting period and possibly post-reporting period if the activity is deemed essential to understanding the City's efforts at reducing urban runoff or Permit compliance. In addition, this section of the Report will include the City's planned educational efforts for the following fiscal year.

During this reporting period, the City continued implementation of the comprehensive Education Component of the JURMP. The activities were expected to increase knowledge among the residents, business owners, and those who do business (such as contractors) within the City. The City developed the program based on the requirements of the Permit and continued implementation during this reporting period.

The City began implementing programs for the new requirements of the Permit. These programs are being developed on a watershed and regional level, and the City is an active participant in these workgroups. A major focus of the new Permit is on developing a regional education program, with the idea of forming a "brand" for the region where people can identify with the program as a whole. By developing and implementing a regional program, the messages will be consistent and easier to identify with. This will be further explained in the Regional URMP submitted by the County of San Diego.

During this reporting period, the cities of Carlsbad, Del Mar, Oceanside, Escondido, Vista, San Marcos, Encinitas and Solana Beach continued the North County Education Group that was formed to develop strategies and programs to provide consistent messages to the communities of San Diego North County. This basis for this group is to have a more effective educational program than would be if the cities offered divergent messages. The group consists of storm

water program managers, assistants and staff members who all bring individual talents, experience and interests to the program. While this watershed group will continue developing educational materials and activities, it will also work with the regional group as mentioned above. This group will ensure that the Copermittees represented will participate with the “regional” message and program as required by the Permit.

As a collaborative, the group is able to obtain lower cost for educational tools (such as brochures, flyers, handouts, small tokens [pens, keys, etc.), which provides a financial benefit to the agencies and thus, the community.

The North County Education Group has continued meeting through this reporting period, in which the City has been an active participant (for a summary of meeting dates, jurisdictions in attendance, and topics discussed, please reference the Carlsbad WURMP Annual Report).

The group has been able to assist each other in developing a consistent message incorporating the interests and concerns of each agency. When brochures and handouts have been created, flexibility among the agencies was required.

The collective decision-making process has also generated cooperative working relationships among the agencies, which was extremely beneficial when the development of the Watershed Urban Runoff Management Program(s) began and in working together to complete various storm-water-related tasks. The community also benefits from the consistent “one message” approach rather than six or seven different rules and regulations.

8.2 Pollution Prevention through Education – Jurisdictional Activities

The City’s storm water program is comprehensive. Not only are there many components to administer jurisdictionally, there are many different programs going on simultaneously throughout the County. The City participates in jurisdictional, watershed and regional activities. Each of these has separate and distinct educational components; however the challenge is to ensure that the same general message is being spread throughout the County, with individual messages being developed by the Watershed groups and Jurisdictions based on the Constituents of Concern (COCs) for each watershed. The watershed activities have been recently defined and are in the early stages of implementation; since this is a jurisdictional report, there will not be much

discussion about those in this Annual Report (For more detailed information on WURMP related activities, please see the WURMP Annual Reports for Carlsbad and San Dieguito). The regional activities have been primarily described in the Copermittee *Unified Urban Runoff Management Program Annual Report for Fiscal Year 2008-09,* which has been submitted by the County and incorporated herein by reference. However, some of the activities will be summarized in this section of the report (see Regional Activities).

8.2.1 Staff Training

One of the most important aspects of the City's educational program is to educate its staff members. This turns out to be a relatively easy task for this City in that there are only about 70 full time staff members. All staff members are required to attend an all-hands citywide staff meeting each month. Staff determined that this would be a good opportunity for training, and periodically conducts trainings at these meetings. However, the staff trainings were modified slightly during this reporting period. Staff determined that they would start conducting individual training sessions with various departments. These department specific trainings would allow Staff to get into more of the Permit details according to the particular department and their respective duties. Trainings at the citywide staff meetings had to be general in detail since there was staff for all different departments.

For example, at the department specific trainings, Staff could review in detail the Low Impact Development (LID), Hydromodification (HMP) and SUSMP requirements with Planning Department staff. This could not occur at the level of detail necessary for comprehension at the citywide meeting. This also occurred with the Public Works Department and a comprehensive training regarding sewer spill prevention, spill response and required reporting.

One particular example of a department specific training that occurred was a SUSMP training that was conducted at a City Engineer's Luncheon. The City's Engineering staff all attended the meeting on December 3, 2008 where a consultant presented "An Overview of the New Model SUSMP Process and Approach to Planning, Design, Construction, Operation, and Maintenance Leading to Compliance with Water Quality Regulations in the San Diego Region, Including Low Impact Development (LID), Stormwater Treatment, and Hydromodification Standards." This was a great opportunity for the Engineering staff to be educated by an expert in the field, and also provided them with an opportunity to asks questions and discuss issues with their peers.

The City believes that all current Staff is adequately aware of the storm water issues, and all new staff will be trained as appropriate upon arrival. However, due to the constantly evolving storm water field, the City will continue the periodic educational trainings at future City all-hands staff meetings and department specific trainings as appropriate.

8.2.2 Annual Beach Cleanup Days

The City of Solana Beach, in cooperation with I Love a Clean San Diego County, Inc. coordinates an annual "Coastal Cleanup Day". These events are volunteer beach and lagoon clean ups. The City had another successful event hosting two sites within the City, one at Fletcher Cove Park and the other in the San Elijo Lagoon.

8.2.3 Storm Drain Tile Marker Installation

The City inventoried all of its storm drains (inlets and catch basins) and has the locations in GIS format. The inventory list includes addresses, cross streets and a GIS bit-map. Stenciled tiles are affixed to each storm drain inlet or catch basin location, which reads, *"No Dumping! This drains to the ocean."* The City now requires all new or re-development projects that install a storm drain curb inlet or catch basin to include the stenciled tile. An extra supply of tile markers is kept at the City's Public Works Yard for all City projects as well as for private contractors to install on their projects to provide a consistent message throughout the City.

8.2.4 Local Community Events

The City of Solana Beach hosts an annual block party called Fiesta de Sol. Each year at the block party the City has a booth promoting to the participants no dumping or littering and to keep our beaches clean. The City also coordinates with Solana Center with their booth promoting proper disposal of HHW and recycling (oil included) in the City. The City passes out "*Only Rain in the Drain*" brochures, community surveys, and displays the watershed poster, "We All Live in a Watershed…" Staff discusses with residents the importance of protecting the water resources and educated them on the new storm water regulations. This reporting year's Fiesta Del Sol occurred on June 6 and 7, 2009. There were approximately 70,000 visitors during this year's event, and City staff distributed storm water brochures and informational flyers to those who visited the City's booth.

The City's Park and Recreation Commission also put on the fourth annual Beach

Blanket Movie Night on 8/23/2008 (Appendix R). This was the fourth year this community event was held and was once again a huge success. The City worked closely with the event organizers and provided recycling containers, environmental educational material pertaining to storm water issues, and used oil recycling information. The City also shared a booth with Solana Center to provide environmental education to the attendees, utilizing the Enviroscape model. It is important to note that this was the only booth allowed by the Parks and Recreation Commission because they want to promote a relaxed, friendly environment. However, because the environment is such a popular topic in Solana Beach, they allowed City staff to have a booth to promote the environmental programs. The event was very well attended and a huge success, and will continue to occur annually. This is a great way to promote environmental awareness at a free event to the community.

The City also continued to distribute the immensely popular and effective doggie-bag dispensers that attach onto the pet leash. These dispensers had the City logo and the message, “The City of Solana Beach Reminds You To Please Pick Up After Your Pets.” The City wanted to again emphasize the importance of eliminating pet waste from the MS4, as it can be a major contributor of harmful bacteria. These dispensers were very well received and the City plans on distributing them at every community event.

8.2.5 School Programs

The Solana Center is a local organization that writes articles for the City Newsletter (*Shorelines*) and presents educational programs in the City schools regarding storm drain pollution using the watershed model (Enviroscape) and fun handouts and items for the kids. Solana Center is paid through the City’s solid waste contract, as well as a HHW grant, to provide educational opportunities to the community. City staff is in regular contact with the Solana Center and is confident that their program(s) are educational and informative for the children. The presentations are provided free to the local schools, and the information provided is invaluable.

The following table shows what school/community education has taken place during this reporting period:

School / Adult Community Education

Date of Event(s)	Event Title	Estimated Audience	Specific Audience	Location	Jurisdiction
July 16-20, 2007	Ecology and our Environment	25	Grade 1-Jr High	La Colonia Community Center (Field Trips Included)	Solana Beach
July 30-August 3, 2007	Rainforest Exploration	25	Grade 1-Jr High	La Colonia Community Center (Field Trips Included)	Solana Beach
June 23-27, 2008	Ecology and Our Environment	20	Grade 1-Jr High	Fletcher Cove Community Center (Field Trips Included)	Solana Beach
April 16, 2008	Storm Water Watershed Presentations	48	Grade 1-Jr High	Santa Fe Montessori School	Solana Beach
April 21, 2008	Storm Water Watershed Presentations	15	Grade 1-Jr High	Solana Beach Girl Scout Troup	Solana Beach
May 5, 2008	Storm Water Watershed Presentations	17	Grade 1-Jr High	La Colonia Community Center	Solana Beach
May 12, 2008	Storm Water Watershed Presentations	15	Grade 1-Jr High	Solana Beach Boys and Girls Club	Solana Beach
May 19, 2008	Storm Water Watershed Presentations	15	Grade 1-Jr High	La Colonia Community Center	Solana Beach

Another new educational opportunity presented itself during this reporting period. The City wanted to expand its educational program and reach a previously untouched sector in the schools, the Parent Teachers Association (PTA). The City set up a presentation titled, “Go Green: Why You Should Care & What You Can Do To Help Our Planet” (Appendix Q). The presentation included all aspects of environmental sustainability, including storm water pollution prevention. The presentation was given to approximately 25 adults.

8.2.6 Marine Safety Department Educational Presentations

The City of Solana Beach Marine Safety Department also conducts presentations at local schools. The lifeguards maintain an outreach program to the local schools to educate the students on ocean safety and awareness as well as environmental education. This is a natural fit, seeing how the lifeguards provide a safe environment for the community to enjoy the valuable coastal resource, and they want to ensure that the community becomes environmental stewards to help protect this resource. The presentations focused on water quality, trash and litter control and the ecosystem as a whole. These presentations have been very

well received by the schools and the lifeguards plan to continue them into the future.

Marine Safety Department Education

Date of Event	Event Title	Estimated Audience	Specific Audience	Location	Jurisdiction
March 12, 2009	Ocean Awareness/Safety and Environmental Stewardship	30	Grade 1 – Jr High	Marine Safety Department	Solana Beach
March 18, 2009	Ocean Awareness/Safety and Environmental Stewardship	40	Grade 1 – Jr High	Marine Safety Department	Solana Beach
June 9, 2009	Ocean Awareness/Safety and Environmental Stewardship	62	Grade 1 – Jr High	Marine Safety Department	Solana Beach
June 24, 2009	Ocean Awareness/Safety and Environmental Stewardship	30	Grade 1 – Jr High	Marine Safety Department	Solana Beach
June 25, 2009	Ocean Awareness/Safety and Environmental Stewardship	40	Grade 1 – Jr High	Marine Safety Department	Solana Beach
July 23,	Ocean Awareness/Safety	30	Grade 1 –	Marine Safety	Solana

2009	and Environmental Stewardship		Jr High	Department	Beach

8.2.7 Kids Korps Educational Presentations

During this reporting period, the City entered into a valuable relationship with a local non-profit youth volunteer organization called Kids Korps. Kids Korps is a national recognized youth organization located right here in Solana Beach. Kids Korps engages young people, age 5 through 18, in community service with the mission to instill in America's youth the spirit of giving while providing valuable education in leadership and responsibility. The City and Kids Korps have partnered to conduct park cleanups and educational presentations. The City of Solana Beach sponsors disadvantaged, underserved local children for a week during the summer where they can attend the Kids Korps camp for free, and staff takes this opportunity educate the children on storm water pollution. The Staff presentation was so well received that Kids Korps invited back City staff to present at three different camps, reaching over 60 children. This activity will continue in the upcoming years with the goal to expand the cooperation with increased educational opportunities and cleanup events.

The City and Kids Korps joined to have a large-scale cleanup at La Colonia Park on August 14th, 2008. This event had City staff walk with about 60 children to pick up litter in the park and surrounding neighborhoods. Staff also gave a presentation to about 30 children before the cleanup to stress the importance of littering and preventing storm water pollution. This was extremely successful and will continue to be an annual event.

8.2.8 Targeted Education for Underserved Community

The City has a comprehensive and successful program established to reach out to the underserved community in Solana Beach. City staff takes these opportunities to educate this sector of the community on many items, including the storm water and pollution prevention programs. The various programs are described in more detail below.

The City has a successful Junior Lifeguard Program that teaches young children about safe ocean practices, lifeguard techniques and environmental stewardship. Children come from all around the City to participate in this summer program,

and space is limited. However, through a unique partnership between the City and a private company called ReRip, about ten spaces in the program are reserved for the underserved community that may not otherwise be able to afford it. The City and ReRip cosponsor an annual environmental event in which a fundraiser is conducted and the proceeds go toward giving ten children a full ride scholarship to the Junior Lifeguard Program. These children participate in all the activities and learn all about pollution prevention and storm water regulations. This is a unique partnership that the City is extremely proud of, and the community has rallied around it.

Another successful program that benefits the underserved community is the City's Summer Day Camp program. The City offers half-scholarships to the underserved community that would not be able to afford to send their kids to the camps for the full price. These camps have environmental themes, including pollution prevention and storm water education incorporated into the curriculum. So this has been a successful outreach attempt to the underserved community.

As mentioned above, the City's relationship with Kids Korps is another opportunity to reach the underserved community. The City sponsors one week of Kids Korps summer camp for underserved children in the area, and the program has been a huge success. City staff gives presentations and educate the children on storm water pollution prevention, and also brings in the Solana Center to give the Enviroscape presentation. The City anticipates continuing this successful relationship in the years to come.

8.2.9 Water Conservation

The City does not provide drinking water to the community of Solana Beach. That service is provided by a private company, the Santa Fe Irrigation District (SFID). The City and SFID have a great working relationship which has benefitted the community of Solana Beach in many ways.

Due to ongoing drought conditions and increased environmental regulations, water conservation has been a major focus during this reporting period. Although drinking water is a completely separate entity than storm water, they are linked in many important ways. Primarily, over-irrigation of potable water is often the transport mechanism for many pollutants during dry weather. Over-irrigation carries pollutants such as pesticides, herbicides, fertilizers, bacteria, trash, oil and grease and many other pollutants into the MS4 system. Water conservation activities can reduce the transport mechanisms thereby reducing the amount of

pollutants that make it into the City's MS4 system. The City recognizes that promoting water conservation not only helps during times of drought conditions, but also helps combat storm water pollution.

The City and SFID have a regularly scheduled monthly meeting to discuss all things water related. These meetings have turned into valuable information sharing sessions where Staff from both agencies can discuss upcoming projects and report observations from the field. The City and SFID have joined together on many educational seminars and workshops for the community, both residential and commercial. The following is a list of water conservation related presentations and workshops that occurred during this reporting period.

California Friendly Landscape Classes:

Date of Event(s)	Event Title	Estimated Audience	Specific Audience	Location
October 10, 2008	California Friendly Landscape Training	22	Residents and Businesses	Fletcher Cove Community Center
March 4, 2009	California Friendly Landscape Training	35	Landscape Professionals	Fletcher Cove Community Center
March 7, 2009	California Friendly Landscape Training	33	Residents and Businesses	Fletcher Cove Community Center
March 11, 2009	California Friendly Landscape Training	33	Landscape Professionals	Fletcher Cove Community Center
March 18, 2009	California Friendly Landscape Training	33	Landscape Professionals	Fletcher Cove Community Center
March 25, 2009	California Friendly Landscape Training	33	Landscape Professionals	Fletcher Cove Community Center
April 1, 2009	California Friendly Landscape Training	33	Landscape Professionals	Fletcher Cove Community Center

Community Workshops/Events:

Date of Event(s)	Event Title	Estimated Audience	Specific Audience	Location
November 7, 2008	Drought Overview	25	Civic and Historical Society	Fletcher Cove Community Center
February 5, 2009	Water Supply, Water Ambassador Program	50	SHAG HOA Association	La Colonia Community Center
February 27, 2009	Solana Beach Green Building Fair	200	Residents and Businesses	Fletcher Cove Park
May 16, 2009	California Friendly Landscape Contest	District-Wide Event	Solana Beach and Rancho Santa Fe	Contest Winner was a Solana Beach Resident

Classroom Presentations:

Date of Event(s)	Event Title	Estimated Audience	Specific Audience	Location
February 9, 2009	Splash Lab	30	Santa Fe Christian School – 5th Grade	Santa Fe Christian School
August 2, 2009	Watersheds and You	50	Unitarian Church – K-6th Grade	Unitarian Church
August 9, 2009	Watersheds and You	50	Unitarian Church – K-6th Grade	Unitarian Church

8.2.10 Educational Brochures

The City has participated with the North County Educational Group to develop many effective educational materials. The handouts and brochures are included in the Carlsbad WURMP Annual Report.

"*Only Rain in the Drain*!" describes the importance of protecting the valuable water resources and the problems that can be caused by storm water pollution. It also provides a list of BMPs to help prevent pollution. The brochure also

provides valuable resource numbers: *a direct number for each jurisdiction* is provided, as well as the County's Storm water hotline. The brochure is available at City Hall, the City Fire Department and Marine Safety, each staff member was provided a brochure and brochures were personally distributed to local businesses. The City's Public Works Crew and Code Enforcement Officers deliver these every day to the community when small violations are observed. Since these staff members are out in the community every day, this has proven to be an effective means of public education. Larger infractions are reported to the Engineering Department or Code Enforcement Department for follow-up.

The door-hanger *"Help!"* provides a method for staff members to indicate to residents that pollutants were found near their home. The brochure is in English and Spanish, which is helpful to residents. It is typically hung on a resident's door, provides a place for business cards and under the cards, (should they become misplaced) the brochure lists a contact number for *each jurisdiction*. The back of the brochure provides BMPs for vehicle maintenance, car washing, hazardous materials handling, recycling, litter, and sidewalk/driveway debris.

To assist the public in directing their calls for complaints and service, the City operated a 24-hour storm water hotline telephone recording (858) 720-4424. The number is connected directly to the Environmental Program Manager's voice mail (so it can still remain anonymous, if necessary), so that violations can be investigated immediately and the proper action taken *while the violation is occurring*. The City informs the public about the hotline number at City Council meetings, on flyers and handouts, and on business cards and on brochures.

8.2.11 City Newsletter (Shorelines)

Chapter 6 contains all the information regarding the *Shorelines* newsletter and gives a brief description of the articles included during this reporting period. The articles are also included in Appendices D, F, G and H.

The City implemented a new educational/outreach opportunity during this reporting period. Every year, the Solana Beach School District distributes a district-wide directory to all families with children that attend school in the district. The City bought advertising space in the directory to promote environmental sustainability. This was a very successful outreach opportunity that reached a significant portion of the community.

8.2.12 Web Site

The recent upgrade of the environmental portion of the City's website has been explained previously in this Report. The new "Green Flash" has been extremely helpful in getting the word out in an effective and easy to find location. This has been a huge success, as the website is updated constantly with new and pertinent information.

8.2.13 Business Community

The City has initiated several methods to educate the business community about storm water pollution prevention.

First, the City prepared a letter explaining BMPs, storm water regulations, and business community responsibilities. The letter has been sent to each high-priority business in the City, along with the appropriate business-type BMPs. During inspections, Staff checks to see that the BMP list and/or the BMP poster are posted in a highly visible area. If not, then Staff will reissue the list and require it to be posted at all times. Businesses are subject to enforcement if the list is not posted during re-inspection.

Second, the City conducts annual commercial compliance inspections (see Commercial Component). Through the inspections, the City's inspection consultant educates the business owners about the requirements of the Permit and the City's various storm water programs. Given the City's close proximity to the Pacific Ocean and sensitive lagoons to the north and south, inspectors are able to show a direct link between commercial activities and impact on water quality. Next, after the initial and follow up inspections are conducted by the consultant, City staff conducts follow-up enforcement inspections on those businesses still determined to be out of compliance, to ensure that the businesses are using the proper Best Management Practices to protect the City's waterways. These follow-up inspections are often conducted through scheduled meetings with the property owner and/or manager, to ensure the decision makers were present and can be held accountable. Often times, the initial inspections were conducted without prior warning, and various staff members at the facility were held responsible. Just to ensure that the right people were informed of the infractions/violations, follow-up inspections were pre-scheduled.

During this reporting period, *all* businesses that were inspected were deemed in compliance without any citations issued. As reported earlier, not all businesses were in compliance during the first inspection. Some businesses had minor

issues (trash lids not closed, grease barrels not covered, etc.), however, the enforcement follow-up inspections revealed that the minor infractions had been corrected and no fines were issued.

As reported in last year's Annual Report, there was one business complex that was going to be monitored by City staff throughout the year due to the trash situation. The businesses were out of compliance in this complex due to the trash enclosures being a mess with overflowing debris. The property management company was not providing adequate solid waste service, so the trash dumpsters were filling up faster than they were being serviced. The City, and its inspection consultant, discussed the situation with the property management and explained the potential penalties if this were not taken care of. The City is happy to report that the property management company increased the service and there is no longer a problem at this location. City staff has conducted spot checks and this complex was inspected again this year and it has remained in compliance. Finally, the staff members have visited various businesses and left brochures, including door hangers, when pollutants have been found. In addition, staff members, including Code Enforcement Officers target educational messages (letters, visits, etc.,) to businesses when pollution is found in their area. Staff has been proactive in their approach to educating the business community.

8.2.14 Special Events Permit

As reported in previous Annual Reports, the City adopted a Special Events Permit that is required for group events (Triathlons, Block Parties, Birthday Parties, etc.) of over 25 people on public property. A storm water section is included in the Permit, with requirements regarding the event and adhering to all storm water regulations. This has proven to be a great educational tool, as most applicants tend to ask questions about this. It is a great tool to educate the public about storm water regulations. For an example of the Special Events Permit Conditions of Approval see Appendix S.

8.3 Pollution Prevention through Education – Regional Activities

The regional activities of the Copermittees of Order 2007-0001 are, for the most part, described in the Regional Unified Annual Report. However, for purposes of completeness, some of the activities that the City has participated in are described in this section of the Report. As mentioned above, the new Permit added significant requirements for regional education, some of which is described below. The City has been in cooperation with the other Copermittees

in developing a regional educational program. Implementation of some of these programs did occur during FY 2008/2009 and will be reported on in the Regional Unified Annual Report. The City is actively working with the Regional Copermittee Education group to develop additional programs for implementation during FY 2009/2010.

8.3.1 Regional Monitoring

The City participated with the Copermittees in conducting a region-wide wet-weather monitoring program. Although no mass loading stations were located within the City, one of the testing sites (San Dieguito Lagoon) is a receiving water body from the City's drainage.

The 2008/09 program is described in detail in the Regional Unified Annual Report and in the report issued by the consultant, MEC Analytical. MEC's report will be submitted with the Unified Annual Report, and any data collected will be reported and discussed in that report.

8.3.2 Model Programs

One of the most important regional educational components is the ability the Copermittees have developed to help educate each other. This has been accomplished through routine meetings, sharing of project assignments, and most significantly, the development of model guidelines for the new JURMPs, SUSMPs, and WURMP(s). Not only have the model guidelines produced a fairly consistent message to educate the community, the model guidelines have established collaborative working relationships among municipal, county, and state agencies, which is remarkable. In addition, this cooperation has allowed for relatively consistent program components and requirements, which especially helps the business and construction community. So, if they are doing business in various cities, they will not have to completely alter their practices to comply with the respective jurisdictions. This is especially relevant in the LID, SUSMP and general BMP programs.

8.3.3 Linking to Regional Resources

The City posts links on its website to the regional Web sites (Project Clean Water and Think Blue). In addition, the City posts information on reporting storm water violations to the City as well as County's Regional Storm water Hotline on various educational materials. Linking the community together provides continuity, extension of resources, and economies of scale for the community and the

agencies, and contributes to a greater understanding that we are all interconnected and can help positively impact water quality. It's important to educate the community that water quality programs should not and do not stop at jurisdictional (or watershed) boundaries.

Through the www.projectcleanwater.org website, San Diego County has been able to link many community members to various storm water/urban-runoff-related programs of interest. In addition, the website contains information (dates, times, agendas) on meeting's that are open to the public and links to download important documents and reports.

8.4 Pollution Prevention through Education – Watershed Activities

In accordance with the Permit, each municipality is required to participate in the development and implementation of a Watershed Urban Runoff Management Program (WURMP) for each hydrological unit in which the City's jurisdictional boundaries lie. The northern portion (~10%) of the City resides within the Carlsbad Hydrological Unit and the rest of the City resides within the San Dieguito River Hydrological Unit. As such, the City is required to participate in the development and implementation of two WURMPs addressing the runoff concerns of each watershed.

During this reporting period, the City actively participated in the development and implementation of the Carlsbad and San Dieguito WURMPs, in compliance with Permit Order No. 2007-0001. The WURMP Annual Reports will be submitted in January 2010, and will detail all the activities and programs being implemented by the respective Copermittees to address watershed issues.

In short, each WURMP contains the following 1) a time schedule for developing a comprehensive map of the entire Watershed including all land uses, the storm drain systems, and inventories of all commercial, construction, industrial, municipal and residential areas, 2) a plan to ascertain the types of pollutants that exist in the water bodies throughout the watershed and a prioritization schedule to eliminate the pollutants; 3) a program to educate the entire community about issues related to urban runoff; 4) methods to provide the community opportunities to participate in the program; 5) plans to collaborate with Copermittee agencies to strategize, review and analyze information; and 6) an effective program effectiveness strategy and methods to conduct annual evaluations. A significant addition to the responsibilities of all WURMPs is the requirement to actively implement two (2) activities each year aimed at sources to reduce high priority

pollutant loading into local waterways. This will be described in greater detail in the WURMP Annual Reports (submitted in January), but mention of it here in the JURMP is appropriate.

The City has been actively involved in the implementation of both WURMPs, and has brought materials developed in each WURMP to the community (business and residents) of Solana Beach. The Carlsbad and San Dieguito WURMP workgroups have been extremely effective in implementing the requirements of the Permit. For more information on the particular activities in each WURMP, please refer to the City's individual WURMPs Annual Reports that will be submitted in January 2010.

8.5 New Activities and Improvements for FY 09/10

The City will continue to educate the community through participation in the North County Education Group (Carlsbad WURMP), the San Dieguito WURMP group, the Regional Education Group, the City's new Green Flash environmental web portal, brochures, flyers, the *Shorelines*, and community/regional events. The City will also use the results from its DWMP to inform residents in areas that the data showed elevated levels of constituents of concern or pollutants that degrade the quality of water. The City plans to develop additional educational brochures collectively with the region that will be industry specific. As a result of the 13267 Directive Letter discussed above as well as the new Permit, the Copermittees have changed their approach to watershed issues and plan on taking a more direct approach in implementing activities that address specific pollutants of concern and their respective sources within the watershed. Following the direction of the RWQCB, the watersheds have changed their approach to integrate more pollutant based activities in an attempt to reduce COCs in the watershed and improve water quality. This appears to be the direction the RWQCB wants to go and the Copermittees are eager to work with the RWQCB to improve the water quality throughout the region.

The adoption of the new Permit and Memorandum of Understanding (MOU) between the Copermittees required extensive outreach to educate the City Council and community on the benefits of the storm water program. City staff conducted many presentations for the City Council and community that educated them on pollution issues. City staff took this opportunity to educate the Council and community on the storm water regulations and the benefits of implementing this program.

The City also incorporates education to school children through its relationship with the Solana Center and the City's Marine Safety Department classroom presentations. As mentioned above, the City indirectly contracts out the Solana Center to give *free* classroom presentations to local schools. These presentations are paid for through the City's waste hauler contracts. City staff will be more proactive in its efforts to get more presentations in the schools during FY 2009/2010. City staff has begun to meet regularly with the Solana Beach School District regarding environmental issues as the new Superintendent is very receptive. These meetings have occurred on a quarterly basis and will continue to do so in the future. It is the City's intent to use this platform to get more storm water education into the schools. This will be reported on in the next Annual Report.

8.6 Summary

The City has been successful at implementing a jurisdictional and watershed based educational program. With the adoption of the new Permit, a renewed focus has been placed on a large scale regional education program, in which the City has been actively involved with during this reporting period. A new regional education working group has been established by the Copermittees to develop a consistent, region-wide program, and the City of Solana Beach has been actively involved. This first step has already been accomplished, with the region adopting the "Think Blue" program developed by the City of San Diego. This gives the region a known brand of which to build a successful educational program. The details of this regional program will be described in detail in the Regional Unified Annual Report.

On a jurisdictional level, the City is certain that with its strong messages, meaningful content and integrated programs, the community will become more knowledgeable about pollution prevention methods.

As mentioned above, the City plans to utilize the educational materials developed by the watershed and regional groups, as it has been agreed upon that a consistent message should be implemented whenever possible. However, much like the differences in the watersheds throughout San Diego County, there are slight differences in how individual cities implement and enforce certain components of the Permit. Therefore, it will always be necessary to develop some jurisdictionally specific educational materials for the benefit of the community. The types of jurisdictional educational information/activities are described throughout this Report, but a few examples include:

- BMP specific guidelines for unique construction projects, such as the Underground Utility Program (undergrounding power poles) and the Trench Resurfacing Program.

- The “Construction Site Supervision in Solana Beach: Code Requirements and Good Neighbor Practices”

- Construction and Demolition (C&D) Debris Recycling Guide

- Classroom Presentations

- Summer Camp Presentations

- Marine Safety Presentations

- Water Conservation, Landscape Workshops

- Unique partnerships with public and private entities such as Kids Korps and ReRip to provide educational opportunities for the underserved population

CHAPTER 9
Public Participation Component

CHAPTER 9: PUBLIC PARTICIPATION COMPONENT

9.1 Introduction

In accordance with Permit Section D.6, this section of the report describes the City's efforts to develop mechanisms for public participation in the implementation of the JURMP and obtain the committed participation from the community. Public participation comes in two forms; participation in implementing the program and the necessary public feedback for improving the program.

In each Annual Report to the RWQCB, this section will include modifications to the City's plans to provide opportunities in which the public can participate. In addition, this section of the Annual Report will describe the City's efforts to encourage public participation during the reporting period. Also, a summary of activities conducted post-reporting period may be included if the activity is deemed essential to understanding the City's efforts at reducing urban runoff or Permit compliance.

Prior to the implementation of the original JURMP (February 2002), the City did not have a specific "public participation program." However, many members of the community have taken an active role in environmental issues over the years, which is most likely due to the City's proximity to the ocean and lagoons. As a result, the City was the first city in San Diego County to have curbside recycling and a smoking ban at the beaches and parks. The City has also been proactive in its approach to urban runoff and pollutant mitigation and reduction, by implementing a strict Municipal Code regarding Storm Water Management (adopted in 1993) and Grading and Excavation regulations to prevent erosion during construction.

As a result of Order 2001-01 (Permit), the City was required to design a specific program to ensure that the public had ample opportunities to learn about controlling urban runoff and assist the City in "spreading-the-word." The new Permit Order No. 2007-0001 further emphasizes the necessity of a strong public participation program.

The Public Participation Component is closely related to the Educational Component. However, while the educational program describes activities the City engaged in to educate the public, public participation will describe activities the

public engaged in (or were provided an opportunity to do so).

During this reporting period, the City began the implementation of the comprehensive Public Participation Component for the new JURMP (Section 11). The programs included activities that complemented the educational program with a goal of providing opportunities to ensure that residents, business owners, and those who do business (such as contractors) within the City, have an opportunity to learn about the negative impacts of urban runoff, understand the City's regulations relating to protecting the environment, and participate in the development of storm water program involving the community. The City developed the program based on the requirements of the Permit(s) and continued implementation during this reporting period.

9.1.1 Chapter Content

It is important that the reader understand that much of the public participation program is integrated into other program components and as such, much of the information within this chapter has been presented elsewhere in this report. However, to provide consistency in reporting, to ensure Permit compliance, and to present stand-alone chapters in this report, this section will include all opportunities for public participation, even if those same events were described in other chapters. However, for purposes of reducing redundancy, some events may be summarized in this chapter with a reference to other chapters for details.

9.2 Community Events

9.2.1 Fiesta Del Sol

The City of Solana Beach hosts an annual block party called Fiesta de Sol. Each year at the block party the City has a booth promoting no dumping or littering and keeping our beaches clean. The event was held on June 6 and 7, 2009 (Appendix E). The City also passes out "*Only Rain in the Drain*" brochures and talks with residents about the importance of protecting the water resources. Solana Center also hosts a booth through the City of Solana Beach and promotes environmental stewardship, including used oil recycling and HHW information. Approximately 70,000 people attended the event this year and City staff handed out storm water educational brochures and doggie-bag dispensers to those that visited the City booth.

The City's Clean and Green Team, consisting of environmentally conscientious members of the community, also shared the booth with City staff. They distributed information regarding climate change, energy conservation and water quality. Since this is such a hot topic this year, it got many more people to go to the City booth this year. City staff took this opportunity to educate more people regarding the storm water regulations. This was an extremely successful event this year.

9.2.2 Beach Clean Up Opportunities

During this reporting period, Coastkeepers and the nonprofit group I Love A Clean San Diego (ILACSD) hosted the 24th Annual California Coastal Cleanup Day in September 2008. The City hosts two locations, one at Fletcher Cove to clean the beach, and another at San Elijo Lagoon to clean up the lagoon. This provided opportunities for the public to come out and help keep the lagoons and beaches clean, while also educating them on cigarette butt pollution and water quality concerns. The results of this event are included earlier in this Report.

9.2.3 Adopt-A-Beach Program

The City works collaboratively with I Love A Clean San Diego in the Adopt-A-Beach Program. The Program consisted of local businesses and/or community groups sponsoring a beach and agreeing to clean up the beach at least 3 times a year (1 time for schools). The City thought this was a great idea and extremely beneficial to the community, so approved our beaches being included in the program. Four (4) beaches (Tide Beach Park, Fletcher Cove, Del Mar Shores and Seascape Sur are all "adopted" and are cleaned at least three times a year. The signs are updated each year with new "adoptees" and City staff installs the new placards on the signs. This has been a very positive experience, as the City's beaches are each cleaned three times a year, resulting in at least 12 beach cleanups per year, in addition to the annual Beach Clean-Up Day.

9.2.4 Beach Blanket Movie Night

As mentioned in the previous Chapter, the City's Parks and Recreation Department puts on a free community event called the Beach Blanket Movie Night. This event consists of placing a large movie screen at Fletcher Cove Park and showing environmentally themed movies for the community to enjoy. City staff took this opportunity to distribute storm water educational materials, promote recycling efforts and distribute doggie-bag dispensers to members of the

community. Additionally, Solana Center attends and has educational material for the community as well, including the Enviroscape model. This has turned into one of the most successful community events and is based around environmental themes. The City's "environmental booth" is the only booth allowed at this event, as the organizers recognize the importance of educating the community on environmental awareness. This is a great opportunity for the City to promote its programs as it has the community's undivided attention.

9.2.5 San Elijo Lagoon Day

San Elijo Lagoon Day is an event sponsored by the City, the San Elijo Lagoon Conservancy and the County of San Diego Department of Parks and Recreation and it's a full day of educational activities where residents can learn about the ecological reserve and how to protect the local environment. There are two main locations, one at the North Rios Trailhead and the other at the Santa Carina trailhead, both in Solana Beach. The City provided educational materials to distribute at the event and spread the word through our resources. It was a very well attended event that is scheduled to be held on an annual basis. This year's event was held on May 13, 2009.

9.2.6 Paws in the Park

"Paws in the Park" is an annual event put on by the City at the La Colonia Community Park. This community event is very well attended and the City has a booth to showcase the City's environmental programs. At this year's event, held March 15th, 2009, City staff took advantage of the pet event to promote the importance of picking up after your pet and distributed customized "Bags on Board" doggie-bag dispensers. These items are a huge success because the event targets the pet community, those most likely to have the potential to release bacteria into the environment. The dispensers had the City logo on it and the slogan, "The City of Solana Beach Reminds You To Please Pick Up After Your Pet." In addition, the City distributed specialized educational information regarding pet waste and the harmful effects it can have on the environment. This is an annual event and the City will continue its environmental education campaign every year.

9.3 City Council Meetings

The Solana Beach City Council meetings are televised, which provides an excellent opportunity for the public to participate in local government. In addition,

the City's Agenda is published online (available on its website), which provides the public an opportunity to readily access the upcoming Council reports.

Another highly successful educational opportunity is the implementation of scrolling messages during televised City Council Meetings. Staff has taken advantage of this new tool to place storm water messages and notifications for upcoming presentations, events, etc. This has proved very valuable and will continue to be utilized by City staff when appropriate.

9.4 Copermittee Meetings

Most Copermittee meetings are open to the public and provide an opportunity to participate in the process of developing the regional and local programs. All Copermittee meeting dates are available on the Project Clean Water Web site (projectcleanwater.org) and the City's website also links to the regional sites.

9.5 Collaborative Community Partnerships

The City has developed collaborative partnerships with various local organizations, which provide the public an opportunity to participate in improving water quality and/or the City's storm water program(s).

The City works closely with the Solana Center, which provides instruction to local school children on the harmful effects of pollution, the positive impacts of pollution prevention and the need to keep pollution out of the City's storm drains. Solana Center is contracted by the City's waste haulers through their exclusive Franchise Agreements. Solana Center also provides the following services for the City:

Referral Phone Calls: Solana Center staff provides recycling telephone referral services for residents on the Cities of Carlsbad, Del Mar and Solana Beach. Solana Center staff spent time educating the community about CRV updates, composting information, and how they easily incorporate recycling activities into their daily lifestyle. Community phone inquiries included:

- The locations of local recycling centers and hours of operation.
- Redemption values of materials.
- Basic information of what materials can be or cannot be recycled in

curbside recycling programs.

- General recycling information for commercial businesses.
- Services on commercial recycling carts.
- RotLine – Answering community questions regarding composting and vermicomposting.

Less Toxic Yard and Garden Workshops:
Solana Center staff conducts presentations throughout the community on alternative gardening tips that reduce the use of pesticides and herbicides. These workshops also promote the benefits of composting, further reducing the amount of trash generated and shipped to landfills as well as reducing the need for harmful chemicals/fertilizers.

Community / Recycling Events

Event Dates	Name of Event(s)	Attendance at Event(s)	Description and Summary of Event(s)
June 7 and 8, 2008	Fiesta Del Sol	70,000	Annual event for the City of Solana Beach. Recycling services were coordinated in conjunction with Waste Management and EDCO Disposal Inc. Solana Center also provided education on used oil recycling, HHW and watershed presentations,
August 23, 2008	Beach Blanket Movie Night	1,000	Annual event put on by the City's Parks and Recreation Commission to provide a free night of environmentally themed movies. Educational materials were distributed at event.
March 15, 2009	Paws in the Park	500	Annual event put on by the City's Parks and Recreation Commission for pet education and games. Educational materials were distributed at event.

School / Adult Community Education

Date of Event(s)	Event Title	Estimated Audience	Specific Audience	Location
July 23-27, 2008	Ecology and our Environment	20	Grade 1-Jr High	La Colonia Community Center (Field Trips Included)
July 28-August 1, 2008	Summer Safari	25	Grade 1-Jr High	La Colonia Community Center (Field Trips Included)
August 4-8, 2008	Under the Sea	25	Grade 1-Jr High	Fletcher Cove Community Center (Field Trips Included)

July 23, 2008	Storm Water Presentations	49	Grade 1-High School	Boys and Girls Club
October 4, 2008	Storm Water Presentations	18	Grade 1-Jr High	Solana Beach Library
January 13, 2009	Storm Water Presentations	23	Grade 1-Jr High	Solana Beach Library
February 3, 2009	Storm Water Presentations	21	Grade 1-Jr High	Solana Vista Elementary School
April 2e8, 2009	Storm Water Presentations	20	Grade 1-Jr High	Santa Fe Montessori
May 1, 2009	Storm Water Presentations	31	Pre-School	Sandy Hill Pre-School
May 27, 2009	Storm Water Presentations	24	Grade 1-Jr High	Santa Fe Montessori School
June 24, 2009	Storm Water Presentations	37	Grade 1-Jr High	La Colonia Community Center (Kids Korps)

Community Workshops

Date of Event(s)	Event Title	Estimated Audience	Specific Audience	Location
October 10, 2008	California Friendly Landscape Training	22	Residents and Businesses	Fletcher Cove Community Center
March 4, 2009	California Friendly Landscape Training	35	Landscape Professionals	Fletcher Cove Community Center
March 7, 2009	California Friendly Landscape Training	33	Residents and Businesses	Fletcher Cove Community Center
March 11, 2009	California Friendly Landscape Training	33	Landscape Professionals	Fletcher Cove Community Center
March 18, 2009	California Friendly Landscape Training	33	Landscape Professionals	Fletcher Cove Community Center
March 25, 2009	California Friendly Landscape Training	33	Landscape Professionals	Fletcher Cove Community Center
April 1, 2009	California Friendly Landscape Training	33	Landscape Professionals	Fletcher Cove Community Center

The above workshops are conducted by the City's private water company Santa Fe Irrigation District (SFID) in conjunction with the City. The City provides the space to conduct the workshops and promotes the workshops, including directly to the landscaping contractors known throughout the community. All classes are taught in English and Spanish, and the classes taught in Rancho Santa Fe are promoted to Solana Beach residents/businesses as well. The City requires the municipal landscaping contract company to attend the workshops for educational

purposes. This shows another great collaborative success between the City and its private water company. There is a great relationship between the two entities which extends beyond these workshops. The City and SFID work together to combat residential over-watering and ensure daily tasks and repair work are conducted in compliance with the Permit. In addition, pre-construction meetings for CIP projects include SFID and storm water issues are discussed. The City and SFID are committed to working together and maintaining this great working relationship since most of the work conducted by SFID (trenching, pipe laying, water testing) are all done within the City limits.

Shorelines Newsletter:

The Solana Center writes regular articles for the City of Solana Beach on a wide range of topics, including E-waste, recycling, composting and buying recycled products. The topic is coordinated between the City's Environmental Programs Manager and the Executive Director of the Solana Center. The articles are included in the Appendices and described in more detail in other sections of this Report.

9.5.1 Solana Beach Clean and Green Community Committee

As mentioned in last year's Annual Report, the City brought together active and willing community volunteers to form the Solana Beach Clean and Green Team (Team). This Team was formed to discuss pertinent local environmental issues and develop programs to bring to City Council for implementation. City staff meets monthly with the group to discuss the City's environmental programs and to brainstorm activities that would benefit the community as a whole. The group has evolved from a few interested residents to a steady group of about 20 members from the residential and business sector of the community. The group has assisted in the development of the following programs:

- Construction and Demolition Debris Recycling Ordinance
- Plastic Bag Advertising Ban Ordinance
- Plastic Bag Recycling program
- "Green Flash" Website
- Green Building Incentive Program

- Greenhouse Gas Baseline Emissions Inventory

The group is currently working on the following items:

- Green Business Program Over-Irrigation Reduction Program
- Solar Financing District
- Climate Action Plan

The Team is also heavily involved in the water quality activities of the City and the NPDES program. The committee attends all community events and disseminates educational materials. This group has been extremely valuable and provides a direct link to the community, both residential and commercial. It allows all community members the opportunity to participate in City government.

9.6 Other Opportunities

9.6.1 City Storm water Hotline

The City operates a storm water hotline, (858-720-4424) which is dependent on public participation to report suspected violations of IC/IDs and to inquire about workshop information or other storm water-related needs. The hotline provides 24/7/365 access to the public so that they can report potential violations and/or call for information as soon as they are thinking about it, rather than having to wait for normal business hours. The hotline is sent directly to the Environmental Program Manager's voice mail (it can still be anonymous) to ensure quicker and more efficient response to the public inquiries, as well as providing an outlet for the public to discuss issues directly with City staff.

9.6.2 Website

As reported previously in this Report, the City developed a more comprehensive environmental web portal on the City's website. The new page is titled "Green Flash" and encompasses all of the City's environmental sustainability programs. Water quality and the City's NPDES programs are prominent and have been expanded as a result of this new web portal. This shows the City's proactive approach to engaging the public and keeping them educated on the new environmental programs throughout the City as well as providing links to relevant web pages.

9.6.3 Local Media

As described in detail in Chapter 8 (please refer to that chapter for more information), the City utilized the local media to inform and educate the public. Although this is not a public-participation activity, the information provided in the articles describes the ways in which the public can get involved, if they so choose. The City has a great working relationship with the local newspapers (Solana Beach Sun and Coast News) and has many articles published with environmental themes, including storm water related issues.

The City also published several articles in the *Shorelines* Newsletter (also described in Chapter 9) inviting the public to get involved, providing details on how they can participate in protecting the region's water resources.

The City also has a contracted media relations consultant with ties to the major media outlets. This consultant is brought in on the City's major events to help promote the events and activities to a much larger audience. This is not done for every event in the community; however it is important to note that this service is available when appropriate.

9.7 New Activities and Improvements for FY 09/10

The City will continue to implement the elements of the public participation component as described in the City's JURMP. The focus will be on expanding the collaborative partnerships to include more frequent opportunities for public involvement (clean up days, events, etc.). Staff will continue to look for more opportunities to work with neighboring cities to host pollution prevention community events through its watershed programs (Large HHW event). Additionally, the City is working with the other Copermittees in possibly putting together more large scale community educational events.

With the adoption of the new Permit, there is an added emphasis on developing a Regional Educational Program. This has been a main focus for the Copermittees during this reporting period. Copermittees are expected to implement a comprehensive regional program that will provide a consistent message to the entire region. As most of the new programs are geared towards improved watershed programs, this is one key area that was identified as a Regional program. Copermittees have already begun developing activities through the Regional workgroup, such as the mobile business education

campaign. These programs will continue to be developed and implemented throughout the five year cycle of the new Permit. For more details on the activities the Copermittees have implemented during FY 08/09, please see the Regional Unified Annual Report.

One new program that City staff is looking into is the expansion of the Annual Coastal Cleanup Day to other locations throughout the City. Currently, the City hosts to locations, one at Fletcher Cove Park and the other in the San Elijo Lagoon. City staff is looking into the idea of extending the program to inland sites in the City and engaging local community leaders into hosting sites in their neighborhoods. If successful, this will engage public participation from community members who wish to volunteer to keep their neighborhoods clean, while giving the City more opportunity to educate residents and businesses during the cleanup. This will be included in next year's Annual Report.

9.8 Summary

The City has been successful at implementing numerous methods to encourage public participation. The City makes every effort to encourage the public to participate in improving water quality, recognizing that it's up to all of us.

Key opportunities for public participation included the following:

- Regional Copermittee Outreach Events
- Fiesta Del Sol
- Coastal Clean Up Day
- Regional Workshops
- City Council Meetings
- Copermittee meetings
- Collaborative community partnerships (SFID, Solana Center, Kids Korps)
- Contacts through the City's Storm water hotline, City website
- Beach Blanket Movie Night
- San Diego County Fair
- San Elijo Lagoon Day
- Paws In The Park Community Event
- Formation of the Clean and Green Community Committee

CHAPTER 10
Fiscal Analysis Component

CHAPTER 10: FISCAL ANALYSIS

10.1 Introduction

In accordance with Permit Section J.1(k), this section of the report describes the resources that the City utilizes to finance the various components of the storm water program. Effective programs require adequate funding to implement planned activities. The fiscal analysis will evaluate the expenditures necessary to accomplish the activities of the City's program.

In each Annual Report to the RWQCB, this section will report on any changes in the revenue sources that finance the City's storm water program, a *general* description of the expenditures during the reporting period, the budget adopted for the following reporting period and any changes known at the time of the writing of the report (to keep the document as current as possible).

10.2 Revenue Sources

The City finances its Storm Water Management Department via revenues from an NPDES solid waste fee. The City went through a long, arduous process to establish a long-term funding source to ensure the program would be sufficiently financed. This is an area that the Copermittees have struggled with and the City is very proud of the fact that it has secured a voter approved fee to ensure the long term future of the program. The City was sued by the Howard Jarvis Taxpayer's Association (HJTA) and the fee was put to a vote of the community. The community responded and supported the fee, so now the City has a long-term funding source to maintain and enhance the NPDES program. The following is a brief history and timeline of significant events that led to the vote and approval of the City's NPDES Solid Waste Fee:

- June 15, 2004- Council Authorization of Consultant to Develop NPDES Fee Report
- May 3, 2005- City-Wide Mail Out Announcing Community Workshop and Background for the NPDES Solid Waste Fee
- May 11, 2005- Introduction of NPDES Solid Waste Fee-City Council Meeting
- May 11, 2005- Scroll Information About Community Workshop on Television Broadcast During City Council Meeting
- May 19, 2005- Community Workshop
- June 15, 2005- First Reading of NPDES Solid Waste Fee Ordinance- City Council Meeting

- June 22, 2005- Second Reading (Adoption) of Ordinance- City Council Meeting
- September 1, 2005- Included Insert in both WM and EDCO Bills That Explained Extra NPDES Solid Waste Fee
- December 12, 2006- Staff Report to request Public Hearing to present updated NPDES Fee Study and rate structure – City Council Meeting
- January 2007- Proposition 218 notifications for Public Hearing sent out City-wide to all property owners – City-wide mail-out
- February 28, 2007- Public Hearing to consider adoption of updated NPDES Fee Study Report (protest hearing) and introduce Ordinance 362 implementing new rate structure– City Council Meeting
- July 11, 2007- Staff Report to set Public Hearing on September 26, 2007 to announce results of Mail-In Ballot Election

For more information on the City's NPDES Solid Waste Fee, please see the City's website at http://www.cityofsolanabeach.org.

10.3 FY 2008/2009 Expenditures

The storm water budget for the FY 08/09 Environmental Services Department and other departments that support the storm water program are shown on Table 10-1. In addition to the budget below, the City also incurs significant costs associated with tasks that supplement pollution control such as routine street cleaning (trash/litter pickup) performed by the public works department, cleaning of the parks and community centers, and beach cleanups.

Table 10-1 FY 2008/2009
Storm Water Management Budget

Line Item	Budgeted
Salaries[1]	$ 170,200
Storm Drain Cleaning	$ 15,000
Permit Fees Paid to County & RWQCB	$ 34,000
Lab Testing	$ 10,000
Investigations, brochures, public education	$ 6,000
Steven's Creek Cleaning	$ 10,700
HHW Program	$ 25,000
Watershed URMP Shared Costs	$ 12,000

[1] *Salaries for City personnel that handle storm water responsibilities were divided between various departments, depending on the amount of staff time allocated to that department. Salaries include anticipated overtime and benefits.*

State Water Control Board Fees	$ 7,000
Training (Travel, Conferences, Meetings)	$ 1,850
Misc. Items (Including small tools)	$ 20,350
Seascape Storm Drain Cleaning	$ 10,000
TMDL Investigation	$ 10,000
Commercial/Indust Facility Inspections	$ 15,000
Construction Inspections	$ 10,000
JPA Sediment Drying Pad	$ 6,000
Total	**$ 374,250**

10.4 FY 2009/2010 Proposed Budget

Table 10-2 presents the City's Proposed Budget for the FY 09/10 Environmental Services Department.

Table 10-2 FY 2008/2009
Storm Water Management Proposed Budget

Line Item	Budgeted
Salaries[2]	$ 159,500
Storm Drain Cleaning	$ 10,100
Permit Fees Paid to County & RWQCB	$ 34,000
Lab Testing	$ 6,000
Investigations, brochures, public education	$ 6,000
Steven's Creek Cleaning	$ 9,100
HHW Program	$ 28,000
Watershed URMP Shared Costs	$ 13,000
State Water Control Board Fees	$ 7,500
Training (Travel, Conferences, Meetings)	$ 1,000
Misc. Items (Materials, Supplies, Services)	$ 16,000
Seascape Storm Drain Cleaning	$ 8,000
TMDL Investigation and JURMP Update	$ 10,000

[2] *Salaries for City personnel that handle storm water responsibilities were divided between various departments, depending on the amount of staff time allocated to that department. Salaries include anticipated overtime and benefits.*

Commercial/Indust Facility Inspections	$ 12,000
Construction Inspections	$ 12,000
JPA Sediment Drying Pad	$ 6,000
Total	**$ 338,200**

New Additions to Budget

There are no significant additions to the budget for FY 09/10. However, as was described in last year's Annual Report and again below, there are new categories included as a result of new programs required by the new JURMP. As can be seen in the table above, the following items have been added to the Environmental Services Budget:

TMDL Investigation	$ 10,000
Commercial Industrial Inspections/ weather monitoring	$ 12,000
Construction Inspections	$ 12,000
JPA Sediment Drying Pad	$ 6,000

The Total Maximum Daily Load (TMDL) Investigation is budgeted for the ongoing investigation in the San Elijo Lagoon. The City is listed as a responsible party and is actively implementing the program with the other responsible parties.

The Commercial/Industrial and Construction Inspections were added to this budget as a result of the increased requirements in the new Permit. Under the old Permit, City staff conducted the necessary inspections; however, since the responsibilities have increased under the new Permit, the City wanted to ensure the highest possible service to the community and decided to contract out the services. This will free up limited staff time to concentrate on other aspects of the Permit while at the same time getting expert consultants to provide high quality service and inspections. The City sees this as a win-win situation, and plans to continue this process throughout the life of the new Permit.

In addition, the City worked with the San Elijo Joint Powers Authority (SEJPA),

who is responsible for sewer service for the City of Solana Beach and parts of Encinitas, to work out an agreement where storm drain material collected in the City's MS4 can be treated and disposed of at the Waste Water Treatment Plant (WWTP). Prior to this agreement, the City would have to dry out the material collected, test it and then wait to receive permission to dispose of in a specially lined portion of the landfill since storm drain material is considered non-hazardous special waste. In order to streamline the process and potentially turn the material into useful fertilizer, the City developed an agreement with the SEJPA to dispose and treat the material at the WWTP. This is another win for the City because the process is streamlined and material can be reused and not disposed of in the local landfills.

10.5 Summary

The City is committed to allocating enough resources to effectively implement the components of the Permit. During the NPDES Solid Waste Fee Study analysis, a complete assessment of the program was conducted to determine how much money is being spent performing the duties of the Permit. This was the basis for the NPDES Fee, and the City is committed to reassessing the program on a continuous basis to ensure the NPDES Fee is collecting enough money to offset a significant portion of the costs of the Program. The City must take special care to ensure the NPDES Fee is not collecting more than the costs to run the program, so this reassessment is necessary for this reason as well.

The City will periodically assess the costs of the program and make necessary adjustments to the NPDES Fee to ensure the City is recovering a significant portion of the costs of implementation. This will ensure a long term funding source which is paramount to a successful program. The City anticipates a significant increase in costs to develop and implement the new programs adopted with the new Permit, and will reassess the NPDES Fee in future years to reflect the increases in the program. The City has already responded to the new requirements of the Permit by reallocating and adjusting money into the FY 09/10 budget, and anticipates continuing this process as more programs are developed and implemented, especially on a watershed and regional level.

It should be noted that the City of Solana Beach is also struggling with the recent downturn in the economy that is affecting most, if not all, Copermittees. As you can see from the budget, there is less money allocated to the FY 09/10 budget than was allocated in the FY 08/09 budget. This is a reality that all Copermittees, along with the State, are dealing with. The City of Solana Beach feels fortunate to

have a steady funding source that comes with a voter approved NPDES fee, however all budgets are getting tighter. The City feels extremely confident that the adjustments made to the FY 09/10 budget can be absorbed in the program without a significant reduction in services. The areas that have been reduced in budget generally consist of consultant work that will be absorbed with full time staff, and the City fully anticipates meeting all requirements of the Permit. However, it should be noted that this is a very serious situation that will have to be continually monitored throughout the year, as there is still extreme uncertainty regarding the economy. This is just something that all Copermittees, including the State, will have to monitor as the year goes on. However, as mentioned above, the City is in better shape than most since the majority of funding for the program does not come from the General Fund.

CHAPTER 11
Effectiveness Assessment Component

CHAPTER 11: EFFECTIVENESS ASSESSMENT COMPONENT

11.1 Introduction

In accordance with Section J.3.(l) of the Permit, each Copermittee is required to develop a long-term strategy for assessing the effectiveness of the various components of its Jurisdictional and Watershed Urban Runoff Management Programs (URMPs). The City will perform an annual effectiveness assessment to specifically assess:

- Each significant jurisdictional activity/BMP or type of jurisdictional activity/BMP implemented;

- Implementation of each major component of the JURMP (Development Planning, Construction, Municipal, Industrial/Commercial, Residential, Illicit Discharge Detection and Elimination and Education); and

- Implementation of the JURMP as a whole

During this reporting period, the City has continued implementation of all components of the Permit. This section will assess the effectiveness of the JURMP, and discuss all strengths and weaknesses of the City's program. Since the City's JURMP was submitted in March 2008, this Report will be the first full year of implementation and it will be difficult to effectively assess the new programs. Most of the new programs are still in development, therefore this section will report on any significant results from the programs implemented under the old Permit Order No. 2001-01 and any programs that have been developed and implemented during the first full year under Permit Order No 2007-0001.

11.2 "A Framework for Assessing the Effectiveness of Jurisdictional Urban Runoff Management Programs"

The Copermittees developed an assessment document titled, "A Framework for Assessing the Effectiveness of Jurisdictional Urban Runoff Management Programs." This document was prepared after discussions with the RWQCB in which the Board stated that the Copermittees needed a better method to assess the effectiveness of the JURMP. This document was approved by the RWQCB and will be used to assess all future programs, or until another method is agreed

upon. The document addresses six levels of assessment:

1. Compliance with Activity-Based Permit Requirements
2. Changes in Knowledge/Awareness
3. Behavioral Changes
4. Load Reductions
5. Changes in Discharge Quality
6. Changes in Receiving Water Quality

The levels of assessment have been combined into three rather than six categories for this reporting period because it is easier to assess the programs when they are combined into these three categories. Level 1 includes modified assessment tables from the JURMP. Level 2 and 3 are combined and discuss the program strengths (accomplishments and outcomes) for each component. Level 4, Load Reductions, is still being assessed as to the proper way to address this (possibly TMDLs) and so is only briefly discussed, and Level 5 and 6 are combined to attempt presenting a water quality assessment.

The strategy uses both quantitative and qualitative measures of program effectiveness.

In addition, during the development of the WURMPs, the cities worked tirelessly to develop a meaningful method to assess *that* program for its impact on water quality – not just whether or not the program components were implemented, but more importantly, the ability to find a way to measure the link between activities and improved water quality, if it exists.

The WURMP program effectiveness strategy incorporated all of the elements of a meaningful method to assess impact, incorporated public comments, collaborative writing, thinking and designing, and in the end, is a good start at learning how to meaningfully determine the value of the storm water program activities. The City anticipates that over time, the results of a well-thought-out meaningful assessment will provide the region important information from which program activities can be designed and modified, rather than implementing program activities and hoping the activities have the expected impact. The

individual WURMP program assessments can be found in the upcoming WURMP Annual Report submittals (January 2010).

11.3 Level 1: Compliance with Activity-Based Permit Requirements

A table that summarizes the activities tracked by City staff, which demonstrates compliance with the requirements of the Permit, can be found in Appendix Z. Additionally, narratives explaining the City's efforts regarding compliance can be found in the individual components of this Annual Report.

11.4 Levels 2&3: Changes in Knowledge/Awareness and Behavioral Changes

This section is broken up into each component of the JURMP and presents a summary of the changes in knowledge/awareness and behavioral changes. Each section discusses the accomplishments for the component and discusses future improvements.

Municipal Component

Program Strengths: During this reporting period, City staff again inspected *all 309 of the City's catch basins* and 15 unimproved channels and cleaned every one that appeared to have trash or sediment accumulated in the basins. Public Works staff removed approximately 5 cubic yards of material from its storm drain system. The City also manages an active Beach Cleaning Schedule and maintains several different permanent BMPs throughout the City (the most significant structural BMPs being the bioswale located at La Colonia Community Center, the Low-Flow Diverter, CDS Unit and Sand Trap at Fletcher Cove and the CDS Unit at the north end of North Cedros).

For a discussion regarding the qualitative accomplishments of the City's Municipal Component (major accomplishments, educational and outreach activities, new activities or improvements to be implemented next year) see Chapter 2 of this report.

Table 11-1 Municipal Inspections

Activity	Quantity	Units	Comments
Number of high priority municipal facilities (*buildings*)	1	n/a	Inspected high priority facility (PW Yard) weekly at Engineering Safety Meeting held at Public Works Yard. Annual inspection conducted on 6/22/09 and facility also inspected prior to rainy season. See Chapter 2 of this Report.
Number of high priority municipal facilities (*parking lots*)	6	n/a	Visually Inspected weekly by PW staff. Cleaned monthly by street sweeper. See Chapter 2 of this Report.
Number of high priority municipal facilities (*other*)	3	n/a	One park (inspected 6/22/09), all city streets and roads (daily), and the MS4 (annually).
Number of high priority municipal facilities targeted for inspection (buildings and parking lots)	10	n/a	See above.
Number of high priority municipal facilities inspected	10	n/a	The Public Works Yard and all parking lots.
Number of medium and low priority municipal facilities inspected	5	n/a	Fire Department, Marine Safety Center, Fletcher Cove Community Center, City Hall and La Colonia Community Center inspected annually. All inspections occurred on 6/22/09.
Quantity of material removed from MS4 and beach	5	Cubic Yards	This is the amount of material the City collected from its annual cleaning of the MS4 and the beach. All 309 catch basins and 15 unimproved channels were inspected, 13 catch basins were cleaned, which was 100% of the catch basins that had accumulated trash/debris inside.
Quantity of debris removed that had potential to enter MS4 (i.e. street sweeping, litter removal)	274	Cubic yards	This information provided by daily reports from street sweeping contractor.

The City's Public Works Crew is immensely knowledgeable when it comes to storm water issues. Since the crew consists of only five people, it is very easy to

educate them on an ongoing basis. They are all very aware and conscientious of the storm water regulations and are eager to report any violations in the field to the appropriate staff. The Public Works Crew is a vital part of the Storm Water Team, because they are always out in the field, and they have become the eyes and ears of the program. They have weekly tailgate meetings with the City Engineer and City Inspector at the Public Works Yard where they discuss, among other things, the storm water regulations and visually inspect the Yard.

The amount of cooperation between the various City departments has proven to be very successful, with each department willing to implement the storm water regulations into their daily activities.

As reported in last year's Annual Report, one of the improvement areas for this component would be to conduct more department specific educational presentations. This will continue to be a high priority activity and an area to improve upon. This has proven to be very successful and is highly encouraged by the Department Directors. It is anticipated with the continued development and implementation of the new Permit requirements that more education of City staff will be required. This will most likely occur with more department specific presentations to detail any changes or additions to department specific activities required in the Permit. The City's Environmental Programs Manager conducted two department specific presentations during this reporting period. The presentations were given to the Engineering Department and Public Works Department. These are the highest priority departments as their activities are directly influenced by the Permit. The presentations focused on the following:

- Engineering Department – SUSMP, Hydromodification Plan (HMP) and LID training
    - On June 1, 2009, City staff from the Engineering and Planning Departments attended a regional training on the model SUSMP, HMP and LID. This workshop focused on the new requirements, and was attended by over 100 staff members of the Copermittees.
- Public Works Department – Sewer Overflow Prevention, Spill Response and Reporting
    - On April 28, 2009, City staff and the City's sewer maintenance contractor held a comprehensive half-day training on the topics listed above. The training was conducted to ensure that both the

City staff and contractor staff were educated on the storm water and sewer regulations and their associated responsibilities. The training was attended by 20 staff members of both organizations.

The Environmental Programs Manager will analyze the new requirements and develop appropriate presentations to City staff, and will report on these in next year's Annual Report. It is anticipated that the next department specific training will be conducted with the Community Development/Planning Department regarding the new LID, HMP and SUSMP requirements as they are being developed and implemented.

Additionally, as a result of the RWQCBs response letter to FY 03/04 Annual Report, the City now calculates and tracks the total amount of material collected by their street sweeping activities. This initially was a difficult task, as the City contracts out the street sweeping to a private company, but after some discussions with both the RWQCB staff and the contractor, a solution was worked out. The amount of material collected is now documented weekly by the street sweeper, and is verified by the City's Public Works Crew. This information is reported in this Annual Report and will be documented in the years to follow to see if a trend can be verified to assess the effectiveness of the program. Additionally, as reported in last year's Annual Report, City staff ensured that the new street sweeping contract contained language that mandates that this activity is done on a continuous basis. So far, the activity has been very successful as data that is quantifiable is now collected and will be useful in load reduction calculations in the future (as enough data is collected).

Improvement Areas: City staff is confident that all aspects of the Municipal Component are being adequately addressed, although they realize that things could always be improved. Some improvement areas may be additional educational sessions with City staff, to reinforce the importance of the Permit and how it affects their everyday activities (especially with the adoption of the new Permit). Increased inspections on Municipal facilities may be conducted to ensure compliance at all times. And finally, more detailed investigations into the "problem" catch basins, if any, which may require cleaning every year. If any of these catch basins exist, then a more aggressive litter/trash campaign may be conducted to nearby residences or businesses in hopes of a load reduction in the catch basin. Additionally, the Environmental Programs Manager will commit to ensuring all new employees are educated as soon as they start employment. This will help them in adjusting their daily activities immediately to comply with the requirements of the Permit.

Industrial Component

Program Strengths: Since the City has only one industrial site, it had been determined that a strong pro-active approach to compliance would be adopted. The one site (Baker Iron Works) has been incorporated into the routine inspection schedule of the commercial sites as dictated in the JURMP, thereby allowing the City to ensure that the site is up to code on all storm water issues. Since the one site was elevated to a high priority site, the City has taken an active approach in ensuring that the site will be in compliance at all times.

The City has developed a strong working relationship with the owners of Baker Iron Works. City staff have visited the site multiple times and worked cooperatively with them to come into compliance. The owners have responded well to the City's educational efforts and compliance requests. The City has successfully worked with Baker Iron Works to help them come into compliance by instituting several BMPs throughout the property. Although there are no indications from any of the Dry Weather Programs throughout the years that this site has contributed to pollutants to the City's MS4, the mere fact that there is a possibility of this occurring in the future prompted the City to request that a few BMPs be installed onsite. A couple of very successful accomplishments occurred that are worth noting.

The first accomplishment was the sealing up of a small storm drain located on the property that drained directly away from the property and into street.

The second BMP installed was the daily dry sweeping of the property to ensure that no sediment/gravel got into the street by automobile traffic.

The third BMP integrated into their normal routine was the use of a magnet on the grounds outside where some work is conducted using steel. The magnet is used to sweep the entire yard and collect miscellaneous scrap metals that may have collected on the ground. This activity is conducted on an as needed basis, but no less than once per week.

The fourth, and most important, BMP was the installation of the storm drain sump/infiltration pit at the northwest corner of the property that was designed to catch all low flow dry-weather runoff from the property and filter it before it left the property. These BMPs have been successfully implemented by the owners and are currently in place and functioning.

An improvement area that has been listed in previous annual reports involved ensuring that Baker Iron Works is complying with all requirements of the State Industrial General Permit, even though this is not a requirement of the storm water Permit. However, Baker Iron Works asked for the City's assistance in compliance and so City staff has worked with Baker Iron Works to implement the necessary elements for compliance. This has further helped the relationship grow between the City and its industrial partner, furthering the great working relationship.

As mentioned in last year's Annual Report, a devastating fire broke out in the office of Baker Iron Works (during FY 06/07). Most documents were destroyed, making it very difficult to send in all necessary paperwork to the State under the General Industrial Storm Water (GISW) Permit. Baker Iron Works staff worked directly with staff from the State regarding this issue and is in compliance. Additionally, the employee training manual was destroyed, however this year's inspection confirmed that another one was developed and is available onsite.

City staff also worked with Baker Iron Works to come into compliance under the GISW. Baker employees requested help with the monitoring requirements so City staff trained them in the proper sampling techniques and offered options on where to take the samples for analysis. This just proves the healthy working relationship between City staff and Baker Iron Works.

Improvement Areas: The City is confident that it is fulfilling all requirements of the Industrial Component. City staff is committed to inspecting Baker Iron Works annually as part of its high priority facility inspections due to the potential to release pollutants into the City's MS4. City staff believes that this industrial site is working well within the regulations of the Permit and is satisfied with the current situation. City staff will look to continue the open communication with Baker Iron Works and conduct further inspections to ensure that all new employees are aware of and compliant with the storm water regulations. Also, City staff will ensure that Baker Iron Works is aware of any new regulations coming down from the State and work with them to ensure compliance.

Commercial Component

Program Strengths: The City has a very aggressive commercial inspection program that goes above and beyond the Permit requirements. As reported previously in this Report, the City inspected 100% of *all commercial facilities* identified in the JURMP inventory. This is above and beyond the requirements of

the Permit, which states that 100% of the high priority sites be inspected during the second year of Permit implementation. In addition, the City implemented an aggressive Fats, Oils and Grease (FOG) inspection program to ensure the reliability of the sewer system, and prevent sewer spills caused by grease buildup. These two programs demonstrate the City's proactive approach to maintaining compliance with the Commercial Component of the Permit, and are described in more detail below.

The City also re-inventoried the commercial facilities as part of the JURMP revision and set minimum inspection frequencies per the new Permit. The facilities were inspected by an independent consultant specializing in storm water and FOG inspections, with follow-up being conducted by both the contractor inspector and City staff.

As stated in the new JURMP, the City currently had 77 stationary facilities, of which 67 are identified as high Threat To Water Quality (TTWQ). The JURMP states that in the second year of JURMP implementation, at least 25% of all inventoried stationary businesses will be inspected, meaning 17 sites are required for inspection. In addition, the JURMP states that at a minimum, 100% of all sites (excluding mobile sources) determined to pose a high threat to water quality will be inspected in the second year of implementation, increasing the number of facility inspections from 17 to 67. The City, through its contractor, went above and beyond the required 67 inspections and inspected all 77 facilities, three of which were no longer in business. Thirteen (13) facilities required more than one follow-up inspection and no major violations were detected. All facilities were in compliance during the enforcement inspections conducted by City staff. A summary of the follow-up actions can be found in the Commercial Component of this Report.

Another program strength is the implementation of the City's grease management ordinance. The City is happy to report that a grease management ordinance was passed by City Council on September 7, 2004. Staff introduced the proposal to City Council on February 17, 2004, and got the approval to move forward with the education of local restaurants and the public about the pending ordinance. A condition of the resolution once the proposal passed was to give restaurants 18 months to install a grease trap/interceptor, or receive an approved waiver from the City. Therefore, all restaurants in the City (even existing restaurants) must have a functioning grease trap/interceptor by March 2006. This is a huge accomplishment by City staff as it is well documented that most major sewer spills are the result of grease related problems. Inspection of the grease

traps and maintenance are accomplished in conjunction with the storm water inspections. As mentioned above, the contractor the City hired to perform facility inspections also specializes in grease management device inspections. The contractor included grease management inspections into the storm water inspections and check for such things as proper cleaning and maintenance, record keeping, duct cleaning, screen cleaning and hood cleaning. These are all important aspects of storm water management, as grease can have an extremely detrimental environmental effect.

A significant improvement to the grease management program that occurred during this reporting period is the increased level of inspection that was authorized and conducted by the City's contractor. As mentioned above, the City's contractor checked if each required commercial facility had a grease management device during FY 07/08. However, the inspection was taken to the next step in analyzing whether or not the installed device was of sufficient size and type. As often is the case with restaurants, they change frequently. So, an appropriate size and type grease management device may be sufficient for one type of restaurant, but if that restaurant closes and another, higher grease producing restaurant moves in, then the grease trap and/or interceptor may no longer be sufficient. This was a bold new move by the City that could be extremely controversial, but the City felt it was a necessary preventive measure and proceeding with the increased inspection level.

This process will take more time to complete as the restaurants have been notified of their insufficient management devices, but the City recognizes that to replace or install a device takes time. However, by getting the process started now, the City hopes to have all restaurants in compliance in the very near future. The results of this aggressive, innovative program will be explained in more detail in next year's Annual Report.

Improvement Areas: In previous annual reports, one improvement that was mentioned was the inspection of 100% of all high TTWQ commercial facilities in one reporting period. As reported above, this has been accomplished. The City is confident that all requirements of the Commercial Component of the Permit are currently being satisfied. One area of improvement may be increasing the amount of education and public outreach to the business community. The City believes that they have a good relationship with the current business community but more education is always welcome. City staff could make an increased effort to educate new businesses as they apply for business licenses but producing additional educational brochures and pamphlets.

Residential Component

Program Strengths: The City provides a wide range of programs for its residents to allow for convenient implementation of pollution prevention activities. Among the many programs the City provides are:

- Curbside recycling (first in the County to provide this service)
- Curbside Green-waste collection
- Aggressive and convenient Household Hazardous Waste collection program (described in detail in Residential Component)
- Community Education Program (described in Residential Component)
- The development and maintenance of the City's website regarding the Storm Water Program
- Community workshops on proper landscape practices
- Educational opportunities at local community events (Fiesta Del Sol, Beach Blanket Movie Night, Coastal Cleanup Day, Paws at the Park, etc.)
- Free presentations on proper HHW disposal and Used Oil Recycling (conducted by Solana Center)
- Opportunity to join Community Clean and Green Team which meets monthly to discuss environmental programs

The City Council meetings are also televised and available live on the internet to all the residents of Solana Beach. Many times storm water issues are discussed during these meetings. Other positive aspects of the program are the direct mailings of education materials included in monthly trash billings and the articles placed in the community newsletter, "*Shorelines*." Tallying the amount of phone calls to the City's Storm Water Hotline does not appear to be a good assessment of the City's program. The City, because of its relative small size, prefers to conduct business on a more personal level. This has proven to be a much more effective way to work with the public. Therefore, although the hotline is still publicized, City staff distributes their direct telephone numbers to the public when dealing with storm water issues. This allows direct, immediate contact with a

Staff member, which ensures immediate, effective response to storm water issues.

As stated in last year's Annual Report, City staff document contacts (phone call, visit to City Hall, etc.) with the public regarding storm water issues to help assess the effectiveness of the program over time. The only calls documented are ones that required staff action on some level. The community of Solana Beach is very unique in that the residents are actively involved. Staff receives numerous phone calls every day that must be addressed immediately. Therefore, it would be unreasonable to document every contact made by the public, only the ones that pertain to storm water and where action is needed.

Another area of improvement mentioned in previous annual reports was to develop additional educational materials for the residential community. This activity is constantly being addressed by the North County Storm Water Program (NCSWP) discussed previously in Chapter 8. In addition, as mention throughout this Report, a large focus was placed on developing an effective regional educational program in the requirements of the new Permit. The Copermittees have formed a regional workgroup to develop a regional "brand" that will be recognizable by all residents throughout the region. The Copermittees have adopted the "Think Blue" campaign developed by the City of San Diego, since this slogan is widely known throughout the region. The activities and programs that have been developed and implemented by this group are described in the Regional Unified Annual Report. The City has been an active member in this workgroup during this reporting period.

The City feels that it is much more effective and efficient to address these issues collaboratively with the NCSWP and the Regional Educational Workgroup. This allows for a consistent message to be disseminated to a large population of people throughout the region, as well as resulting in a significant cost savings for the City. As for requirements/projects unique to Solana Beach, Staff will continue to develop materials as the situations arise. A few examples of these specialized educational materials are listed in Chapter 8 of this Report.

Improvement Areas: For the next reporting period, City staff will evaluate this component and make any necessary alterations to the program. The City will continue to develop educational materials for the residential community, both jurisdictionally, on a watershed basis through the NCSWP and regionally through the Regional Educational Workgroup.

Land-Use Planning for New Development Component

Program Strengths: The City continued its implementation of the Standard Urban Storm Water Mitigation Plan (SUSMP) program as well as participated in the development of the new SUSMP. The City has successfully implemented the SUSMP review into all plan check processes. Although there will not be many projects within the City subject to this new requirement (the City is 95% built-out), the appropriate departments are still very aware of the requirements. In addition, the new model SUSMP was developed and approved by the City during last period and the City is now implementing the requirements of the new SUSMP program during this reporting period.

The Planning Department is actively involved in the City's Storm Water Program, and often notifies the Environmental Programs Manager when a proposed project may have storm water implications, including possible SUSMP projects. Although, as mentioned above, the City is almost completely built-out, the Planning Department has, as a result of this Permit, developed a list of possible proposed projects that may require a SUSMP. These projects have not been approved, but Planning Department staff have surveyed the City and put this list together to warn other staff as these projects may be proposed soon. This gives staff a "heads up" before the projects are submitted that they will probably be subject to the SUSMP requirements and so the process can begin when, if ever, these projects are proposed.

As mentioned previously in this Report, the City is very small and by nature, very intimate. This applies to development projects as well, as the City Council reviews development projects very closely. It is extremely rare when a significant development project is proposed that has not gone through extensive review by the applicants and City staff prior to submittal. This allows the Community Development/Planning staff to inform the applicants of possible storm water issues (especially grading, LID, HMP and SUSMP projects) prior to submitting their plans, so that the project will incorporate necessary storm water features into the original plans. This is extremely helpful to the applicants, as it avoids the possibility of redesign and speeds up the process. Therefore, most applicants set up meetings beforehand with Staff to review their plans to avoid any possible delays or impediments to their proposed projects.

Another extremely important activity that was described in last year's Annual Report but is worth mentioning again is the relocation of the City's contract Building Department from the City of Encinitas City Hall to the Solana Beach City

Hall. The cities of Encinitas, Solana Beach and Del Mar all share a private building department (EsGil) and until recently, it was housed full time in Encinitas. This made it extremely difficult to work collaboratively with and communication was relatively non-existent. However, now EsGil staff spends half their day at the Solana Beach City Hall, and files for Solana Beach projects are kept onsite. This has helped keep the communication lines open and greatly assisted the coordination of during and post-construction inspections by City staff. Now, before final occupancy approval is given by EsGil, they can check with City staff to ensure all post-construction BMPs were installed correctly. This is an extremely significant development as now Staff has an opportunity to ensure that all post construction BMPs are installed according to plan, before they are covered up in the construction process, which occur a majority of the time.

Improvement Areas: The City will continue to educate prospective applicants regarding the SUSMP, LID and HMP if their respective projects will be subject to the new regulations. The City is very confident that its Land Use Planning component is very effective; however, it will continue to be modified in the future when necessary. The City is expected to initiate an update to its General Plan sometime during 2010. This will have a major impact on the storm water program and City staff will make certain that elements of the Permit and JURMP are incorporated into the new General Plan. In addition, as the new SUSMP, LID and HMP are finalized and adopted, City staff will develop new educational materials for the construction community.

Construction Component

Program Strengths: The City Inspector and Environmental Programs Manager are responsible for conducting construction site inspections. The City Inspector is responsible for all public CIP projects, whereas the Environmental Programs Manager deals with all private projects.

All construction sites were inspected for storm water issues based on the frequencies described in the City's JURMP. Since there are relatively few construction sites in the City, staff often times can visit the higher priority sites more frequently. Additionally, since the City only has one "City Inspector" for the entire City, he is responsible for monitoring all construction sites for all construction related issues. Therefore, he spends his whole day out in the field, and upon visits to construction sites for any issue (storm water related or not), he is able to monitor the BMPs on a daily basis. If the City Inspector notices a

problem related to storm water, he notifies the Environmental Programs Manager immediately. The Environmental Programs Manager then investigates further, taking any necessary corrective or enforcement actions. This program has worked very well due to the already established relationship between the contractors and the City staff. Because of this pre-established relationship, the transition into storm water compliance was virtually seamless. The Inspector keeps a daily log of all his activities, and storm water related issues are included. The City also mailed out a wet-season reminder to all active construction sites reminding them of their obligations under the Permit. Therefore, the City is assured that all contractors are aware of the regulations, making enforcement much easier for the City.

Additionally, for all CIP projects, the applicant/contractor is required to have a Pre-Construction Meeting with City staff in which storm water issues are discussed. At these meetings, contractors are required to sign a Pre-Construction Inspection Checklist, are given a sample copy of the Site Inspection Checklist, and they are required to fill out a Wet-Weather Triggered Action Plan (if the project will be in construction during the rainy season). All of these measures are taken to ensure that all contractors are aware of the storm water regulations, and it helps the enforcement aspect of the Permit as staff can be assured that all contractors have been educated and cannot claim ignorance of storm water issues. Appropriate enforcement actions (corrective, stop work, fines, etc.) can be enforced without fear of being challenged by violator.

Another activity that has proven very successful in regards to construction activities was the distribution of a colorful, informative BMP Construction Brochure. This brochure was developed by the NCSWP and delivers a consistent message for all North County Cities. The brochure is a tri-fold that gives background information on the storm water program and regulations and on the reverse side is a large diagram of a common construction site with the general BMPs shown and described. This brochure has been a huge success with the construction/developers world as they can post this brochure at their site to remind their employees of proper BMPs. These brochures are attached to all building and grading permits.

The City believes that any opportunity to educate the community should be taken advantage of. So, during this reporting period, 224 BMP Brochures were distributed to the community, as compared 470 during FY 07/08, 521 during FY 06/07, 509 during FY 05/06 and 416 during FY 04/05. The drastic reduction in brochures distributed, during this reporting period, directly reflect the slowdown in

construction activities region-wide. All building project applicants were given a brochure; there were just drastically reduced projects during this reporting period.

As discussed in last year's Annual Report, the City developed and now tracks the SUSMP long-term BMP maintenance agreements as required by the Permit. In addition, the City continues to implement the Long Term BMP Maintenance Agreement that requires the applicant to submit a recorded document from the County of San Diego which includes the maintenance activities required and gives the City the legal authority to inspect the BMP to ensure compliance. This is an extremely helpful tool in ensuring that the post construction BMP is not only installed, but is being properly maintained to remain effective.

As mentioned in last year's Annual Report, there are significant new construction requirements in the new Permit. The significant additions to the new Permit include the development and implementation of the Hydromodification Plan (HMP), Low Impact Development (LID) and the update to the model SUSMP. The City is pleased to report that these new programs either have been developed or are currently in the process and the City is participating in the regional process. The HMP program is not expected to affect the City; however the City still contributed funding toward the program development as part of its Copermittee responsibility to the region. The City also revised its Municipal Code to adopt the updated model SUSMP in compliance with the new Permit regulations.

Improvement Areas: During the next reporting period, the City is committed to improving and modifying the construction program if any deficiencies are detected. The City is also committed to developing more educational materials to distribute to the public, and contractors in particular. The Construction BMP Brochure has been a major success, and the contractors/developers are constantly looking to us for more information and guidance.

With the adoption of the new Permit, additional construction activities and programs need to be developed and implemented in the years to come. The City will continue to work with the Copermittees to develop these programs for implementation. One area of improvement that the City is looking at is possibly hiring a specialized contractor to conduct construction inspections. This is similar to the City's decision to hire a contractor to perform commercial/industrial inspections, this will free up limited Staff resources while providing increased service to the community. The City Council approved $12,000 in FY 09/10 specifically for construction inspections, further strengthening the City's

commitment to protecting the local water quality. The new Permit contains significant additional requirements for the Construction Component, so the City felt it was prudent to strengthen its program as well, and hiring a specialized consultant is a first step in the right direction.

Illicit Discharge Detection and Elimination Component

Place Holder – This will be submitted with Chapter 7 on December 15, 2008 as a result of Addendum No. 2 adopted by the RWQCB

Education Component

Program Strength: The City feels very strongly that the current education program being implemented by City staff has been very effective. The amount, and quality, of educational materials developed by the City and through collaboration with the other Copermittees, has proven to be very successful. The following events have allowed City Staff to educate the community, both residential and commercial:

- Fiesta Del Sol
- Paws in the Park
- Beach Blanket Movie Night
- Annual Coastal Cleanup Day
- City Council Meetings
- Clean and Green Team
- Civic and Historical Society meetings
- *Shorelines* Community Newsletter
- Green Flash website
- Brochures and Handouts at City Facilities
- Partnerships with Solana Center, Santa Fe Irrigation District, Kids Korps and the Solana Beach School District

The complete educational program is discussed thoroughly in the Educational Component of this report.

Improvement Areas: The City is very satisfied with its current educational program. The North County Storm Water Group has gone above and beyond the

requirements of the WURMP's educational component, and has delivered many quality items to the resident's of Solana Beach.

Also, as reported in last year's Annual Report, the City is participating in the development of the new regional educational program. The new Permit requires the development of a regional educational program, and the City is committed to working with the other Copermittees to develop a successful and comprehensive program. Also, the new Permit requires Watershed based education based on the activities chosen by the participating Copermittees, and the City is committed to working with the Copermittees in its two watersheds to develop and implement the educational activities to support the watershed activities. These activities are described in detail in the Regional Unified Annual Report (submitted with the Copermittees reports in September 2009) and the Watershed Annual Reports which will be submitted in January 2010, respectively.

Public Participation Component

Program Strengths: The residents of Solana Beach have multiple opportunities to interact with City staff through the hotline, website, community events and direct interaction. All City staff are available to discuss any issues with the community if they come into City Hall, and most all literature distributed currently has the appropriate Staff contact information listed on it. City staff prides itself on dealing with the community on a personal basis, and as a result has established many positive relationships with key members of the community. The City continued to host the annual Coastal Clean-Up Day that allowed the community to get involved as well as distributing educational brochures at the local community events, Fiesta Del Sol and Beach Blanket Movie Night. Some additional opportunities include:

- Copermittee meetings
- Adopt-A-Beach Program Beach Cleanups
- Fiesta Del Sol
- Paws in the Park
- Beach Blanket Movie Night
- Shorelines Articles
- Opportunities to work with local Partnerships/Collaborative's
- City Hotline
- Green Flash website

- Clean and Green Community Group

Improvement Areas: The City realizes its responsibility to get the community involved in the storm water program. The City has given the residents ample opportunity to get involved in implementing the program. City staff is very visible throughout the community on a daily basis and routinely has discussions with residents regarding storm water issues. The feedback given to City staff has been overwhelmingly positive, and the City looks forward to continuing this personal relationship with the community.

In addition to the JURMP public participation opportunities, the community has public participation opportunities through the WURMP process. More information on the WURMP process is available in the WURMP annual reports submitted in January.

11.5 Level 4: Load Reductions

Level 4 load reduction is a key assessment measure for the storm water program. Ultimately, the goal of the storm water management programs is to reduce pollutant loading into the City's MS4 and by doing so, improve the discharge and receiving water quality. However, load reductions are very difficult to quantify, and the Copermittees as a whole are struggling to develop methods to achieve this task. This being said, the City will continue to analyze any data received that may be able to show a load reduction with the hope that it will somehow be linked to improvements in discharge and receiving water quality.

As a result of the Regional Water Quality Control Board's comments on the City's FY 02/03 Annual Report, the City has adapted its street sweeping program. The City now requires the private street sweeper to document all load information on a weekly basis. This includes an estimated amount of debris collected. This information was collected initially in FY 05/06 and continued into this reporting period as well. The total amount of street sweeping debris collected in FY 05/06 was 299.1 cubic yards and it was reduced in FY 06/07 to 188 cubic yards. The total amount of debris collected in FY 07/08 increased to 275 cubic yards. This amount remained amazingly constant during FY 08/09, with 274 cubic yards collected. The increases achieved in the last two reporting periods bode well for the performance of the new street sweeping contractor. As mentioned previously in the Report, the City recently encountered a difficult time with the previous street sweeping company. The City had concerns with the performance of the previous company, and random inspections of the routes

taken and the GPS reports given to the City indicated that the contractor was not performing up to the contract standards. That could be a good indication of why the amount of debris dropped so drastically from FY 05/06 to FY 06/07. The City terminated the contract with the underperforming contractor and now has a street sweeping contractor that appears to be doing a quality job.

Tracking cubic yards of street sweeping debris may be an effective way to calculate load reductions, which would be a good assessment of the program's effectiveness. Although, most of the debris collected by the street sweeper in the City of Solana Beach is organics (leaves, grasses, etc.), so therefore, this may not be a good indicator of load reductions. However, the information will be collected and analyzed and any trend will be documented for future use.

Another possible load reduction calculation could be documenting the amount of material collected and removed from the various BMPs throughout the City. These BMPs include:

- Annual inspection and cleaning of MS4 system
- Maintenance of CDS Unit(s)
- Maintenance of detention basin adjacent to San Elijo Lagoon
- Load reduction calculation for the Low Flow Diverter at Fletcher Cove and the filtration basket located upstream from Seascape Sur Outfall
- Load reduction calculation for the Bioswale maintained at La Colonia Community Center
- Maintenance records of permanent treatment BMPs required as part of SUSMP projects (privately owned)

All of these activities may not be feasible, however they all warrant further consideration. It has been generally agreed upon the Copermittees are not capable at this point to perform complete load reduction calculations and assessments, but we are committed to working towards this goal. The Copermittees have decided that this Level (4) should be attacked at a regional level, and not jurisdictionally. A significant regulatory program that should force us in this direction is the TMDLs that have been developed and are now being implemented by the Copermittees in several watersheds. The City is currently involved in the San Elijo Lagoon TMDL Investigative Order, and as relevant information is received from the monitoring they will be discussed in upcoming Annual Reports.

11.6 Levels 5&6: Changes in Discharge and Receiving Water Quality

The City has been collecting and analyzing jurisdictional monitoring data received through the dry-weather and coastal monitoring programs. The City will continue to analyze the data to better understand the collective water quality picture in the City. The data will be assessed to determine the potential water quality problems within the City. Data collected by the City will be analyzed independently as well as collectively with the regional monitoring programs. Although it is generally accepted that it will take many years to develop a trend in water quality, the City will nonetheless analyze its data on a continuous basis to see if anything develops. There are no glaring deficiencies in the water quality in the City, but the situation at Seascape Sur will continue to be monitored to ensure that the storm drain does not have an impact on the quality of the receiving water (Pacific Ocean). Seascape Sur will be explained in greater detail in the next Chapter.

The Regional Monitoring Program currently conducts trend analyses for the Wet Weather Monitoring Program. The goal of the WWMP is to collect data and analyze the data to determine if there are in fact improvements in the receiving water quality throughout the region. The City participates in this workgroup and will continue to assist the Copermittees in determining if we have obtained levels 5 and 6 of the assessment strategy.

11.6.1 Dry Weather Monitoring Data

2009 Summary

Place Holder for 2009 Dry Weather Monitoring Program – Will be submitted in December 2009 as a result of Addendum No. 2 adopted by RWQCB

11.6.2 Coastal Water Quality

The Pacific Ocean is the ultimate receiving water for the City although there are other intermediate receiving waters, such as the San Elijo Lagoon and the San Dieguito Lagoon. To measure the quality of the coastal receiving waters and assess the JURMP effectiveness, the City has monitored its one coastal storm drain outfall (Seascape Sur). The City used to monitor another outfall at Fletcher Cove; however, a low-flow diverter was installed in 1998 to divert dry-weather flows into the sewer system. This was done because of historically high levels of

bacteria detected in that area.

Coastal Storm Drain Outfalls

The coastal outfall monitoring program reporting period is different than the reporting period for this Report. The coastal monitoring program reporting period runs from November through October. All cities with flowing coastal storm drains meet regularly (Coastal Monitoring Workgroup) to develop and implement this program to promote regional consistency.

The Coastal Monitoring Workgroup developed an adaptive monitoring approach. This approach was developed to allow the individual cities to adapt their program to concentrate their limited resources on problematic locations and ease up on consistently non-problematic areas. The City had *no receiving water exceedances* for bacteria during this reporting period, which was consistent with the results of the last two reporting periods. In addition, it's apparent that the increased educational and oversight of the vendors at the Fiesta Del Sol was successful as there were no exceedances after the event for the fifth year in a row. City staff again made this a priority during this reporting period to meet with the event organizers and discuss BMPs with them to relay to the individual vendors and provided them with more educational materials. In addition, City staff monitored the Food Court during the event to ensure all vendors were abiding by the storm water regulations. This was mentioned in previous annual reports as an improvement area because of the consistent exceedances after the Fiesta Del Sol that had occurred in the past.

The storm drain at Seascape Sur had multiple exceedances for total coliform, fecal coliform and enterococcus during this reporting period. However, the magnitude and the frequency of exceedances have decreased during this reporting period, which is a significant achievement. This is a storm drain that has a history of high bacteria counts and is currently the focus of an IC/ID investigation. The City has recently installed upstream BMPs that may be contributing to the improvement in water quality. The program is being implemented by City staff, and the complete results are presented in the Coastal Monitoring Annual Report, and explained in the next Chapter of this Report.

The Copermittees had to modify the Coastal Monitoring Program due to the new requirements of the Permit. The Coastal Monitoring Program workgroup made the necessary changes and additions to the program and are currently implementing the new model. The City is confident that it has met the

requirements of both the old Permit and new Permit. The complete Copermittees Coastal Monitoring Program is incorporated into the Regional Monitoring Annual Report.

Beach Posting Data

The County Department of Environmental Health has monitored beach water quality for bacteria since the 1950's. This sampling is used to assess the health of the beaches. When bacteria levels exceed State standards, the County posts the beaches with signs warning and advising the public not to enter the water. In 2000, there was a significant change in protocol as a result of the passage of AB411, which required additional testing, incorporating testing for enterococcus, and required the beach be posted when only one sample exceeded the standard.

During this reporting period, there were ***no beach closures*** **in the City of Solana Beach,** which bodes well for the overall effectiveness of the City's program.

CHAPTER 12
Special Investigations

CHAPTER 12: SPECIAL INVESTIGATIONS

12.1 Introduction

In accordance with Permit Section D.4.e, this section of each Annual Report will describe the Copermittee's efforts to eliminate all detected illicit discharges, illicit discharge sources, and illicit connections as soon as possible after detection. The City's Illicit Discharge Detection and Elimination (IDDE) program is designed to identify, prohibit, and eliminate discharges that are a significant source of pollutants with the goal of protecting receiving water quality. This section of each Annual Report will provide the results of any special investigations conducted during the reporting period. However, the City also responded to many other complaints of possible IC/IDs, which resulted in rapid compliance, but did not warrant or require a comprehensive special investigation.

Although this Report does not contain a completed Chapter 7 due to the extension granted in Addendum No. 2, this Chapter will remain as many activities related to this Special Investigation can be reported on. Any additional information gathered from the 2009 Dry Weather Monitoring Program will be included in the December 12th submission.

"The Mystery of the Bacteria at Seascape Sur…"

12.2 Background

As first reported in the FY 2002/2003 Annual Report, there has been as ongoing, historical problem occurring at one particular storm drain in the City. The location, Seascape Sur, has had historically high levels of bacteria; often times exceeding limits at the storm drain and occasionally in the receiving water (there were *no exceedances in the receiving water during FY 08/09*). Previous annual reports go into deep detail regarding the history of this problem and the City's efforts to remedy it. Since the history is important in describing the situation, this report will include much of what was written last year. Any added information that was discovered during this reporting period will be included in this report. Next year's report will include the City's additional efforts that were undertaken during the FY 09/10.

Prior to and during this reporting period, the City began a concerted effort to determine what was causing the elevated levels of bacteria at Seascape Sur

outfall (based on results from the Dry Weather and Coastal Monitoring Programs). The problem was thought to be resolved early on, but then monitoring results in subsequent years indicated the problem had either returned or persisted. In 2000, the City Engineering/Public Works Department was fairly certain that the problem had finally been corrected; particularly when the 2001 DWMP indicated the bacteria elevated levels had *decreased* (although they were still elevated above the normal range).

However, preliminary results from the 2002 DWMP revealed that the bacterial levels had risen from the previous year to a troublesome level (see 2002 DWMP, available at City Hall upon request). As a result, the City "went back to the drawing board," and with the help of MEC Analytical (consultant for the 2002 DWMP), began an upstream investigation that continued through the end of calendar year 2002.

History

The City began its DWMP in 1993, with no significant problems reported until 1996 when elevated bacteria levels were noted at the Fletcher Cove Outfall. Subsequently, the City constructed a low flow diverter (in 1998), which corrected the problem by diverting dry weather flow to the City's sanitary sewer system.

Between 1997 and 1999 results from the DWMP revealed some minor issues that were readily resolved, but nothing significant at Seascape Sur or Fletcher Cove Outfalls.

However, results from the 2000 DWMP identified two locations with high levels of coliform bacteria, which was of significant concern because both locations flowed directly to the beach via the Seascape Sur Outfall and were in fact, just a short distance from the outfall. The City conducted an extensive investigation and eventually found an old leaking sewer lateral that was buried under the ground near the site of the upstream catch basins in the parking garage of a business complex. The lateral was dug up, examined, and staff determined that cementing over the pipe would be the best method to ensure it was completely sealed off (investigation confirmed that the pipe was no longer in use). Because the leaking lateral was located quite close to the curb inlet, City staff, plumbing contractors and the consultant were fairly certain that the pipe was the cause of the elevated bacteria counts.

To confirm that the pipe was the cause of the suspected pollution, the City

contracted with Kinnetic Labs to provide additional testing, which showed reduced counts during several follow-up tests. At that point, staff was optimistic that their efforts had been successful.

The 2001 DWMP included ten sites for testing. To ensure the problem from the previous year had been corrected, the program included the same two sites that had elevated bacteria counts in 2000. Surprisingly, the site had elevated bacteria levels, but because they were much lower than the previous year, staff believed that the problem might be residual bacteria. As a result, the City ordered that the line between the curb-inlet and the outfall be televised in 2002. The televising of the lines was scheduled during the routine cleaning of the storm drains later that year. Due to various issues, the televising of the lines did not take place prior to the implementation of the 2002 DWMP, which was under the regulations of the new Permit.

The City requested proposals from consultants to design and conduct the 2002 DWMP. The contract was awarded to MEC Analytical in late spring, early summer 2002. The City requested that the same two monitoring sites from 2000 and 2001 be included in the program, regardless of the new sampling procedures required of the Permit. The City included those sites to ensure continual monitoring of the area.

12.4 The 2002 Investigation

Samples for the 2002 program were collected on August 6th and 7th, 2002 throughout the City by MEC Analytical (MEC). Shortly thereafter, MEC contacted the City and informed the Storm Water Coordinator that significantly high levels of bacteria had been found at the locations of the year 2000 and 2001. As shown on Table 13-1, the amounts were troublesome.

Table 12-1 DWMP Initial Results (Sampled August 6-7, 2002)

Site	Site Location	Total Coliform	Fecal Coliform	*Enterococcus*
1	West Side of Sierra Ave	700,000	30,000	24,000
2	Manhole between sites 1 and 2.	900,000	50,000	28,000
3	Seascape Sur Outfall (downstream from sites 1 and 2)	800,000	21,000	35,000

Results are reported in MPN/100 mL.

Based on the above results, it appeared that the problem, whatever the cause, was more pronounced at Site 2, the manhole, than at either Site 1 or 3. Therefore, the City immediately requested that the conveyance system be televised. At the same, the City authorized MEC to conduct an upstream investigation, accompanied by City staff. MEC indicated to staff that the elevated levels of bacteria, combined with the results from previous years, were a sign that an illegal sanitary wastewater connection may be the cause of the problem. However, subsequent inspection by City staff (including public works crews that inspected various locations of the line) did not reveal any expected accompanying waste solids. A somewhat consistent drip was noticed, which was traced back to nearby condo complex that was discharging their pool (the process was discontinued and the complex changed their procedures to drain into the sewer system). Other causes of the slow drip appeared to be over-watering of the many condominium complexes on Sierra Avenue.

Staff sent letters to all HOAs on Sierra Avenue that drain to the Seascape Sur outfall to eliminate the slow drip. Staff received calls from some of the HOAs in response to the letters and discussed the issue in more detail and received positive responses.

The results of the televised line were viewed by the City Engineer, which revealed a dip in the line approximately at the location of the manhole (with the elevated bacteria) and two possible illegal connections just west of the curb inlet. However, additional investigation indicated that the connections were not a problem, but staff thought that the dip in line could be harboring residual bacteria, and possibly re-growth.

12.4.1 More Testing

In an attempt to pinpoint the source of the contamination, MEC and City staff began the upstream investigation on August 19, 2002. Samples were collected from Site 1, and at a curb inlet catch basin on the *eastside* of Sierra Avenue, directly upstream from Site 3 (named Site IE).

Staff was surprised when the results of the second round of sampling revealed *higher levels of total coliform (2,400,000), fecal coliform (50,000) and Enterococcus (500,000)* at Site 1E, than the previous results from Sites 1 and 3. Further, the results were surprising given that the dip in the line at Site 2 was thought to be the source of the contamination. *The results seemed to indicate*

that the source of the bacteria was coming upstream from Site 1E.

12.4.2 Traveling Further Upstream

The curb-inlet catch basin on the east side of Sierra Ave (Site IE) receives street runoff and runoff from the Beachwalk Business Complex (Beachwalk). Beachwalk is a collection of various businesses located at 437 South Highway 101 in Solana Beach. Beachwalk businesses, at that time, included several restaurants (Pacific Coast Grill, California Pizza Kitchen, Rubio's), several small food facilities (ColdStone Creamery, Solana Beach Coffee Company, VitaFit, etc.,) several professional offices, a bike shop and others. Beachwalk was constructed approximately 13 years ago and at the time of construction, an on-site storm drain system, that collects on-site runoff from the property, was lawfully connected to the City's MS4.

Based on the results of the second round of testing, City staff thought that the source of the contamination must somehow come (or significantly contribute) from Beachwalk. Upon speaking with the Management Group that oversees the property, staff made several visits to look for possible non-point source explanations and speak with business owners to discuss BMPs (see Timeline below for more details).

On August 27th, 2002, City staff went to Beachwalk and personally delivered educational brochures to *all of the businesses,* educating business owners about storm water regulations and BMPs. To ensure that all the businesses were addressed, door hangers were left at the businesses that were not open at the time of the visit and additional property visits were scheduled. City staff also spoke with the person responsible for maintenance of the property and provided detailed information about pollution prevention, storm water regulations, and BMPs and how to report violations. Many of the business owners were extremely helpful and all were cooperative. Some business owners went out of their way to show staff potential problem areas, discuss BMPs and provide access to private restroom facilities (staff were looking for overflow problems and unusual construction or evidence of recent repairs).

Staff conducted another visit on September 3rd, 2002 in response to a call from one of the business owner's that staff had contacted on August 27th, 2002. City staff confirmed that foul smelling odors were coming from catch basins on-site. Further inspection revealed excess watering occurring on the patio of the Pacific

Coast Grill restaurant. A manager at the restaurant was contacted and educated regarding BMPs and the new storm water regulations. During this visits, staff determined that samples were needed at various storm drains throughout the complex to try and pinpoint and eliminate the problem. City staff identified several locations that should be tested and requested permission to collect the samples from the property owners.

On September 4th, 2002, City staff accompanied MEC to conduct additional testing and investigation. The process confirmed staff's suspicion that the bacteria levels were coming from Beachwalk. Various samples were collected at locations throughout the complex. An outdoor floor drain just outside the kitchen of Pacific Coast Grill appeared to have dark brown, stagnate water in it. On-site ammonia tests were also consistent with elevated bacterial numbers (60 mg/L). A sample (Site 32) was then collected for further lab analysis. Sites IE and 3 were also sampled again for additional information. As shown on Table 13-2, Site 32 confirmed that the contamination was coming from Beachwalk and most likely, the source was near or in, the floor drain outside Pacific Coast Grill Restaurant.

Table 12-2 Upstream Testing Results

Site	Site Location	Total Coliform	Fecal Coliform	*Enterococcus*
32	Beachwalk floor drain	>16,000,000	300,000	>241,960
1E	East Side of Sierra Ave	3,000,000	50,000	3,550
3	West Side of Sierra Ave	800,000	70,000	24,950

Results are reported in MPN/100 mL.

12.4.3 Just When We Thought the Problem was Solved…

After the lab results came back and confirmed what was suspected, the property owners were notified of the severity of the situation and were eager to remedy the problem and work with the City to find a solution.

The property owners worked together with the City's Public Works Supervisor and a local plumber experienced in storm drain cleaning to correct the problem. The east side catch basin was temporarily sealed, the pipe was flushed and a specially equipped trucked was placed at the catch basin to vacuum out the resulting sludge for proper disposal. As soon as the procedure was complete, on September 18th, 2002, City staff collected additional samples from all three sites (32, 1E and 3), *expecting the results to show a decrease in bacteria levels*. The

residual water in the pipes was clear of the brown, stagnate water, which also contributed to the hope that the problem was *surely* resolved. However, while results from Site 32 indicated *reduced bacterial levels*, downstream sample *again* indicated *high bacteria levels* (the sample on the west side of the street).

12.4.4 Brainstorming

At first, these results seemed a bit perplexing (maybe it was the dip in the line?, etc.), but then, while staff continued to brainstorm ideas to solve the problem, some engineers thought was that the flushing of the system might have loosen some bacteria, which escaped collection by the Vactor truck. The City decided to wait a few weeks to see if the problem was alleviated after the system had time to completely flush out.

In the meantime City staff met with the property owners and 1) reviewed old construction plans for the property to look for potential areas of cross contamination; 2) discussed possible options that may help alleviate the situation, including training and education of business owners, television activities that might occur near the catch basin; and 3) it was decided that a temporary cap would be placed on the floor drain of Site 32 to secure it from contamination for 30 days (the cap could be removed during rain to prevent flooding).

After 30 days (and two rain events), staff requested that the plumbing contractor remove the temporary cap to allow further testing, which was agreed to.

12.4.5 Not again!

Surprisingly, results from this last round of testing indicated that there was still a significant problem on the property. An immediate meeting was scheduled with the property owners, who were informed of the test results and that the City now required them to remedy the problem through televising the lines, locating the illegal connection and reconstruction, or face serious fines by the RWQCB and the City. The property owners were concerned, responsive, cooperative and resolute in their attempts to do just that.

In addition, the City agreed to purchase a storm drain inlet filter to be placed in the catch basin just downstream from the complex, leading to the ocean outfall. It was installed the first week of December, and is maintained by the City's Public Works Staff. Although it does not filter the water passing through from

Beachwalk, it does help alleviate the problem by filtering out the water coming from the street. The City hopes that this will help reduce the high bacteria numbers found in the catch basin.

12.4.6 Action Taken By Property Owners During FY 03/04 Annual Reporting Period

By the end of December 2002, Beachwalk property owners had done the following to remedy the problem.

While attempting to televise the lines, a significant amount of sludge built up in the pipe prevented the camera from penetrating the pipes (which is likely the source of the problem, City staff also reviewed the small amount of footage that was performed in the pipes)

An extensive flushing out of the entire system was conducted, which took quite some time to accomplish amidst the rain events in December and the amount of material in the pipes.

The lines were televised and detected a large dip in the pipe where sediment and sludge were building up, possibly providing a breeding haven for re-growth of bacteria.

No illegal connections or sanitary waste connections were detected. There were a few pipes connected to the outfall pipe coming from the adjacent condos, however these lines were proven to be outdoor area drains. Beachwalk property owners and condo associations are completely aware of the responsibility to rectify the situation.

The City decided that they must increase their efforts to rectify this continuous problem to ensure the integrity of the receiving waters at Seascape Sur. The bacteria levels were still consistently high, often exceeding standard limits for the outfall, but, fortunately, not yet affecting the receiving waters. Growing increasingly frustrated, City staff decided that an increased effort, and the high costs that come with it, were necessary to finding the cause, and solution, to the problem at Seascape Sur.

On March 4, 2004, City staff televised the Seascape Sur storm drain line for maintenance purposes. The video showed a significant amount of sediment accumulated at the end of the pipe coming from the Beachwalk Business

Complex. Staff met with the Beachwalk property management and mandated that they clean the sediment from the line. The Beachwalk management complied to our request and immediately cleaned the pipe, and City staff supervised to ensure all Best Management Practices were used and abided by at all times.

Laboratory results were still coming back consistently high, so the City decided to take on the cost of completely cleaning the storm drain pipe with the hopes that it would remove any residual bacteria that may be contributing to the problem. The problem the City faced was that this had never been done before, and the dimensions of the pipe made it very difficult to develop a plan of attack. The pipe starts at the curb inlet on Sierra Avenue, then travels completely underground and slopes downward until it empties out onto the beach. The distance from the street to the outfall is approximately 550 feet and dips to 30 feet below the surface, so access is very difficult. The City was able to gain access from the neighboring condominium complex to place a vactor truck to ensure that no excess water would escape containment and empty onto the beach. The project took 5 entire days to complete (ending on Friday, May 5, 2004), with City staff working with its private contractor, and cost approximately $10,000. The City removed 4 cubic yards of sediment from the pipe, and used over 5,000 gallons of water. The City was confident that the next lab results would come back spotless.

12.4.7 What Happens Next…?

On the following Monday (May 10, 2004), City staff received a phone call from the County of San Diego Department of Environmental Health advising them that samples they took in the receiving water adjacent to the Seascape Sur outfall had failed AB 911 standards. The exact opposite had happened from what staff was expecting. It appeared that all the effort and money spent to clean the pipe had actually made it worse. However, Staff immediately began an IC/ID investigation and discovered that an adjacent condominium complex had a sewer spill that weekend and raw sewage had entered into the Seascape Sur storm drain. City staff was relieved that they found the cause of the high bacteria, but highly disappointed that all of their work, time, and money had been wasted by a small sewer backup, and it was back to square one.

Because the sewage was traced back to a private lateral, the City was determined to put the pressure on the condominium complex to clean the pipe again. Staff met with the HOA representative and a deal was worked out to have the pipe cleaned again, at the HOA's expense. Additionally, the City took this

opportunity to once again educate the HOA and wrote an article regarding the proper handling and disposal of grease for the HOA's monthly newsletter The City then set the HOA up with a plan of attack and supervised the process, but the effort was stepped up a bit. Staff worked with the Regional Water Quality Control Board to allow the City to use a small concentration of bleach mixed with the water to make sure that the pipe was completely sterilized at the end. This cleaning was done on September 24, 2004.

12.4.8 Where We Were in FY 04/05

The results of the cleaning performed on September 24, 2004 proved it to be very successful. The bacteria levels were reduced significantly and the City hoped that the sterilization would be a permanent fix. However, the results in the resulting few months showed that the bacteria was slowly increasing back to its historical levels, further frustrating City staff. This may be due to City staff's worst fear that the dip in the pipe could be harboring and resulting in re-growth of bacteria that may enter by way of decomposing organic debris and/or illegal dumping.

Since this did not permanently solve the problem, the City continued to explore other options. In March 2005, the City was discussing the situation with its contract lab, Weston Solutions, and jumped at the opportunity to participate in a pilot study aimed at refining a new lab analysis that would potentially categorize the generic coliform and enterococcus bacteria indicators as deriving from human or animal origins. This would be an extremely significant discovery because the City could further identify where the bacteria was coming from, human (IC/ID) or from animals (dogs, possums, raccoons, etc.), to help direct what steps to take in the future. The City could further refine its source identification and, in theory, stop wasting limited resources on sources that don't exist.

The pilot program is completed; however, the results did not come back revealing anything substantial. Only one sample came back positive for human bacteria (and this was somewhat inconclusive), and samples collected after this positive result all came back negative. Therefore, the City can conclude with relative certainty that the source of the bacterial contamination is not human. This one positive result may be caused by a single illegal dumping occurrence or by laboratory error. The resulting negative results show that there is not a continuous inflow of sewage, as would result if there were an illegal connection. Although the pilot program is complete, one early, important conclusion would be

that the bacteria is not coming from human origins, which would allow the City to eliminate this from source identification and focus its efforts on non-human origins.

12.4.9 Special Pilot Program FY 07/08

The City's lab (Weston Solutions) offered their services to the City for a special pilot program during FY 07/08. On 5/30/07 Weston staff met with City staff to investigate the surrounding areas to see if they could detect anything that may be contributing to the high bacteria levels adjacent to the east catch basin. Weston has performed similar investigations in other cities with very positive results. They were very interested in finding the source for the City, as we have been partners now for years on this. The results were very interesting and reconfirmed the City's belief that there is substantial re-growth occurring in the pipe as the bacteria results were much lower in the catch basins than at the outfall. The results are as follows:

	East Side Catch Basin (MPN/100mL)	Outfall (MPN/100mL)
Total Coliform	700,000	16,000,000
Fecal Coliform	80	50,000
Enterococci	41	483

The City and Weston Solutions partnered for a unique pilot study with the hopes of finally determining the source of the bacteria. The specialized studies were conducted to further analyze a unique phenomenon called "pseudofluorescence." This phenomenon first was detected in some samples from Seascape in the summer of 2007, when using the Enterolert method there were some false positives, or "pseudofluorescence." The lab noticed that the tests became to increase in frequency, and brought it to the attention of City staff after the March 31, 2008 samples were analyzed. The City and Weston then developed a plan to determine why this phenomenon was occurring, and if this could bring us any closer to solving the mystery.

Starting on April 30, 2008, Weston began testing the samples using the IDEXX method (SM 9223B) side by side with the Multiple Tube method (SM 9230B) for Enterococci in order to determine if the different methods yielded different results. Parallel analyses were carried out only on the outfall samples, as the

paired ocean samples never exhibited pseudofluorescence. The following are the results:

Date	IDEXX Results (MPN/100mL)	Multiple Tube Results (MPN/100mL)
4/30/2008	<10	170
5/29/2008	<10	300

Analyzing the results, it is easy to confirm that something is causing interference with the IDEXX method. Because of this, PCR analyses were also performed, with results ranging between 1,000-10,000 (PCR includes viable and non-viable cells, as it only looks for specific DNA markers, regardless of cellular viability), which validates the Multiple Tube results by showing a definite presence of the target bacteria.

There is some concern that detergents may be the cause of the interference and pseudofluorescence. Enteroalert (IDEXX) analysis from both months displayed pseudofluorescence wells, so both were tested for detergents using an MBAS kit. The results are as follows:

Date	MBAS Results (ppm)
4/30/2008	15
5/29/2008	25

The 5/29/2008 sample had a larger number of pseudofluorescent Quantitray - 2000 wells, which seems to confirm the relationship between pseudofluorescence and the amount of detergent in the sample.

As a result of this pilot study, an official method change for enterococcus was instituted beginning with the 6/28/2008 samples. Using the Multiple Tube method, MPN for enterococcus was determined to be 3,000 per 100mL, while results from Enterolert (performed as a continued comparison) were found to be 63 MPN/100mL, with a continued pseudofluorescence.

This pilot study will continue into FY 08/09, and will be reported on in further depth in next year's Annual Report. In addition, continued upstream investigations will focus on detergents as the presence has been recorded a

couple of different times.

The City will continue cooperating with Weston and their professional staff to investigate this ongoing mystery until a resolution is found.

12.5 Timeline of Significant Actions

August 27, 2002- City staff distributed storm water brochures to all the businesses located in the Beachwalk complex. Staff toured the mall, visually inspected on site catch basins, outdoor floor drains, restroom facilities, and inspected several restaurants and discussed pollution prevention BMPs.

September 4, 2002- Based on feedback from the testing, staff spoke with the managers of Pacific Coast Grill, reviewed the storm water regulations, spoke about prohibited activities and distributed storm water brochures.

September 4, 2002- City staff and an employee from MEC conducted upstream investigation. A small outdoor floor drain contained brown, stagnate water with a very pungent odor. The drain cover was removed and the material was sampled. MEC called a few days later and reported that the results were consistent with the numbers for raw sewage for total and fecal coliform and *Enterococcus*.

September 18, 2002 - The Beachwalk storm drains were flushed out using clean, fresh water and the sludge was vacuumed out into a Vactor truck at Site 3. Results from follow-up samples indicated that a problem still existed.

October 24, 2002- Additional samples were taken to see if the problem had been eliminated. Results from the lab showed that the problem had not been solved. City staff continued to meet with property owners to pinpoint the source.

November 2002- The City installed a specialized catch basin filter unit that is designed to catch all debris (trash, organics, etc.) from the street before it reached the MS4 system. It also has specialized bio-filter rolls to filter out the hydrocarbons.

November 13, 2002- a semi-permanent cap was placed on the floor drain that seemed to be the source of the bacteria. A follow-up sample was scheduled for 30 days.

December 13, 2002- Samples were taken after the cap was removed and

preliminary results indicate that the problem has not been resolved. More extensive investigation was ordered.

December 14-31, 2002- All property drains were cleaned and televised.

January through June- Increased monitoring and sampling through Coastal Monitoring Program to try and determine if the steps taken previously had successfully remedied the problem. An intensive educational program to the HOA's and the Business Complex was also implemented to assure compliance under the Permit.

March 4, 2004- Mandated and required the Beachwalk Business Complex to clean out storm drain system that leads to the City's Seascape Sur storm drain due to accumulation of debris (sediment, trash, etc.).

May 5, 2004- Completed cleaning of entire Seascape Sur storm drain line from Sierra Avenue to the beach outfall. A sewer spill occurred that following weekend from a private lateral connected to the Seascape line.

May 20, 2004- Wrote two articles for *Seascape Sur News,* the monthly newsletter distributed to the Seascape Sur condos, educating the residents on activities that may reduce bacteria that could be a possible source into the problem at Seascape Sur outfall. The first article was titled, "Sewer Clean-Outs," and it describes the proper way to dispose of grease (not down sink) to prevent sewer blockages and spills. The second article was titled, "Walk Dogs Off The Property and Clean Up After Them," which is pretty self-explanatory.

September 24, 2004- Completed cleaning again with the addition of bleach to counteract the sewer spill that occurred on May 5, 2004. Access issues during the summer months prevented the cleaning from occurring earlier.

November 2004- Samples showed a dramatic decrease in bacterial indicators, proving the cleaning was successful. However, future results showed the bacteria increasing back to historically high numbers.

March 1, 2005- Started participating in contract lab's pilot program to differentiate bacteria into human and animal origins.

May 30, 2007 – Conducted a thorough investigation with our lab (Weston) to detect any possible sources of the ongoing pollution (see below). Results of the

investigation revealed that bacteria levels were in fact higher at the outfall than the catch basin; further reinforcing what City staff believes is a structural deficiency in the pipe that is leading to bacteria re-growth.

March 30, 2008 – Initiated a pilot study with lab to determine if the correct analytical analysis was being conducted

June 18, 2008 – Installed a catch basin inlet guard to prevent organic material from entering into catch basin on the east side of Seascape Sur storm drain. This was done to hopefully prevent the organic matter from decomposing inside the storm drain pipe and providing an area for bacterial re-growth.

August 10, 2008 – City contracted a company to place concrete inside the catch basins to fill in a one inch gap at the bottom where stagnant water would sit. The City thought this might be contributing to the bacteria load at the end of the pipe. By filling in the gap, water and organic matter would not have a place to stagnant and harbor bacteria.

September 29, 2008 – City hired a contractor to clean the entire Seascape storm drain from street to outfall.

August 30, 2008 – City entered into a pilot project with a company that installs catch basin curb inlet screens to prevent leaves and debris from entering the catch basin. Screen was installed on east side catch basin to prevent organic debris from entering the catch basin and rotting inside the pipe.

October 2, 2008 – City entered into a pilot project with a different company that installs catch basin curb inlet screens to prevent leaves and debris from entering the catch basin. Screen was installed on west side catch basin to prevent organic debris from entering the catch basin and rotting inside the pipe.

12.6 Where We Are Now

As listed above, the City is participating in two unique pilot programs at Seascape Sur. The City has installed two different catch basin debris screen BMPs at the east and west catch basins directly upstream from the Seascape outfall. The goal of the debris screens is to prevent organic debris and trash from entering the pipe and rotting, producing a perfect food source for bacterial re-growth in the sag in the pipe. The BMPs were installed in August and September 2008, with the intent to monitor the bacteria results at the outfall after a year.

Here are the results:

Date	Total Coliform (MPN/100mL)	Fecal Coliform (MPN/100mL)	Enterococcus (MPN/100mL)
9/30/08	16,000,000	800,000	80,000
10/9/08	16,000,000	1,300,000	130,000
11/20/08	No Flow	No Flow	No Flow
12/22/08	500	20	20
1/21/09	1,600,000	2,200	13,000
2/21/09	No Flow	No Flow	No Flow
3/25/09	170,000	110	5,000
4/3/09	74	10	10
5/27/09	1,600,000	23,000	800
6/23/09	270,000	13,000	5,000
7/21/09	230,000	20,000	7,000
8/18/09	170,000	7,000	13,000

As you can see from the table above, the bacteria results have decreased when compared to previous years. This may be attributable to the new BMP installations upstream or the continuous educational efforts of City staff. Whatever the case may be, the results still are not what the City would prefer. It can't be emphasized enough that the outfall does not seem to impact the receiving water at all; however the City is still focusing its efforts on eliminating the source of the bacteria in the very near future.

The City continues to struggle with this ongoing situation, although has made some improvements to the bacteria levels during this reporting period. The budget continues to include money for cleaning out the line once per year, but

this is merely a temporary band-aid to the problem, whereas the City is looking for a permanent fix. The one positive to take from this is that the discharge is not affecting the water quality of the receiving water (Pacific Ocean) yet, but there is no guarantee that this will not change in the future. Here are some options the City is now looking at to hopefully solve this reoccurring situation:

Repairing sag in the outfall pipe: This option is being actively researched as re-growth in the pipe is now the most suspected culprit. Our Public Works Operation Manager is researching this option with other City staff. In addition, City staff is looking into other options such as re-lining the pipe or "pipe-blasting", which may help reduce the sag and improve flow through the pipe.

Blocking off connections from adjacent residential complexes and making them drain to street so that discharge can be sampled: This option is seen as a last ditch effort, as it would be very expensive and politically charged. This would only be considered if outfall started affecting receiving water quality.

Installing permanent BMP such as a low flow diverter: This option is also seen as a last ditch effort as it would be expensive and has not been fully researched to check the feasibility. City engineers would have to check the locations of the sewer main and the capacity to determine if this would be feasible. Funding may be available through grants for water quality, but again this option is a long term effort. City staff will continue to look into various funding options, one being the recent grant that allowed the City of Imperial Beach to install a low-flow diverter. Staff will monitor that project closely and may seek the same grant to place a diverter in this location.

12.7 Future Activities

The City is committed to finding the solution of the bacteria problem at Seascape Sur. During last reporting period, the City installed additional upstream BMPs at the catch basins leading into the problem pipe. This activity seems to have slightly improved the bacteria levels at the outfall and has encouraged City staff that some of their efforts seem to be paying off. As discussed above, the City is now looking at other structural options with its engineering staff to hopefully look at another angle in this seemingly unending battle. The City has committed to setting money aside in its CIP budget to undertake some major projects to help solve the problem. As stated in the Fiscal Analysis Chapter, the FY 09/10 budget has $8,000 set aside specifically for the Seascape Sur storm drain cleaning. The City is committed to thoroughly cleaning the pipe annually if need be, or until a

long-term solution is found. The City is currently investigating other structural options and may find it better financially to undertake a large CIP project than continually spending $8,000 a year for a temporary fix. However, the location and depth of this particular pipe make it very difficult to work on, so it is taking some time to develop a sound engineering plan to fix the pipe or divert the flows. If this is the option the City ultimately takes, it will be very prudent to take the time to do it correctly, so the City is committed to taking the time to develop a plan to ensure its effectiveness.

Additionally, the City actively monitors the outfall pipe and all surrounding areas for any unusual occurrences, and the Marine Safety Department will continue to notify the Environmental Programs Manager whenever there seems to be unusual spikes or odors coming from the outfall pipe, as one of the lifeguard towers is located directly in front of the outfall (during summer months). Lastly, City staff will continue to work with the neighboring condominium associations to educate the residents as well as perform inspections of upstream businesses.

12.8 Summary

The City has thoroughly utilized the results from its DWMPs and Coastal Monitoring Program during the last several years to identify and attempt to eliminate the source of bacteria that was identified through testing and upstream investigations. With the efforts of City staff, and the cooperation of the Beachwalk property owners/managers and neighboring condominium complexes, the sources of the elusive bacteria has almost been solved. Unfortunately, with the structural deficiencies (the sag) in the pipe, it may only take a small amount of bacteria entering the pipe to remain in the sag and promulgate (re-growth). Fortunately, the elevated bacteria levels do not seem to be affecting the receiving waters (no receiving water exceedances the past four years) yet, but the City desires to stay ahead of the curve and wants to take care of the situation before it becomes a problem. Therefore, the City is currently examining other options such as re-lining the pipe, "pipe-blasting" or installing a low-flow diverter. In the very near future, the City is confident it will close the book on the *Mystery of Seascape Sur Bacteria*.

CHAPTER 13
Non-Emergency Fire Fighting

CHAPTER 13: NON-EMERGENCY FIRE FIGHTING

In accordance with Permit section J.3.a.(3)(l), this section of the report describes the City's efforts to control Non-Emergency Fire Fighting events. The City understands that the health and safety of its residents supersedes the storm water regulations when it comes to emergency situations, such as a fire. However, for non-emergency fire fighting activities such as routine maintenance and training, the release of water into the City's MS4 is not permitted. Therefore, the City's Fire Department trains at two special facilities, one in San Marcos and the other in Rancho Santa Fe. Both facilities have BMPs installed to properly handle the excess water, and comply with all regulations of the storm water Permit. ***No training exercises that involve water are conducted within the City limits.***

Routine maintenance of the City's fire trucks and apparatus is essential to ensuring public health and safety, as all equipment must be in top condition and functioning properly during an emergency. Most times, this maintenance is conducted onsite at the Fire Department. To handle the excess water, the Fire Department staff redirects the flows onto a large slope of vegetation behind the Fire Station. Staff takes extra precaution to ensure no water leaves the site. Also, the washing of trucks and apparatus occurs inside the large bays, which is plumbed directly to the sewer system.

This component is also discussed in the Municipal Component.

CHAPTER 14
JURMP Revisions

CHAPTER 14: JURMP REVISIONS

In accordance with Permit section Permit sections I.1.b. and J.3.a.(3)(m), this section of the report describes any revisions that occurred to the City's JURMP.

The City made several changes to the JURMP as a result of a review of the document by the RWQCB. RWQCB staff met with City Staff on February 9, 2009 to discuss the City's revised JURMP and FY 2007/2008 JURMP Annual Report. As a result of the meeting, additional information for the Annual Report and several additions to the City's JURMP were requested by RWQCB staff. The City was in full agreement with the additions and has since incorporated the additional information into the respective Chapters of this Report and has made the necessary changes to the JURMP. The changes are as follows:

- Section D.2.c.(1) requires that pollution prevention BMPs be designated, where appropriate. Appendix B of the JURMP requires pollution prevention only for sites which employ 10 or more employees. Pollution prevention is appropriate for sites which employ less than 10 employees.
    - The City has made this change in the JURMP document.
- Sections D.2.c.(1)(a)viii and ix of the Permit require designated BMPs of preservation of natural hydrologic features and riparian buffers and corridors where feasible.
    - The City has made this change in the JURMP document.
- Section D.3.a.(2)(c) of the Permit requires the City to implement or require implementation of the designated BMPs and additional necessary measures for the municipal areas and activities.
    - The City has made this change in the JURMP document.
- Sections D.3.a.(3)(b)iv, v and vi of the Permit require maintenance activities including a) record keeping of the maintenance and cleaning activities including quantity of waste removed, b) proper disposal of waste, and c) measures to eliminate waste during maintenance.
    - The City has made the change in the JURMP document.
- Section D.3.a.(4) of the Permit requires the City to implement BMPs which include the use of native vegetation, schedules of irrigation, and proper disposal for municipal sites.
    - The City has made this change in the JURMP document.
- Section D.3.a.(2)(f) of the Permit requires the City to implement BMPs for special events which are expected to generate significant trash and litter.

- The City has made this change in the JURMP document.

CHAPTER 15
Conclusions and Recommendations

CHAPTER 15: CONCLUSION AND RECOMMENDATIONS

15.1 Conclusion

During the FY 2008/2009 reporting period, the City was able to successfully implement the many requirements of the Permit. Although the City has been required to have a storm water program under previous Orders issued by the RWQCB, this new Permit greatly expanded the types of activities and documentation efforts required of the cities. This was the second full year of implementation under Permit No. 2001-07 and the first full year of JURMP implementation. The City is very satisfied with the progress of the new program and is actively developing the regional large scale programs such as the HMP, LID and regional educational programs.

The City continued its "team approach" to implementing the JURMP by integrating the ever-evolving requirements of the Permit into specific tasks that each member would be responsible for implementing in their respective departments. The Environmental Programs Manager is responsible for bringing the group together and updating the respective departments on any changes that may affect their respective daily activities. Additionally, the Environmental Programs Manager is responsible for ensuring that all requirements of the Permit are being addressed and satisfied. This collaborative method allowed the City to more rapidly modify procedures and handle the increased workload quickly and efficiently, especially with a small staff with lean resources.

The City's accomplishments during this final year of the JURMP implementation provide evidence of the City's pro-active approach to improving water quality. The requirements under Order 2001-01 expanded the previous Order (90-42) significantly and have altered many of the daily routines of staff at the City. In addition, the City is actively working on developing the new programs to satisfy Permit Order No. 2007-0001 and has successfully implemented some of them, including, but not limited to, modifying the Municipal Code for the new model SUSMP, LID and HMP requirements, updated the City's JURMP and implementing the new Coastal Monitoring Program.

During the next reporting period, the City expects to build on the accomplishments of FY 08/09, and determine the most effective and meaningful program activities as to their impact on water quality (pollutant specific) collaboratively with the other Copermittees, and implement the approved

program assessment strategy. Since the new Permit (Order No. 2007-0001) was adopted during last reporting period (January 2007), the City has already begun working collaboratively with the RWQCB and other Copermittees to implement the new regulations of the Permit. The City is confident that it is in compliance with the goals set out under Permit No. 2007-0001 for the first two years of implementation. These include but are not limited to:

- Minimum commercial, industrial and construction inspections
- Minimum municipal inspection and maintenance of BMPs
- Implementing comprehensive educational and public participation component
- Developing Hydromodification Plan
- Implementing SUSMP Model update
- Developing Low Impact Development (LID) program
- Minimum inspection and street sweeping frequencies
- Post Construction BMP verifications and inspections

The City eagerly anticipates working collaboratively with the other Copermittees in further developing and implementing these significant programs during this Permit cycle. The City is confident that the Copermittees will continue to develop and implement these programs to meet the requirements and goals of the new Permit. The City understands that all parties' involved (Copermittees and RWQCB staff) are in this together to improve the discharge and receiving waters in the region and we will continue to support and work collaboratively with all parties to accomplish this goal.

15.1.1 2008/2009 Accomplishments

The following is a small list of notable accomplishments achieved during the 2008/2009 reporting period. All of these activities are described in more detail throughout this report. They are the following:

- Continued development and implementation of model SUSMP, LID and HMP programs

- Development of new BEACH database to track building permits, post-construction BMP inspections, and plan check comments

- Development and implementation post-construction BMP verification and maintenance tracking system

- Development of stakeholder cooperation and partnerships with key organizations such as the Santa Fe Irrigation District, Solana Center and Kids Korps

- Development and implementation of new upgraded web portal “Green Flash” to house all of the City’s environmental programs and information

- Development and implementation of unique plastic bag recycling program that turns bags into reusable, high quality plastic building materials locally within the United States

- Transition to all organic pesticides, herbicides and fertilizers for all City landscaping purposes

- Development of relationship with local Solana Beach School District to foster open communication for environmental education in local schools

- Development of Clean and Green Team, consisting of active environmentally conscientious community members to develop and implement environmental programs and education

- Continued educational outreach at all local events, and conducting cleanups and community bulky-item pickup days

- Continued implementation of aggressive and convenient HHW program to provide easy and efficient HHW pickup and proper disposal

- Continued extensive landscape and irrigation educational series for public and private landscapers. The classes were given in both English and Spanish and taught the participants proper landscaping and irrigation practices.

- Continued Implementation of new industrial and commercial inspection protocol, including hiring an independent contractor that specializes in storm water and grease management facility inspections

- Participated in regional workgroup to develop new mobile sources

program

15.2 Recommendations

Since the new Permit was adopted in January 2007, FY 2008/2009 was again dedicated to developing new programs and fine tuning existing programs to comply with the new requirements. The City is committed to working cooperatively with the other Copermittees to develop and implement the new required programs to provide a consistent and recognizable message for the region. However, the City still must develop jurisdictional specific programs to address the specific pollutants of concern and their respective sources. So, in an effort to implement a successful and meaningful program, the following are recommendations to improve the City's storm water program for FY 09/10:

- *Continue to educate new and existing City staff to ensure compliance in the ever-changing storm water world.*
- *Complete the special investigation to uncover and eliminate the root cause of reoccurring problems upstream from Seascape Sur Outfall.*
- *Evaluate staffing needs and program responsibilities.*
- *Continue Implementation of SUSMP requirements and ensure all plans are in compliance.*
- *Continue implementation of the new JURMP program plan and implement measures to comply with Permit requirements*
- *Increase the education of residential sector which is a main focus of the new Permit. These programs will be addressed cooperatively at the regional level, but the City is committed to helping develop the materials and distribute to our residents.*
- *Continue to collect and analyze monitoring data to establish a long-term assessment of the City's water quality.*
- *Develop additional industry specific educational materials to distribute to the community.*
- *Develop and implement pollutant specific activities to address high priority COCs (Constituents of Concern).*

APPENDICES

APPENDIX A: STREET SWEEPING MATERIALS FORM

Employee Name and Organization (below)

Date (above) use N/S below if not scheduled

1st 2nd 3rd 4th Tuesday	Time in: Time out:	Time in: Time out:	Equipment Number: Year, Make & Model

OBSTRUCTIONS (identify as vegetation, vehicle, etc. and provide description).

Reference previous date(s) reported (no entry above required):

End of day Volumn in Cubic Yards:
% (percentage) Sediment:
%(percentage) Organics:
Litter (describe-or-enter –0-)

Operator enter reason(s) for not following schedule or other comments:

C.O.S.B. Initial

Forward to R.W.Q.C.B. (C.O.S.B. Initial on Sending) City of Solana Beach 2004(adinf)

APPENDIX B: SMOKING BAN ORDINANCE

ORDINANCE NO. 316

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF SOLANA BEACH, CALIFORNIA, AMENDING SOLANA BEACH MUNICIPAL CODE SECTION 11.12.020 A TO INCLUDE TOBACCO LITTER AND ADDING SECTION 11.12.020 EE TO PROHIBIT SMOKING IN CITY PARKS AND BEACHES

THE CITY COUNCIL OF THE CITY OF SOLANA BEACH DOES HEREBY ORDAIN AS FOLLOWS:

SECTION 1. Findings and Purpose. The City Council of the City of Solana Beach hereby finds and declares that:

A. The City of Solana Beach is committed to keeping its beaches and parks clean, safe, healthy and pleasant for everyone.

B. Smoking is hazardous to health. Numerous studies have shown that second-hand smoke is a significant public health hazard. The U.S. Environmental Protection Agency has classified second-hand smoke as a group A carcinogen, the most dangerous class of carcinogen. Smoking in parks and beaches endangers children and others by exposing them to second-hand smoke. Moreover, children and youth who observe smoking and tobacco use in public beaches and parks may model the behavior.

C. The U.S. Centers For Disease Control and Prevention (CDC) estimates that second-hand smoke causes 3,000 lung cancer deaths per year among adult non-smokers in the U.S. The California Environmental Protection Agency has concluded that second-hand smoke causes coronary heart disease in non-smokers. Second-hand smoke is especially hazardous to particular groups, including those with chronic health problems, the elderly and children. The CDC has found that second-hand smoke causes children to suffer from lower respiratory tract illness, such as bronchitis and pneumonia, exacerbates childhood asthma, and increases the risk of acute chronic middle ear infection in children.

D. Additionally, discarding cigarettes and cigar butts and tobacco onto the ground in City parks and beaches is unsightly, unclean and particularly hazardous to small children who handle and sometimes ingest them. The City must collect tobacco litter in parks and beaches or it will be collected by stormwater and washed directly into our ocean waters in violation of the City's stormwater pollution prevention permit and to the detriment of ocean life and all ocean users.

E. The City Council therefore determines that banning smoking and the improper disposal of tobacco products in City parks is necessary to protect the health, safety and welfare of Solana Beach residents and visitors.

SECTION 2. Section 11.12.020 A. of the Solana Beach Municipal Code is hereby amended to read as follows:

A. To dump or deposit any trash, specifically including cigarette and cigar butts and tobacco, refuse, rubbish, litter, or other kind of waste materials, except in approved containers specifically placed and designated to receive such waste materials. No person shall dispose of any animal carcass in or on any beach or park.

SECTION 3. Section 11.12.020 EE of the Solana Beach Municipal Code is hereby added to read as follows:

EE. No person shall smoke within the boundaries of any public beach or park unless the City has designated a specific temporary or permanent signed smoking area.

SECTION 4. If any section, subsection, sentence, clause, or phrase of this Ordinance is for any reason held to be invalid or unconstitutional by a decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this Ordinance. The City Council hereby declares that it would have passed this Ordinance and each section, subsection, sentence, clause, or phrase not declared invalid or unconstitutional without regard to whether any portion of the ordinance would be subsequently declared invalid or unconstitutional.

SECTION 5. This ordinance shall become effective thirty (30) days following its adoption. Within fifteen (15) days after its adoption, the City Clerk shall publish this ordinance, or the title hereof, as a summary, in a newspaper of general circulation within the City of Solana Beach as required by law.

INTRODUCED at a regular meeting of the City Council of the City of Solana Beach, California held on the 7th day of October, 2003, and thereafter

PASSED AND ADOPTED at a regular meeting of the City Council of the City of Solana Beach, California, held on the 21st day of October 21, 2003, by the following vote:

AYES: Councilmembers – Golich, Kellejian, Campbell, Sheres, Powell

NOES: Councilmembers – None

ABSENT: Councilmembers – None

ABSTAIN: Councilmembers – None

THOMAS S. GOLICH, Mayor

APPROVED AS TO FORM:

CELIA A. BREWER, City Attorney

ATTEST:

JAN UHLMAN, Acting City Clerk

STATE OF CALIFORNIA)
COUNTY OF SAN DIEGO) ss.
CITY OF SOLANA BEACH)

I, JAN UHLMAN, Acting City Clerk of the City of Solana Beach, California, DO HEREBY CERTIFY that the foregoing is the original of Ordinance No. 316 duly passed and adopted by the City Council of the City of Solana Beach, California, at a Regular meeting thereof held on the 21st day of October, 2003.

That, in compliance with the laws of the State of California, Ordinance No. 316 being:

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF SOLANA BEACH, CALIFORNIA, AMENDING SOLANA BEACH MUNICIPAL CODE SECTION 11.12.020 A TO INCLUDE TOBACCO LITTER AND ADDING SECTION 11.12.020 EE TO PROHIBIT SMOKING IN CITY PARKS AND BEACHES

A certified copy of the full text of Ordinance No. 316 along with the names of those City Councilmembers voting for and against said Ordinance was caused to be posted in the office of the City Clerk.

Executed the 23rd day of October, 2003.

(SEAL)

CITY OF SOLANA BEACH INCORPORATED JULY 1 1986 CALIFORNIA

JAN UHLMAN, Acting City Clerk

Published: North County Times: October 28, 2003

APPENDIX C: SPECIAL EVENT VENDOR BMP GUIDELINES

VENDOR GUIDELINES

Fiesta del Sol

- All electric cords should be out of the public access areas. If they must extend into a public access area, the cords must be protected with pedestrian transition molding to minimize the trip hazard.
- All cooking areas and devices shall have at least one 2A-20BC fire extinguisher readily accessible to persons working in the immediate proximity of each device or cooking area and shall be in plain view.
- All portable LP-gas containers, valves, and fittings shall be properly secured in a fixed upright position and protected in accordance with the Uniform Fire Code.
- The following conditions apply to canopies in excess of 400 square feet, and to tents and temporary membrane structures having an area in excess of 200 square feet:
- All tents, temporary membrane structures, and/or canopies that are to be used at the function shall be adequately braced and anchored to prevent weather related collapse. Documentation of structural stability shall be furnished to the Fire Chief on request.
- All tent, canopy, or temporary membrane structure exits shall be in accordance with the Uniform Fire and Building Codes.
- The design and construction of the fabric envelope, method of anchoring, and inflation systems for air-supported and air-inflated structures shall be in accordance with the Building Code.
- The sidewalls, drops and tops of temporary membrane structures, tents and canopies shall be composed of flame-resistant material or shall be treated with flame retardant in an approved manner. Floor coverings, bunting, combustible decorative materials and effects, including sawdust when used on floors or passageways, shall be composed of flame-resistant material or shall be treated with flame retardant in an approved manner. Temporary membrane structures, tents or canopies shall have either a permanently affixed label or a Certificate of Flame Resistance bearing the following information:
    - Identification of the temporary structure's size and fabric or material type.
    - For flame-resistant-treated materials, the date that the temporary membrane structure, tent or canopy and other combustible materials were last treated with an approved flame retardant. The trade name and type of flame retardant utilized in the flame-retardant treatment. The name of the person and firm that applied the flame retardant.
- The following general storm water run-off practices shall apply to the event:
    - No dumping or allowing any material into City storm drains.
    - Install secondary containment around portable restroom facilities when feasible.
    - Prompt and proper clean-up of all trash debris.
    - Do not use water or any liquid to rinse down any debris or dirt on any ground surface. Dry sweeping only of event debris is allowed.
    - Protect all storm drain catch basins/inlets when feasible with proper storm water Best Management Practices implementation.
    - Do not allow excess water to leave the site. Properly contain everything onsite before it enters the City's storm drain system.

APPENDIX D: SHORELINES NEWSLETTER SUMMER 2009

Storm Water HOTLINE!

To report illegal dumping or excessive water run-off to the City's Storm Drain Conveyance System, call the City's 24-hour Storm Water Hotline message center at **(858) 720-4424** or email: **stormwater@cosb.org.** Messages are checked throughout the day and are promptly investigated.



Green Building is Here!

Since adopting green building guidelines and checklists from Build it Green (residential) and the Leadership in Energy and Environmental Design (LEED) program (commercial) in December of 2008, the City of Solana Beach has taken the lead on promoting an incentive based green building program to help address sustainability on a regional and local level.

To find out more about both programs please visit **www.builditgreen.org** and **www.usgbc.org/leed** to review the green building guidelines and checklist procedures.

The City also held a Green Building Launch Week on February 27 to kickoff the new program and promote various sustainability and green building issues. Hundreds of residents and builders showed up to visit booths from different public agencies and green builders/designers and green product vendors. For more information about the City's Green Building Program, please visit the City's website at **www.cityofsolanabeach.org** and click on the Green Flash on the homepage or call (858) 720-2436.



Look What's Happening at the San Elijo Lagoon Conservancy

Free public docent-led walks:

- **Every second Saturday**
  9:00 a.m.–11:00 a.m.
  at the Rios Avenue trailhead
- **Every Saturday**
  10:00 a.m.–11:00 a.m.
  at the new San Elijo Nature Center
- **Saturday, June 6**
  10:00 a.m.–11:00 a.m.
  at the Rios Avenue trailhead
  (a special walk for young families)

Volunteer work events:

- **Every third Saturday**
  9:00 a.m.–11:00 a.m.
  various locations,
  please contact **ralph@SanElijo.org**



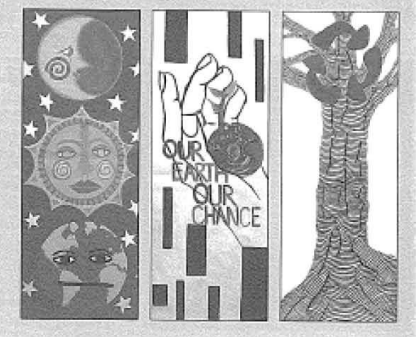
FRIENDS OF THE SOLANA BEACH LIBRARY AND THE CITY OF SOLANA BEACH

Essay Contest
Theme: Our Earth, Our Chance

Everyone is welcome to participate. Essays will be judged in the following four age groups: Kindergarten–3rd grade, 4th–6th grade, 7th–12th grade and Adults–over 18. Prizes for 1st, 2nd, and 3rd place winners will be awarded on Wednesday, July 15, at the exciting Arts Alive Auction.

To participate:

Pick up an entry form at the Library or Solana Beach City Hall beginning May 1, 2009. Return completed essay to Rebecca Lynn at the Solana Beach Library by 5:00 p.m. on Wednesday, July 1. A fully completed entry form must be submitted with each essay. *Good Luck!*



CITY OF SOLANA BEACH PARKS & RECREATION

2009 Kids Summer Day Camp for Ages 6–12



All Sessions will meet Monday–Friday from 8:30 a.m. to 2:00 p.m. at Fletcher Cove Community Center, 133 Pacific Ave. The fee is $106/week per child and includes activities such as beach walks, swimming at the Boys and Girls Club, arts & crafts, Library visit, fun games, t-shirts and a weekly field trip to an exciting destination. After-care is offered from 2:00 p.m.–5:00 p.m. ($27/week). Our popular "Leader in Training" program is also available again this summer for 13–17 year olds for only $40/week!

ENVIRONMENTALLY FRIENDLY... June 22–26



There are many exciting ecological discoveries to be investigated here in Solana Beach. Find out how simple it is to appreciate the simple aspects of the world around you. Campers will discover ways in which they can help save the environment, explore the world of creepy crawly insects, and even discover the local San Elijo Lagoon through a nature walk for this week's field trip.

Things to Remember Before Remodeling/Construction

Summer is approaching, and many of you will begin remodeling or construction projects on your homes. However, there are things you should remember before you start.

All construction activities are subject to environmental regulations. Storm water Best Management Practices (BMPs) are required to control erosion and water run-off, even in the summer.

Also, it is extremely important to remember that the actions of private contractors are ultimately the responsibility of the homeowner. Therefore, you must ensure that anybody who is working on your home is aware of the storm water regulations and are adhering to them at all times. Storm water violations are strictly enforced in the City and can result in fines.

If you are unsure of the regulations and would like some assistance before you start your project, please feel free to call Danny King, the City's Environmental Programs Manager, at (858) 720-2477.

Also, try to recycle all your construction "wastes." Did you know that construction of an average 2,000 square foot track home produces thirteen (13) tons of waste. Up to 86% of the waste generated on any project could be recycled! That is a huge amount of waste that does not have to go to our landfills, and can save you money.

Storm Water HOTLINE!

To report illegal dumping or excessive water run-off to the City's Storm Drain Conveyance System, call the City's 24-hour Storm Water Hotline message center at **(858) 720-4424** or email: **stormwater@cosb.org**. Messages are checked throughout the day and are promptly investigated.

How to Dispose of Household Hazardous Waste Safely and Easily

Do you have pesticides or fertilizers collecting in your garage? Do you have old car batteries or household chemicals that you want to get rid of? Have you just moved in or out of a home and have excess paint and cleaners?

Well, now is the time to properly dispose of these Household Hazardous Wastes (HHW). The City of Solana Beach has a wonderful HHW Program that can help you get rid of all your hazardous waste problems. Residents have a couple of options available through the HHW Program to make it easier and more convenient to dispose of their HHW in the proper manner.

The first option available is the Home Pick-up Program where, for a small co-pay of $10 dollars per visit, you can get service to your door where your hazardous wastes will be removed and properly disposed of it. To schedule an appointment for home HHW collection, please call **(800) 444-4244.**

The second option is to bring the HHW to one of two specialized collection centers (Poway or Vista) and the City will pay for the entire disposal cost (no co-pay). Residents must show proof of residency to qualify.

There is also a special service to the homebound and elderly (age 65 and over) where it is free of charge for household hazardous waste pick-up at your residence.

For more on the City's HHW Program, call (800) 444-4244.

Some Common HHW are:

- Aerosols
- All Purpose Cleaners
- Antifreeze
- Asbestos
- Auto Batteries/Fluids
- Disinfectants
- Drain Opener
- Fertilizers
- Fluorescent Light Bulbs
- Gasoline
- Household Batteries
- Insecticides
- Latex Paint
- Lighter Fluid
- Oil Based Paint
- Oil & Filters
- Pesticides
- Pool Chemicals
- Solvents
- Thinners
- Varnishes

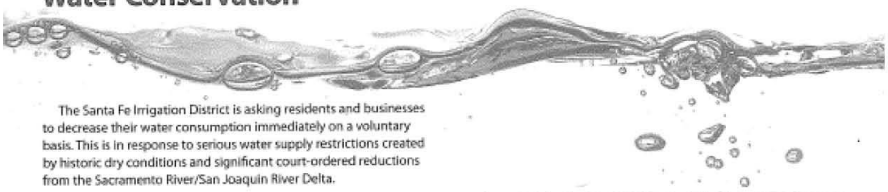


APPENDIX E: FIESTA DEL SOL FLYER 2009



APPENDIX F: SHORELINES NEWSLETTER FALL 2008

Water Conservation



The Santa Fe Irrigation District is asking residents and businesses to decrease their water consumption immediately on a voluntary basis. This is in response to serious water supply restrictions created by historic dry conditions and significant court-ordered reductions from the Sacramento River/San Joaquin River Delta.

The effects of this situation already are being felt in San Diego County. The Metropolitan Water District of Southern California, San Diego County's primary water supplier, began withdrawing water from storage last year to meet demands.

On Jan1, 2008 agriculture customers who subscribe to MWD's discounted water program had those supplies cut by 30 percent.

Mandatory water use restrictions remain a very real possibility in the near future without increased conservation.

Water-Savings can be accomplished in many simple ways. Often these measures cost little or nothing. PLEASE HELP SAVE NOW!

Santa Fe Irrigation District offers many conservation programs to reduce water consumption inside and out. The District is asking customers to please reduce lawn watering by one day per week, and reduce irrigation cycles by a couple of minutes. Fix sprinkler systems for better distribution efficiency, reduce overspray, fix all leaks and do not allow water to run off the property down the storm drains. Water the landscape before 8:00 a.m. and after 6:00 p.m. to further reduce loss from evaporation.

Santa Fe Irrigation District offers the following rebate programs, if you have any questions or want additional information on any of them, please visit **www.sfidwater.org** or call (858) 756-5672.

- Free Single-Family Residential Home Surveys
- Large Landscape Evaluations
- Smart Controller Rebates
- Water Savings Performance Program
- Smart Landscape Grants for Commercial, Multifamily, and Public Sites
- Agricultural Water Management Program

Residential, Commercial, or Multifamily:

- High Efficiency Clothes Washer Incentive of up to $185
- High Efficiency Toilets Incentive of up to $200
- Incentives for upgrades from Ultra-Low Flush to High Efficiency Toilets of $30
- Rotating Nozzles: $4 per nozzle

Santa Fe Irrigation District encourages customers to go to the **www.20gallonchallenge.com** website to view information on Conservation Programs and Incentives.

The City of Solana Beach's Annual Coastal Clean-Up Day 2008

The City of Solana Beach is once again partnering with the California Coastal Commission, I Love A Clean San Diego (ILACSD), and San Diego Coastkeeper to clean up the beaches and lagoons that surround our beautiful city during the annual California Coastal Clean-Up Day. The clean up event will be held on **September 20, 2008 from 9:00 a.m. to Noon.** California Coastal Clean-Up Day is the premier volunteer event focused on the marine environment in the country. In 2007, more than 60,000 volunteers worked together to collect more than 900,000 pounds of trash and recyclables from our beaches, lakes, and waterways.

The City sponsors two locations, one at Fletcher Cove Park and the other in the San Elijo Lagoon at the North Rios Trailhead, where volunteers can give back to the community by cleaning up trash and debris to help keep our beaches and lagoons clean and beautiful for all to enjoy. Each site will be staffed and have all necessary materials available (trash bags, recycling bags, gloves, etc.) for participants to use. All you have to do is show up! The City is looking for volunteers to make this the most successful event ever, so please bring your family and enjoy a fun filled day while making this great city an ever better place to be!

For more information, please contact Danny King at (858) 720-2477. You can also visit the official website at **www.coastal.ca.gov/publiced/ccd/ccd.html** to get more facts and information about the annual event.

Solana Beach Annual Bulky Item Clean-Up Day

This year's Annual Bulky Item Clean-Up Day is scheduled for **October 25, 2008 from 9:00 a.m. to 3:00 p.m.** in the La Colonia Community Center parking lot at the Valley Avenue entrance. Waste Management (WM) will provide roll-off containers for drop off items such as furniture, scrap metal, appliances, carpet, and mattresses.

Additionally, Solana Beach residents may call Waste Management at (800) 386-7783 between October 6 and October 20 to receive free curbside pickup and disposal of up to three bulky items. Items need to be curbside by 7:00 a.m. on October 25. (Hazardous Waste or E-Waste not included in this collection event).

If you have any questions regarding the Annual Clean-Up Day, please contact Danny King at (858) 720-2477. If you would like to schedule a curbside pickup, please contact Waste Management at (800) 386-7783.

SOLANA CENTER

FREE Watershed Presentations!

FREE watershed education presentations are available through the Solana Center. These presentations are appropriate for children in grades 2 through 6 and are designed to enhance understanding of how pollution moves though our waterways. Educators utilize a hands-on, interactive Enviroscape model and eco-puppets to empower kids to protect our ecosystem!

To schedule a free presentation for your community group or classroom, please contact Laura at the Solana Center at (760) 436-7986, ext. 215 or **laura@solanacenter.org.**



SAN DIEGUITO RIVER VALLEY CONSERVANCY

Securing Our Natural Legacy . . . www.sdrvc.org

Beach & Lagoon Clean-Up

Saturday, September 20 • 9:00am – Noon

Dog Beach at San Dieguito Lagoon, Solana Beach/Del Mar

Join the Conservancy and REI for the 24th Annual Coastal Clean-Up Day! Refreshments provided! Bring water & sun protection. Register at **www.cleanupday.org** for the San Dieguito Lagoon/Dog Beach site in Zone 1.

Guided Nature Hike

Sunday, September 28 • 5:00pm – 7:30pm

Crest Canyon & Torrey Pines Extension, Del Mar

Join the Conservancy as we explore Crest Canyon & Torrey Pines Extension on an easy 3.5-mile sunset hike. Bring water. Reservations required; Contact (858) 674-2275, ext. 12 or **hikes@sdrvc.org** for reservations & directions.

APPENDIX G: SHORELINES NEWSLETTER WINTER 2008/2009

Storm Water (NPDES) Rainy Season Construction Reminders

The City is mandated by the State to comply with various storm water regulations in an effort to protect and enhance water quality in local waterways. One of these components is construction management and as we enter the winter rainy season, construction projects will be monitored more closely to ensure compliance with the City's storm water regulations.

All construction activities are subject to environmental regulations, even small single family remodeling and redevelopments.

Storm water BMPs (Best Management Practices) are required to control erosion and water run-off. Failure to properly control storm water run-off from your construction site can lead to fines levied on the contractor AS WELL AS the property owner.

So, the City highly recommends that all property owners ensure that their contractors are well aware of the storm water requirements and the consequences for failing to comply. For more information, please contact the City's Environmental Programs Manager Danny King at (858) 720-2477.

FREE Watershed Presentations

FREE watershed education presentations are available through the Solana Center. These presentations are appropriate for children in grades 2 though 6 and are designed to enhance understanding of how pollution moves thorough our waterways. Educators utilize a hands-on, interactive Enviroscape model and eco-puppets to empower kids to protect our ecosystems!

To schedule a free presentation for your community group or classroom, please contact Laura at the Solana Center at (760) 436-7986, ext 215 or **laura@solanacenter.org**.





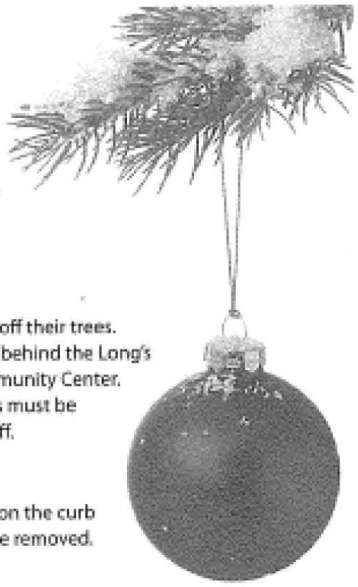
"Our Earth — Our Chance" is the Theme for the 2009 Arts Alive Banners

Solana Beach celebrates its eighth year of presenting the Arts Alive Banners with a thoughtful, environmental theme, "Our Earth — Our Chance." Sixty banners will be painted by residents, local school students, professional and future artists who will dazzle the community with their inspired artistic visions illustrating this theme. This year the Public Arts Advisory Commission (PAAC) will add two awards to the Arts Alive Program. One will be the "Peoples' Choice Award," for the most popular banner. The second award will be given to the artist whose banner gets the highest bid at the Auction.

From January to May 2009, the Banners and will be displayed throughout the City on Old Highway 101, Lomas Santa Fe and Valley Avenues for everyone to enjoy. Following the display period, the colorful banners will be sold at the celebrated Arts Alive Auction, with the proceeds used to promote the Public Art Program in Solana Beach.

The Arts Alive Banner Program is sponsored by the Solana Beach City Council and administered by the PAAC. It is a popular community program that provides an opportunity for residents, schools, and artists to participate in an annual creative event that beautifies Solana Beach and attracts visitors to the City. To get involved, to paint a banner, or for more information about the Arts Alive Banners contact Anita Edman, Community Services Coordinator, at (858) 720-2454.

Holiday Tree Recycling / Collection Program



The City of Solana Beach, in partnership with Coast Waste Management, Inc. has a **Holiday Tree Recycling and Collection Program** that allows residents to drop off their trees free of charge starting **December 26, 2008 through January 14, 2009.**

Holiday Tree Recycling

There will be two locations where residents may drop off their trees. They are across the street from 305 South Sierra Avenue (behind the Long's Drugstore) and 715 Valley Avenue at the La Colonia Community Center. No flocked trees and all ornaments, tinsel and tree stands must be removed. Trees do not have to be cut down if dropped off.

Holiday Tree Collection

Trees must be cut into 4-foot sections and placed out on the curb for pick-up. All ornaments, tinsel, and tree stands must be removed. Flocked trees will also be collected by the trash drivers.

APPENDIX H: SHORELINES NEWSLETTER SPRING 2009

Solana Beach Commits to Sustainability



The City of Solana Beach is committed to developing and maintaining a green and sustainable future for all those who live, work and play here. The City, along with the cooperation and support of an extremely active and motivated community group called the Solana Beach Clean and Green Team, has developed and implemented progressive programs to promote and reward sustainable practices throughout the community. The following is a brief list of notable accomplishments to date:

- Energy audits conducted at all City facilities
- Energy efficient lighting retrofit at all City facilities
- Conversion of residential manual source separated trash/recycling collection to automated single stream commingled recycling resulting in a 21% increase in recycling rates
- Adoption of Construction and Demolition Debris Recycling Ordinance
- Energy efficient HVAC (heating and air conditioning) audit at City Hall
- Installation of public recycling containers at parks and beach accesses
- Adoption of a Green Building Program
- Implementation of an employee commuter incentive program
- Implementation of a "Plastic Bag Advertising Ban"
- Implementation of a general plastic bag recycling program
- Development of new environmental web portal "Green Flash" on City website

The City and the Solana Beach Clean and Green Team are currently working on a number of other programs, some of which include:

- Developing a Climate Action Plan for Greenhouse Gas Emissions
- Researching a Solar Financing District
- Developing a Green Purchasing Policy
- Developing a Green Business Recognition Program

The Clean and Green Team meets monthly on every third Monday at City Hall from 1:30–3:00 p.m. and welcomes all residents to participate. For more information, please contact Danny King at (858) 720-2477.

Green Building is Here!

The City of Solana Beach has taken the lead on promoting an incentive based green building program to help address sustainability on a regional and local level. On December 10, 2008, City Council adopted green building guidelines and checklists from Build it Green (residential) and the Leadership in Energy and Environmental Design (LEED) program (commercial) as the City's green building reference documents and certification procedures. The city's new Green Building Program includes incentives such as permit fee rebates for green certified projects ($1,000 for residential; up to $1,500 for commercial), expedited permit processing, public recognition in *Shorelines*, on the City's website, and at a Council meeting.

Build it Green is a California based non-profit specializing in green building and providing resources to local governments and the building community. And LEED is a nationally recognized program specializing in commercial green building with more services and programs on the way. Staff is currently developing a Green Building webpage, which should be ready by the end of January, to provide information on the incentives and certification procedures for project applicants. In the mean time, to find out more about both programs please visit **www.builditgreen.org** and **www.usgbc.org/leed** to review the green building guidelines and checklist procedures.

The City has also scheduled a **Green Building Launch Week for the week of February 23rd** that will include evening workshops during the week about various sustainability and green building issues. More information about the workshop times and locations will be posted in the City's website and eBlasted to the community. Green Building Launch Week will wrap up with a **Green Building Fair from 1:00–4:00 p.m. on Friday, February 27 at Fletcher Cove Park.** Residents and builders are encouraged to visit booths from different public agencies and green product vendors. The City will also have an environmental booth set up to provide more information about the City's Green Building and other environmental programs. Green product or service vendors interested in running a booth at the Green Building Fair are invited to call the City at **(858) 720-2436. Space is limited.**

Free Walks and Programs for Kids at San Elijo Lagoon

The San Elijo Lagoon Conservancy invites you to a free guided nature walk the second Saturday of each month. Walks start at the North Rios Avenue trailhead at 9:00 a.m. and are led by knowledgeable docents. Walks last approximately two hours.

Upcoming dates:

- Saturday, February 14
- Saturday, March 14
- Saturday, April 11
- Saturday, May 9

Young families are invited to kids' walks on the following dates:

- Saturday, February 21, 10:00 a.m. "Discovering Dazzling Dabbling Ducks"
- Saturday, April 18, 10:00 a.m. "Finding Fabulous Flowers"

The annual **Lagoon Day takes place on Saturday, May 16** at the new San Elijo nature center in Cardiff (2710 Manchester Street). For the first time this year, there will be a 'BioBlitz', a 24-hour inventory of all living organisms at the Lagoon. Visitors on the 16th can interact with the participating scientists and enjoy guided walks. Children will be entertained by fun interactive activities. All are welcome, and the event is free.



Conservancy docent Peter Ash shows local children the marvelous plants & animals found at the San Elijo Lagoon Ecological Reserve.

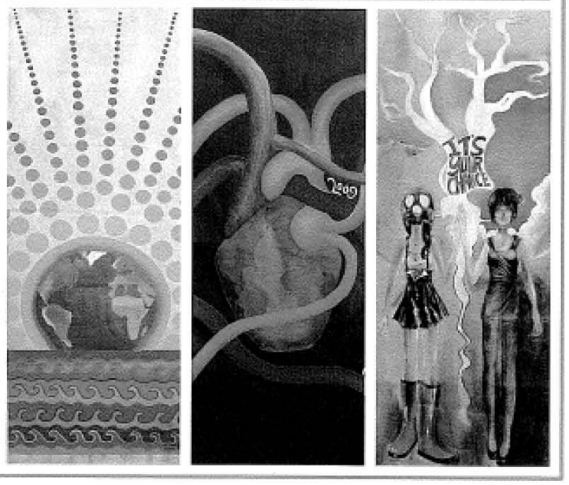
Our Earth—Our Chance

THEME FOR THE 2009 ARTS ALIVE BANNERS

They are up and they are powerful! The Arts Alive Banners scream the thoughts and concerns for the planet of the artists, students, and residents who painted them. They are compelling messages.

Solana Beach celebrates the eighth year of presenting the Arts Alive Banners with an environmentally based theme, "Our Earth—Our Chance." These unique street banners are currently on display throughout the City along Highway 101, Lomas Santa Fe Avenue, and in Eden Gardens. They will be displayed until May for all to enjoy. Following the display period, they will be sold at the celebrated Arts Alive Auction on **Wednesday, July 15, 2009. SAVE that DATE.** It is an exciting event that you won't want to miss. All proceeds from the Auction are used to promote the Public Art Program in Solana Beach.

For more information about the Arts Alive Banners contact Anita Edman, Community Services Coordinator, at (858) 720-2454.



APPENDIX I: CONSTRUCTION BMP BROCHURE

A Pollution Prevention Guide for the Construction Industry

North County Storm Water Program

Carlsbad • Del Mar • Encinitas • Oceanside
• San Marcos • Solana Beach • Vista

Only Rain in the Storm Drain

Water Quality Regulations for Construction Sites

Dear Contractor,

The North County Storm Water Program is a collective of jurisdictions in northern San Diego County working together to protect our watersheds. We believe that reducing pollution is critical to maintaining our communities' way of life.

It is our hope that this brochure will help you identify activities that are recognized to cause water pollution and implement appropriate Best Management Practices (BMPs) to minimize their impact. By providing you with these tools, we hope to make your job easier while keeping our waterways clean.

Each jurisdiction will be inspecting their construction sites to ensure the protection of water quality. We look forward to seeing the BMPs presented in this brochure implemented at your sites.

Together we have the ability to preserve and improve the quality of life in our communities.

Sincerely,

The North County Storm Water Program

Contact Phone Numbers:

City of Carlsbad
760-602-2789

City of Encinitas
760-633-2787

City of Oceanside
760-435-5800

City of San Marcos
760-744-1050

City of Del Mar
858-755-8313

City of Solana Beach
858-720-2470

City of Vista
760-726-1340

Construction Sites

In 1972, the Environmental Protection Agency developed regulations to control water pollution. As a result, the National Pollutant Discharge Elimination System (NPDES) Permit was created. NPDES permits are issued to municipalities as well as construction sites. In addition to complying with local regulations, which are governed by our municipal NPDES permit, you may be required to obtain a permit through the State of California under the State General Construction Permit (99-08-DWQ). All construction sites over one acre are required to obtain coverage under this permit.



Construction sites can contribute pollutants such as sediment, metals, and chemicals, to our local creeks, rivers, lakes, lagoons, and ocean. These pollutants make their way down our streets and into storm drains, eventually discharging to the nearest body of water.

All construction sites are required to implement Best Management Practices (BMP) to prevent storm water pollution. This brochure is intended to assist your construction site in understanding BMP requirements.

Each municipality has one or more persons dedicated to ensuring that all construction sites are in compliance with state and local storm water control regulations. Contact your local municipality for further information.

Right-of-Way Permitting

We understand that there are times when space on construction sites is limited. If at any point, you (as a contractor or subcontractor) need to use the public right-of-way in order to work or store materials, you must apply for a special permit. This permit allows you to use the City's right-of-way areas, and describes what is required to prevent illegal contaminants from entering local storm drains. For more information or to obtain a permit application contact your local jurisdiction.



Inspection and Enforcement Program

Each jurisdiction has established an enforcement program to ensure that all businesses operate in compliance with all appropriate storm water laws and other City requirements. Contractors, site supervisors and property owners can be held responsible for violations, which may lead to a civil penalty of up to $10,000 per day and/or reimbursing the local jurisdiction for all expenses associated with clean up.

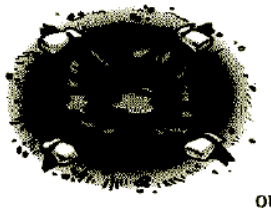


Best Management Practices

Construction materials such as paint, dirt and trash often find their way into our storm drains, polluting the environment and jeopardizing our creeks, rivers, lakes, lagoons, and ocean.

The NCSWP is working with contractors to implement what are known as Best Management Practices (BMPs) on all construction sites. That is, methods used to keep pollution out of our storm drains and off public property, such as sidewalks, streets, parkways and alleys. Carrying out and maintaining these BMPs on the construction site is critical to protecting our ocean and bay.





The following is a list of BMPs and pollution prevention measures that shall be implemented at all construction sites:

1. **Conduct daily site cleanings.**
2. **Develop spill response and containment procedures.**
3. **Educate employees and subcontractors about BMPs.**
4. **Develop an erosion control plan for wind and rain.**
5. **Regularly maintain all BMPs at project site.**

APPENDIX J: STORM WATER PLAN CHECK COMMENT FORM

CITY OF SOLANA BEACH
ENGINEERING DEPARTMENT
STORM WATER PLAN CHECK COMMENTS

Project: _____ Address: _____

☐ Construction phase **Erosion Control** shall be shown on the permitted plans, such as silt fences, gravel bags, de-silting basins, slope protection and entrance controls. **Best management practices (BMP's)** shall be developed and implemented to manage storm water and non-storm water discharges from the site at all times during construction activities. Erosion prevention shall be emphasized to keep sediment on site during excavation and grading activities. Sediment controls such as mulch, jute netting and straw blankets shall be used as a supplement to erosion control for keeping sediment on site.

- **Submit Storm Water Management Plan** (attached)
- **Add the following note to plans**: "**EROSION CONTROL:** Best management practices shall be developed and implemented to manage storm water and non-storm water discharges from the site at all times during excavation and grading activities."

☐ The Applicant shall demonstrate that the **project does not increase storm water runoff** or peak discharge from their property. For example, add a storm water retention and infiltration feature such as a depressed landscape area or below ground drywell using course rock (1.5" to 2.5") or a pre-fabricated chamber. The amount of retention volume should be at least equal to 0.60 inches (0.05 feet) times the added impervious area. This should be designed to avoid runoff damage to downstream properties, such as not concentrating runoff where it was previously not concentrated. (For 5,000 SF or more of added impervious area, use County of San Diego Hydrology Manual)

☐ Storm Water and Non-Storm Water Runoff Control. Post-development measures that **reduce pollutant discharges from the site** shall be shown on the permit plans. For example, maximize permeable areas (landscaping, driveway grass strips, gravel paths, concrete pavers on sand) to allow runoff seepage into the ground and drain impermeable surfaces (roofs, hardscape, driveways) to permeable areas (i.e. planted areas) and other approved pollutant treatment BMP's.

- Is runoff from hardscape areas routed over natural treatment areas before draining off site?
- **Show on the plans** where hardscape and roofs drain to.
- **Show BMP's** on the plans (grassy swales, landscaping, infiltration pits, pervious pavements, gravel paths, etc.).
- The volume of treatment should be at least 0.60 inches (0.05 feet) times the added impervious area.

APPENDIX K: BUILDING PLAN CHECK ROUTING FORM

CITY OF SOLANA BEACH
635 S. Highway 101, Solana Beach, CA 92075
(858) 720-2440
APPLICATION TRACKING FORM

Plancheck No.: _____
Received by: _____
Date:

Site Address _____ Suite # _____
Site Business Name _____ APN _____
Project/Property Owner's Name _____
Contact Person _____ Phone # _____
Address _____ Fax # _____
Project Description _____ E-Mail _____
Discretionary Permit Applicable? _____ Sq. Ft. _____
Estimated Building Valuation? _____ Estimated Grading Required? _____
Is/will the building equipped with fire sprinklers? ☐Yes ☐No Is the property on a septic system? ☐Yes ☐ No
Is there an existing swimming pool &/or spa on the property? ☐Yes ☐ No **If "yes," see the Pool & Spa note below**

THE FOLLOWING "CHECKED" ITEMS MUST HAVE WRITTEN APPROVAL PRIOR TO PERMIT ISSUANCE. APPROVALS FROM THE PLANNING, ENGINEERING, FIRE, HEALTH DEPARTMENTS, AND THE AIR POLLUTION CONTROL DISTRICT MAY ALSO BE REQUIRED PRIOR TO FRAME AND/OR FINAL INSPECTION AND OCCUPANCY (INDICATED ON "BLUE" CARD). IF YOU HAVE ANY QUESTIONS, PLEASE CONTACT THE INDIVIDUAL DEPARTMENT(S) AT THE NUMBERS SHOWN.

CITY DEPARTMENTS

☐ **PLANNING / ZONING**.....**858-720-2440**
- ☐ O.K. for Plancheck Only. By _____ Date _____
- ☐ Fees Due. ☐ Park Fees ☐ Public Facilities Fees ☐ Public Arts Fee
- ☐ Fee Payment Required Prior to ☐ Permit Issuance ☐ Final Inspection
- ☐ Height Certificate Required prior to Requesting Frame Inspection.
- ☐ Approval Req'd prior to: ☐ Permit ☐ Frame Insp ☐ Final Insp
- ☐ Approval required prior to ☐ Frame ☐ Final Inspection
- ☐ Project shall comply with Wildland Urban Interface Standards (WUI)
- ☐ O.K. to Issue Building Permits _____

☐ **ENGINEERING / SANITATION**.....**858-720-2470**
- ☐ O.K. for Plancheck Only. By _____ Date _____
- ☐ Permits Req'd ☐ Dedication Req'd ☐ Fees Req'd.
- ☐ Approval required prior to ☐ Frame ☐ Final Inspection (Sewer, Plancheck, In Lieu)
- ☐ See attached form for Storm Water BMP'S
- ☐ O.K. to Issue Building Permits _____

☐ **ENVIRONMENTAL**.....**858-720-2477**
- ☐ O.K. for Plancheck Only By _____ Date _____
- ☐ See attached form for Storm Water comments
- ☐ WMP Required Prior to ☐ Permit Issuance ☐ Final Inspection
- ☐ Post Construction BMP Inspection Required:
  - ☐ During Construction ☐ Prior to Final Inspection
- ☐ O.K. to Issue Building Permits _____

☐ **FIRE PREVENTION**.....**858-720-2410**
- ☐ O.K. for Plancheck Only By _____ Date _____
- Approval required prior to ☐ Frame ☐ Final Inspection
- ☐ O.K. to Issue _____

☐ **POOL & SPA SAFETY ENCLOSURE & SAFETY FEATURES**
Effective 1/1/07, AB 2977 requires all existing pools and spas shall comply with current State mandated enclosure & safety features.

AGENCY APPROVALS

☐ **SCHOOL FEES**
(Obtain signature on the attached forms)
Solana Beach Elementary &
San Dieguito Union H.S. District.....**760-753-6491**

☐ **HEALTH DEPARTMENT**
- ☐ Health Regulated Business
- ☐ Hazardous Materials Management.....**619-338-2222**
  1255 Imperial Avenue, San Diego 92138-5621
- ☐ Final Approval Required
- ☐ Septic Approval Required **760-471-0730**
  151 Carmel St, San Marcos 92078

Approved by _____

☐ **AIR POLLUTION CONTROL DIST.** .....**(858) 586-2600**
(Obtain stamp and signature on APCD Questionnaire)
10124 Old Grove Rd., San Diego CA 92131

☐ **WATER AND SEWER**
(Obtain signatures on attached forms)
- ☐ Santa Fe Irrigation District.....**858-756-2424**
- ☐ Solana Beach Sanitation District **858-720-2470**

☐ **CALIFORNIA COASTAL COMMISSION**....**619-767-2370**
Call for an appointment

☐ **ASSESSOR'S COPY OF PLANS**
At permit issuance, provide a third copy of Title Sheet, Plot Plan & Floor Plan (per Senate Bill 493).

☐ **OWNER/BUILDER AFFIDAVIT AND/OR CONTRACTOR INFORMATION**

☐ **SDG&E WORK ORDER**.....**(800) 411-SDGE**
For new / relocated gas & electric meters

_____ _____
Signature of Applicant Date

F:/Common/UpdatedApplications/Tracking Sheet Eff 09/08

APPENDIX L: PUBLIC PROJECT PRE-CON MEETING AGENDA (SAMPLE)

PRE CONSTRUCTION MEETING
2008 Street Repair and Slurry Seal Project
Bid No. 2008-12
October 23, 2008

Introductions

Contacts

1. Contractor — RMV Construction, Inc.
4079 Huerfano Ave. Suite 118
San Diego, CA 92117
(858) 581-3488 (office)
(619) 517-5837 (cell phone)

2. City — City of Solana Beach
635 S. Hwy 101
City of Solana Beach, CA 92075
(858) 720-2470 (Engineering)
(858) 755-1782 (Engineering fax)

Hector Ezquerro/Josh Blea – City Inspector (858) 720-2470
Dan Goldberg – Project Manager (858) 720-2474
Steve Kerr – Public Works Operations Manager (858) 449-2630
Craig Miller – Marine Safety Captain (858) 720-4444

Utilities — Santa Fe Irrigation District – Dana Johnson (858) 756-2424

Project Status: Notice to Proceed – TBD
20 Working Days

Contract Amount: $18,888.00

Project Goals:
- Safety
- Community
- Quality
- Schedule
- Budget

Contractor Requirements:
- Any questions about Contract Award or "Key Contract Items Summary Sheet"?
- Submit Construction Schedule
- Submit Traffic Handling Plan
- Submit Storm Water Pollution Prevention Plan (SWPPP)
- Submit Names/Phone Numbers of Foreman/Emergency People
- Submit Names of Additional Subcontractors

10/23/2008 Page 1 of 2 9:51 AM

Storm Water & Erosion Control

- Best management practices shall be used & maintained
- Erosion control plan

Labor Compliance, Certified Payroll and Progress Payments

Public Notification: Contractor's responsibility (keep the public informed & keep the City informed)

Utility issues

Project Safety: Contractor's responsibility

- Traffic Control Plans

Storage and Staging Areas/Access Corridors

- Contractor shall not store equipment and materials overnight on the beach or in public parking spaces.
- The site access for construction equipment shall be from Fletcher Cove beach access ramp.

Inspection & Testing

- City will provide inspection

Change Orders

- Notification must be in writing
- Work is not approved until you have a change order signed by the City Council, City Manager or the City Engineer. Project Manager and Project Inspector cannot approve change orders.

Submittals

- Submittals should be given to the project manager.

Operating hours

- 7 a.m. to 4:30 p.m. Monday through Friday. Do not operate, start equipment or congregate near residential areas before 7 a.m.
- If the contractor wants to work on Saturday, the contractor must reimburse the city for inspection services.

Work Schedule

Project Issues

APPENDIX M: CIVIL PENALTY MATRIX

SOLANA BEACH
CIVIL PENALTIES MATRIX

The following factors will be considered in determining the amount of civil penalties from the Solana Beach Municipal Code 13.10.140 A. any person who violates any of the provisions of this chapter shall be liable for a civil penalty not to exceed $1,000 for **each day** such a violation exists and will be assessed: (1) The seriousness of the violation (2) the duration of the violation; (3) the frequency or recurrence of the violation; (4) the history of the violation; (5) the Responsible Party's conduct after issuance of the Notice and Order; (6) the good faith efforts of the Responsible Party to comply; (7) the impact of the violation upon the community.

*** Criminal Penalties**

These factors are assigned to two categories, "**Environmental Significance**" and "**Compliance Significance**," in order to easily present them in a graphical form in the matrix chart.

Environmental Significance includes the following factor: Seriousness of the violation.

Compliance Significance includes the remaining factors: The duration of the violation, frequency or recurrence of the violation, the history of the violation, the Responsible Party's conduct after issuance of the Notice and Order; the good faith efforts of the Responsible Party to comply and the impact of the violation on the community.

Environmental Significance

Compliance Significance	Moderate	Major	Severe
Moderate	*NOV-$100	$100 - $200	$500
Major	$100- $200	$500	$1,000
Severe	$500-$1,000	$1,000	$1,000-Referral to Regulating Agency

* Notice of Violation

The list below gives examples of issues specific to storm water violations that could be considered under each of the factors.
Increased Penalties will be factored as Notice of Violation to Moderate, Moderate to Major or Major to Severe.
Decreased Penalties could be Severe to Major, Major to Moderate or Moderate to Notice of Violation.

Environmental Significance
Seriousness of the Violation

Relatively inert discharges (e.g., soil, sediment, cement residue, stucco residue**,** etc.) **[Moderate Environmental Impact]**

Moderate toxicity / moderate health threat discharges (e.g., cleaning products with no specific hazard, i.e. detergent, latex paint) **[Major Environmental Impact]**

Significant toxicity / significant health threat discharges (e.g., sewage, hazardous materials/wastes, etc.) **[Severe Environmental Impact]**

SOLANA BEACH
CIVIL PENALTIES MATRIX

Compliance Significance

Duration of Violation

Extent of discharge as determined by volume, area covered, how long it continued **[Greater Discharge Can Lead to Increased Penalty]**

Number of days the discharge remained unabated in the conveyance system **[Unabated Discharge Can Lead to Increased Penalty]**

Impact on the Community

Results in damage, degradation, or obstruction of the storm water conveyance system **[Can lead to Increased Penalties]**

Results in actual degradation of aquatic habitat in receiving waters **[Can lead to Increased Penalties]**

Results in actual impact on wildlife including benthic communities **[Can lead to Increased Penalties]**

Results in algal bloom, discoloration or odor in receiving waters **[Can lead to Increased Penalties]**

Discharge of constituent of concern within a watershed that leads to a 303 (d) listed water body **[Can lead to Increased Penalties]**

Regulated industry (e.g., subject to OSHA chemical right-to-know requirements or subject to Hazardous Material / Hazardous Waste Permit) **[Can lead to Increased Penalties]**

Recurrence of Violation

No prior administrative enforcement penalty can be a factor for officer's discretion in lowering penalties.

Prior administrative penalties action can lead to increased penalties.

Prior administrative enforcement within the last year maybe a factor in determining higher penalties leading up to a **criminal citation**.

Intentional discharge will be a factor to increase penalties leading up to a criminal citation.
SOLANA BEACH
CIVIL PENALTIES MATRIX

History of Violation
Prior violations or warnings issued by other regulatory or City agencies (e.g., County Dept. of Health, County Dept. of Env. Health, RWQCB, FEWD, MWWD) **[Can lead to Increased Penalties]**

Prior warnings (letter or Notice of Violation) from Storm Water Pollution Prevention Program **[Can lead to Increased Penalties]**

Good Faith Efforts to Comply
Responsible Party failed to implement BMPs and should have known of requirement for BMPs (e.g., gasoline service station or construction industry) **[Can lead to Increased Penalties]**

Existing BMPs failed to prevent discharge (e.g., employee failed to comply with documented training and procedures or structural BMP failed to perform to design) **[Can lead to Reduced Penalties]**

Rapid and appropriate response to discharge **[Can lead to Reduced Penalties]**

The Solana Beach Municipal Code 13.10.140 A States the following:

13.10.140 Penalties for violation.
A. Civil Penalties. Any person who violates any of the provisions of this chapter shall be liable for a civil penalty not to exceed $1,000 for **each day such a violation exists**, and all pollution detection and mitigation costs (if applicable).
B. Criminal Penalties. Any person who knowingly or intentionally violates any provision of this chapter shall be subject to liability for a misdemeanor, punishable by imprisonment for a period not to exceed one year, or a fine not to exceed $10,000 for each day such a violation exists, or both.
C. Any monetary penalties collected by the city of Solana Beach pursuant to violations of this chapter shall be returned to the storm water management program to be used for storm water pollution monitoring and management practices. (Ord. 184 § 1, 1993)

13.10.150 Continuing violation.
Unless otherwise provided, a person, firm, corporation or organization shall be deemed to have committed a separate offense for each and every day during any portion of which a violation of this chapter is committed, continued or permitted by the person, firm, corporation or organization and shall be punishable accordingly as herein provided. (Ord. 184 § 1, 1993)

13.10.160 Concealment.
Causing, permitting, aiding, abetting or concealing a violation of any provision of this chapter shall constitute a violation of such provision. (Ord. 184 § 1, 1993)

13.10.170 Acts potentially resulting in violation of Federal Clean Water Act and/or Porter-Cologne Act.
Any person who violates any provision of this chapter, any provision of any permit issued pursuant to this chapter, or who discharges waste or wastewater which causes pollution, or who violates any cease and desist order, prohibition, or effluent limitation, may also be in violation of the Federal Clean Water Act and/or Porter-Cologne Act and may be subject to the sanctions of those Acts including civil and

criminal liability. Any enforcement action authorized under this chapter should also include notice to the violator of such potential liability. (Ord. 184 § 1, 1993)

13.10.180 Violations deemed a public nuisance.

A. In addition to the penalties hereinbefore provided, any condition caused or permitted to exist in violation of any of the provisions of this chapter is a threat to the public health, safety and welfare and is declared and deemed a public nuisance and to impact storm water quality, and such nuisance may be summarily abated and/or restored by any authorized enforcement official. Civil action to abate, enjoin or otherwise compel the cessation of such nuisance may be taken by the city attorney.

B. The cost of such abatement and restoration shall be borne by the owner of the property and the cost thereof shall be a lien upon and against the property and such lien shall continue in existence until the same shall be paid. If the lien is not satisfied by the owner of the property within three months after the completion by the authorized enforcement official of the removal of the nuisance and the restoration of the property to its original condition, the property may be sold in satisfaction thereof in a like manner as other real property is sold under execution.

C. If any violation of this chapter constitutes a seasonal and recurrent nuisance, the city of Solana Beach shall so declare. Thereafter such seasonal and recurrent nuisance shall be abated every year without the necessity of any further hearing. (Ord. 184 § 1, 1993)

13.10.190 Civil actions.

In addition to any other remedies provided in this section, any violation of this chapter may be enforced by civil action brought by the city of Solana Beach. In any such action, the city of Solana Beach may seek, and the court shall grant, as appropriate, any or all of the following remedies:

A. Injunctive relief;

B. Assessment of the violator for the costs of any investigation, inspection, or monitoring survey which led to the establishment of the violation, and for the reasonable costs of preparing and bringing legal action under this subsection;

C. Costs incurred in removing, correcting, or terminating the adverse effects resulting from the violation;

D. Compensatory damages for loss or destruction to water quality, wildlife, fish and aquatic life. Assessments under this subsection shall be paid to the city of Solana Beach to be used for costs associated with monitoring and establishing storm water discharge pollution control systems and/or implementing or enforcing the provisions of this chapter. (Ord. 184 § 1, 1993)

APPENDIX N: RAINY SEASON REMINDER

October 15, 2008

XXXXXXXXXXXX
XXXXXXXXXXXX
Solana Beach, CA 92075

RE: EROSION CONTROL RESPONSIBILITIES FOR CONSTRUCTION SITES

Dear Owner and/or Contractor:

As the rainy season begins, this is a reminder to make sure that your project site at **XXXXXXXX** is in compliance with the City of Solana Beach's Storm Water Management Section 13.60 and Excavation and Grading Ordinance Section 15.40. Your responsibility as owner/contractor is to control and reduce pollutants in runoff from all your construction activities. You are required to comply throughout the year, but the "rainy season" requires special attention and practices.

Since we are now in the official "rainy season," you shall implement all the required measures in the Storm Water Pollution Prevention Plan or Erosion Control Plan for your project site. Your responsibility to implement these measures is not only to comply with the City of Solana Beach's Ordinances and Jurisdictional Urban Runoff Management Program (JURMP), but also to comply with the Regional Water Quality Control Board Permit Order 2007-0001.

At a minimum you must implement these practices on all disturbed areas during the rainy season:

- Cover and stabilize all exposed soil, particularly on slopes, in order to prevent erosion.
- Employ any erosion control measures that are adequate to prevent erosion.
- Implement Best Management Practices (BMPs) to reduce the tracking of sediment onto public or private roads.
- Conduct pre- and post-storm inspections of erosion prevention and control measures and determine whether they function properly; modify if necessary to improve effectiveness.
- Maintain all erosion prevention and control measures throughout the season and replace them as needed to ensure measures accomplish the task.
- Ensure that all site personnel are trained in erosion prevention and control techniques as well as in the requirements of the Statewide General Construction Storm Water Permit.

- Review, upgrade, and fully implement your site-specific Storm Water Pollution Prevention Plan consisting of Best Management Practices for all pollutants, including those other than sediment. The City of Solana Beach will be inspecting your project site for compliance. The California Regional Water Quality Control Board plans to conduct their compliance inspections jointly with the United States Environmental Protection Agency. Other agencies may inspect your site at will.

If you would like additional information on selecting appropriate BMPs, the City has developed a BMP Brochure that is available upon request. Failure to comply with the City's storm water regulations can result in enforcement actions, including stop work notices and fines.

If you have any questions, or require additional information, please contact me at (858) 720-2477.

Sincerely,

Danny King
Environmental Programs Manager
City of Solana Beach

APPENDIX O: GENERAL CONSTRUCTION "GOOD NEIGHBOR" BROCHURE

PROPERTY OWNERS ARE RESPONSIBLE FOR THE ACTIONS OF THE CONTRACTORS AND SUBCONTRACTORS WORKING ON THEIR PROPERTY.

Construction Hours and Noise Levels:

Construction workers shall not congregate at or report to the site prior to the beginning of construction hours.

Monday - Friday:
7:00 a.m. to 7:00 p.m.

Saturday:
9:00 a.m. to 6:00 p.m.

No construction is permitted on Sundays and Holidays. Please check the City's website for a list of observed holidays at:

www.ci.solana-beach.ca.gov

Construction noise levels shall not exceed 75 decibels for more than eight hours during any 24 hour period.

For information concerning construction hours and noise levels contact the Community Development Department at: (858) 720-2440

Storm Water Best Management Practices (BMPs)

Violations of the storm water regulations can result in penalties, including fines of $1000 per day per violation. These practices are strictly enforced.

Storm Water BMPs Continued:

- Perimeter Protection Controls: Silt fences, straw wattels, sand bags, etc. must be used to control run-on and run-off from project site.
- Tracking Controls: All entrances and exits to the site must have protection measures installed to prevent tracking of sediment off the project site.
- Washout Area: All sites must have a designated "wash-out" area to clean equipment and dispose of excess concrete, stucco, and paint.
- Concrete Trucks/Pumpers: Concrete trucks and pumpers must have perimeter protection installed around and under them at all times. Any spill must be contained on-site and no washing of equipment permitted without a washout area.
- Materials Storage: All materials stored on-site must be contained and covered at all times.
- Trash Containers/Portable Restrooms: Dumpsters must be covered and have adequate perimeter protection and all portable restrooms must have secondary containment measures installed.
- Storm Drain Inlets: All adjacent storm drain inlets must be protected at all times to prevent pollutants from the project site from entering (including sediment).

For more information concerning Storm Water BMPs contact the Environmental Services Department at (858) 720-2477.

Fire Safety:

Obey all Fire Codes:

- Ensure fire lanes are kept clear and unobstructed.
- Any combustibles onsite must be stored safely.
- Remember oily rags catch on fire spontaneously, even when no ignition source or flame is present.

For more information concerning fire safety contact the Fire Department at: (858) 720-2410

Encroachment Permits:

Encroachment Permits are required before you start work within the public right of way.

- Constructing new or repairing old curbs, gutters and sidewalks, constructing new driveways or placing dumpsters in the right of way requires approval from the City and a fee of $245.
- The installation of new or repair of existing utilities requires approval from the City and a fee of $575.

For more information concerning encroachment permits please contact the Engineering Department at: (858) 720-2470

Questions, Comments, Concerns?
Contact City Hall at: (858) 720-2400

Construction Site "Golden Rules":

Treat the construction site as if you were living next door to it.

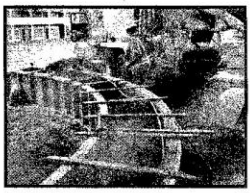
- Communicate construction timetables to the surrounding neighbors. Consider distributing a letter to neighboring properties listing proposed timetables and contact information for the property owner and construction contractor.
- Notify neighbors if you expect excessive noise and/or traffic disruptions on a particular day. For example, if you are planning to demolish an existing residence or if you are expecting heavy equipment onsite to pour concrete.
- Avoid parking in front of neighbors homes and do not run car engines unnecessarily.
- Minimize noise by not using radios and refrain from shouting whenever possible.
- Construction vehicles should be parked legally and accommodated on the construction site whenever possible.
- Use respectful personal conduct by using the onsite restroom facilities and do not use profanity.

Community Development Department

City of Solana Beach
635 South Highway 101
Solana Beach, CA 92075
Phone: (858) 720-2440
FAX: (858) 755-1782
www.ci.solana-beach.ca.gov

City of Solana Beach

Construction Site Supervision in Solana Beach: Code Requirements and Good Neighbor Practices



This fact sheet is provided to increase awareness of the basic rules all construction sites are required to follow by city ordinance. These rules are a minimum, and if not followed can result in penalties if you are found to be in violation of City or State applicable regulations.

In addition, we've provided some tips for additional measures that you can take at the site that would be appreciated by the City and your neighbors. We recognize that a construction site by its nature has a certain amount of noise, debris and inconvenience for the neighborhood. We have found from experience that where you can go above and beyond the minimum City Municipal Code requirements, and implement these good neighbor practices, your project can benefit from the improved neighborhood relations.

APPENDIX P: UNDERGROUND UTILITY DISTRICT SPECIAL BMP HANDOUT

Undergrounding Utility District Construction Best Management Practices

When conducting trenching work, construction Best Management Practices (BMPs) must be utilized at all times. Failure to keep all sediment and debris on your property is a violation of the City's Storm Water Regulations and can result in fines. The following list contains BMPs that may be used to keep sediment onsite and out of the City's storm drain conveyance system:

- Perimeter protection BMPs such as silt fences, straw waddles and/or sand bags can be used to contain sediment onsite.
- Cover all materials and keep above ground when a predicted rain event is to occur (>50% chance).
- Keep all materials/sediment out of street and gutter to prevent nuisance water from washing into storm drain system.
- Prevent sediment tracking into street by placing down gravel where equipment is entering and exiting property and sweeping area frequently.

These are all common general BMPs that can be utilized to prevent discharges into the City's storm drain conveyance system. If you or your contractor have any questions or require additional information on any of this, please feel free to call me at the number below.

Sincerely,

Danny King
Environmental Specialist

APPENDIX Q: SOLANA BEACH PTA EDUCATION

Solana Beach PTA Presents
A Parent Education Seminar



Go Green: Why You Should Care & What You Can Do To Help Our Planet.

What does it mean to "Be Green?" Solana Vista parent and owner of GreenEdge Kids, Annie Kaskade, will lead the panel discussion with members from the Solana Beach Clean and Green Committee to inform us about local environmental issues. Learn what you can do today to make a difference! Bring a friend, everyone is welcome!

Date:	Wednesday, October 8, 2008.
Time:	10:15 am to 11:15 am, immediately following the PTA meeting.
Location:	Skyline Elementary in the Activity Center.
Questions:	Please contact Elizabeth Eshoo, 858 663 4994.

Be the first to purchase your Solana Vista and Skyline Wave Stainless Steel Water Bottle - on sale at the Seminar for only $12.00!

20 oz. size, includes the Wave logo. Great for sports, the car, the Earth!

APPENDIX R: BEACH BLANKET MOVIE NIGHT FLYER



APPENDIX S: SPECIAL EVENTS PERMIT CONDITIONS OF APPROVAL (SAMPLE)

NOTICE OF APPROVAL FOR SPECIAL EVENT
CITY OF SOLANA BEACH

The Special Event you have applied for has been approved, according to the following information:

Date Requested: June 12, 2004
Hours: 5:30 a.m. – 2:00 p.m.
Organization: San Dieguito Boys & Girls Clubs
Type of Event: Seaside Stride 5 Mile Walk
Location: See Attached Map
Contact Person: Ellen Flanagan (760) 471-5516

Approved By:_____
Barry Johnson, City Manager

SPECIFIC GUIDELINES:

1. No City services, at the request of the applicant, for the event will be provided by the City.
2. The event participants must utilize the sidewalks and not the roadway where available on the course. If there is no sidewalk, participants must utilize the very outer edge of the roadway.
3. Event organizers must obey all traffic signs, lights, and laws.
4. Event organizers and participants shall utilize public right-a-ways and property for the purpose of this event at their own risk.
5. Event organizers and participants shall obey all traffic laws, signs, and traffic control devices at all times.
6. Event organizers must comply with all applicable water run-off regulations and must use best management practices. There will be absolutely no liquid, solid, or any other by-product generated by the event allowed in the city storm drain system. The parking lot at the conclusion of the event must be cleaned of all debris and disposed of in an acceptable manner to the City's Public Works Department.
7. Roadway and sidewalks and any other public areas utilized by the event participants and audience shall be left in a clean and orderly condition at the conclusion of the special event.
8. Applicant shall be charged for the amount of time to clean-up the areas or facilities used by the event participants if the areas utilized by the attendees of the event are not left in a clean and orderly condition. Estimated cost for retaining one City employee to clean-up refuse, and trash disposal is $ 43.20 per hour.
9. Any damage to public property as the result of this event will encumber full cost recovery from applicant by the City.

10. Event organizers shall at all times comply with any request or orders from the City's public works, lifeguard, law enforcement, or other public safety personnel. Failure to do so will result in the revocation of this permit and an immediate cease event order.

GENERAL GUIDELINES:

1. This permit and any other permits associated with this event will be available at the event.
2. If City services are required, applicant will be billed in advance for any and all City services provided above normally scheduled services. **All fees and charges shall be paid prior to final issuance of a permit for the event. Exception: Costs incurred by the City for clean up or other reasons due to the event, if any, shall be charged to the applicant billed as soon as the total cost is determined.**
3. All vehicles must comply with City parking regulations.
4. The organization and any of its subcontractors in advance of the event must file a business license application and fee, if they do not have a business license.
5. Vehicle loading and unloading cannot block pedestrian access. If required for short durations, signage directing the flow of pedestrian access, including wheelchair access must be established and posted.
6. The City reserves the right to shut down the event at any time, if necessary.
7. Applicant must comply with City noise regulations.
8. **It is the responsibility of the applicant to know and comply with the terms and conditions as stated within this special event permit and all applicable laws that pertain do the event, its organizers, and its participants whether they are stated on this permit or not.**
9. Contact Leah Escarcega or David Ott at (858) 720-2410 if there are any questions regarding the special event permit process.

C: City Manager's Office
Public Safety Director
Public Works Director
Sheriff's Department
Marine Safety Captain

APPENDIX T: SUMMER CAMP PROGRAMS/CLASSES

City of Solana Beach Department of Parks & Recreation

2008 Kids Summer Day Camp for ages 6 to 12

All Sessions will meet Mon-Fri from 8:30 to 2:00 at Fletcher Cove Community Center, 133 Pacific Ave. The fee is $100/week per child and includes activities such as beach walks, swimming at the Boys and Girls Club, arts & crafts, fun games, t-shirts and a weekly field trip to an exciting destination. After-care is offered from 2:00-5:00 ($25/week). Our popular **"Leader in Training"** program is also available again this summer for 13-17 year olds for only $40/week!

Ecology & our Environment

Session 1, June 23-27, 2008

Do your kids want to learn more about ecology and their environment here in Solana Beach? Well this week's camp is perfect for your children to explore the world of marshes and lagoons. Campers will learn about such things as how a tadpole turns into a frog, the water cycle and why it's important to take care of the environment. **We will even get to explore our own San Elijo lagoon as this week's field trip.** Mayor Kellejian will be a guest speaker on 1st day of camp!



Around the World in 5 Days

Session 2, July 7-11, 2008

Come to camp and you can experience this trip around the world. Not only will campers be introduced to a global perspective but they will also be exploring the culture, and everyday life of all areas of the world. Kids will even be able to explore their own family culture and have a chance to share an aspect of their heritage with the other campers. Hop on board for this super-speed global experience.



Fun To Be Fit

Session 3, July 14-18, 2008

Campers will get to see that living a healthy and active life can be fun! Learn about healthy eating as well as including physical activity in their everyday lives. Indoor and Outdoor activities and crafts will help the campers understand the way their bodies work and how they can keep their bodies happy and healthy. **Field Trip: Go Play Get Fit Youth Day in Coronado.**

olympic Games

Session 4, July 21-25, 2008

Come join Solana Beach's own week long Olympics in anticipation of the 2008 Olympics beginning this year. We will be trying out such sports as soccer, basketball, and running, as well as testing our skill out on the ice rink for this week's field trip.

Summer Safari

Session 5, July 28 - August 1, 2008

Lions, and Tigers and Koalas? Oh my...join our own adventure through such places as the jungle, rainforest and safari. Learn about all sorts of animals, their habitats and how they influence our everyday lives. Love adventure and exploration? Then this is the camp for you. **Field trip: Balboa Park Natural History Museum.**



Under the Sea

Session 6, August 4-8, 2008

Come test your knowledge of the big body of water that we are fortunate enough to live so close to. Explore the ocean through beach activities, crafts and a day of exploration at Scripps Birch Aquarium. Learn about dolphins, sharks, whales, and even starfish and sea cucumbers. Get a tour of the Solana Beach lifeguard tower and learn how to have fun safely at the beach.

Splish Splashtacular

Session 7, August 11-15, 2008

Is your child half amphibian? This is a perfect week for campers to explore the various ways to enjoy the water through water related crafts, water balloons and even water relays. From the ocean, to the pool and the pool to the Wave Water Park – come splish and splash with us!



SOLANA BEACH *Shorelines* 11

CITY OF SOLANA BEACH PARKS & RECREATION

2009 Kids Summer Day Camp for Ages 6–12



All Sessions will meet Monday – Friday from 8:30 a.m. to 2:00 p.m. at Fletcher Cove Community Center, 133 Pacific Ave. The fee is $106/week per child and includes activities such as beach walks, swimming at the Boys and Girls Club, arts & crafts, Library visit, fun games, t-shirts and a weekly field trip to an exciting destination. After-care is offered from 2:00 p.m.– 5:00 p.m. ($27/week). Our popular "Leader in Training" program is also available again this summer for 13 – 17 year olds for only $40/week!

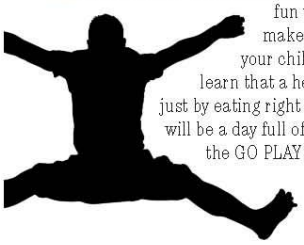
1 ENVIRONMENTALLY FRIENDLY ... June 22 – 26



There are many exciting ecological discoveries to be investigated here in Solana Beach. Find out how simple it is to appreciate the simple aspects of the world around you. Campers will discover ways in which he/she can help save the environment, explore the world of creepy crawly insects, and even discover the local San Elijo Lagoon through a nature walk for this week's field trip.

2 FUN TO BE FIT ... July 6 – 10

Challenge your camper to a world of healthy living. Kids will get to learn how to incorporate healthy aspects into their lives in a fun way. Learning simple changes can make a world of difference in the way your child feels and lives. Campers will learn that a healthy lifestyle can be easy and fun just by eating right and staying active. The field trip will be a day full of active fun at Coronado Island for the GO PLAY GET FIT day.



3 TIME TRAVEL ... July 13 – 17

Travel back in time to the prehistoric land filled with dinosaurs and other historic creatures. Campers will get a chance to understand how the world has changed from the prehistoric world to the world we live in now. Kids will have the chance to make some predictions as to what they think the world will look like in the future and hopes for the future based on knowledge of the past. This week's field trip will be to the Natural History Museum at Balboa Park.



4 WORLD EXPLORERS ... July 20 – 24

Ever wonder what living in another country would be like? Come explore the many wonders this world has to offer in this 5 day top speed trip around the world. Campers will get to explore the world beyond the United States with crafts from other countries, songs and cultural differences from all over the world. Campers will enjoy this imaginary flight around the world with a special stop at the Cabrillo National Monument for this week's field trip.

5 SPACE CADETS ... July 27 – 31

Ever imagined seeing Earth from space or wanted to be an astronaut? This week campers will each get a chance to explore the universe beyond our planet and even how things work on Earth versus other planets. Kids will get to learn about what it takes to be an astronaut and the world above our heads through games, crafts and even a trip to the Ruben H. Fleet Science Center at Balboa Park.



6 IT'S A ZOO OUT THERE ... August 3 – 7

There's the Grasslands, Jungle, Rainforest, and even your local beach that contains hundreds of animals that campers will get a chance to learn about and explore. Learn all about the crazy life of animals of all kinds with theme related crafts and discussions as well as a chance for the campers to explore our own San Diego Zoo.

7 WATER ADVENTURES ... August 10 – 14

You don't have to be an underwater animal to enjoy the wonderful world of water. Campers will learn about the various underwater creatures as well as explore all the fun that one can have in and around water. Not only will campers get to enjoy the beach but this week's field trip will be to the Wave Water Park where kids can experience the fun that comes with water, without having to grow gills.

APPENDIX U: 2009 DRY WEATHER MONITORING PROGRAM RESULTS

As a result of Addendum No. 2 adopted by the RWQCB in September 2008, this section will be submitted along with Chapter 7 "Illicit Discharge Detection and Elimination Component" in December 2009.

APPENDIX Z: EFFECTIVENESS ASSESSMENT TABLE

CHAPTER 7: ILLICIT DISCHARGE DETECTION AND ELIMINATION COMPONENT

7.1 Introduction

In accordance with Permit Section D.4, this section of the report describes the City's effort to implement an Illicit Discharge Detection and Elimination (IDDE) program during this reporting period, July 1, 2008 to June 30, 2009.

In each Annual Report to the RWQCB, this section will include a description of the City's efforts during the reporting period and possibly post-reporting period if the activity is deemed essential to understanding the City's efforts at reducing urban runoff or Permit compliance. This section will include results from efforts to eliminate and prevent illicit discharges, results from the most current Dry-Weather and Wet-Weather Monitoring Programs and Coastal Outfall Monitoring Program. Also, this section of the report will include any changes to the City's *Action Levels for Field Screening and Laboratory Parameters*. A summary of activities conducted post-reporting period may be included if the activity is deemed essential to understanding the City's efforts at reducing urban runoff or Permit compliance.

During this reporting period, the City continued the comprehensive IDDE Component in accordance with the new JURMP (Order No. 2007-0001). The activities are expected to increase knowledge among the residents, business owners, and those who do business (such as contractors) within the City.

The City's JURMP outlines in descriptive detail the City's plans for detecting and eliminating illicit discharges, which would be redundant to repeat in this Report. This report will discuss the results of the 2009 Dry Weather Monitoring Program, which adheres to the requirements of the new Permit, and is described in detail in the City's new JURMP.

7.2 Public Reporting of Illicit Discharges and Connections

The City has an extensive public reporting program that includes a designated hotline (858-720-4424) that links directly to the Environmental Programs Manager's desk, a dedicated email address that also links to the Environmental Programs Manager, and a highly trained City staff that knows how to route calls to the appropriate staff members at City Hall. The City of Solana Beach is a small and intimate city where residents believe in personal relationships and demand immediate responses and actions. The City's hotline and email address to report storm water violations is posted on almost all public outreach materials, including the City's website, community newsletters and environmental brochures.

The City tracks complaints and follow-up activities in a database that is managed by the Environmental Programs Manager. Usually, the City's Code Enforcement Officers respond to the complaints and hotline reports and handle the issues in the field. An email and/or violation form is then sent to the Environmental Programs Manager to document the actions taken and to proceed with any necessary increased enforcement actions such as Notice of Violations (NOVs), citations or stop work orders. This database is constantly being updated and also acts as a resource for historical violations and repeat offenders. If a repeat offender is identified, then increased enforcement actions will automatically be initiated, as explained in the City's Civil Penalty Matrix.

7.2.1 Summary of IDDE Violations

The following is a brief summary of the IDDE violations that were acted upon by City staff through complaints, field detection and reports from the public. For a complete account of each violation, the City's database can be reviewed upon request.

During this reporting period (July 1, 2008 – June 30, 2009), there were 220 contacts made by City staff. This includes educational contacts made by City staff and violation investigations. The City hired a part-time Code Enforcement Officer during this reporting period and one of his primary responsibilities was assisting the storm water program. This part-time staff member made it a priority to engage the public when he noticed a potential violation occurring or about to occur. This is why the number jumped drastically from last year's report of 87 storm water investigations. The City believes being proactive is an important part of storm water pollution prevention, and made this a priority by hiring a part-time code enforcement officer. Most of these violations were minor in nature, ranging from washing down a driveway or patio to washing a car in the street with no containment. These violations are usually handled with a verbal warning or written Notice of Violation. However, during this reporting period, seven citations were issued, down from twelve last year. The decrease in citations may be attributed to the proactive educational contacts made by City staff prior to a potential violation occurring. The following is a brief description of each violation that resulted in a citation. The complete database is too extensive to include in this report, however it is available upon request.

7/8/08 – City staff received a call about a concrete spill at a construction site at 417 Pacific Avenue. Staff investigated and confirmed the report. Staff issued a stop work until the spill was sufficiently cleaned. Contractor was cited $100 for lacking proper secondary containment. Staff re-inspected site and it was clean, case closed.

8/5/08 – City staff on patrol witnessed a concrete spill located at a construction site at

424 Pacific Avenue. Staff made contact with the concrete truck employee and concrete pumping employee, neither had proper secondary containment. Stop work was issued until site was sufficiently cleaned. Both responsible parties (truck driver and concrete pump operator) received a $100 citation. Staff re-inspected site and it was clean, case closed.

9/25/08 – City staff on patrol witnessed a large amount of dark brown colored water discharging down the street. Staff traced it upstream to 233 South Helix Avenue and discovered a stagnant pool being drained into the street with no filtering or containment. Staff issued stop work and directed landscaper to properly dispose of water into sewer system. Landscaper was issued a $100 citation. Case closed.

9/25/08 – City staff received a call reporting a discharge of dark colored water into street at 640 North Granados Avenue. Staff investigated and found a contractor pressure washing a newly constructed driveway with no containment. The discharge contained remnants of a color coat and sealer product that was just applied to finished driveway. Staff issued stop work until discharge was sufficiently cleaned. Contractor received a $100 citation. Staff re-inspected site and it was clean, case closed.

11/15/08 (Saturday) – City staff on patrol detected a soapy discharge and traced it back to 811 Mola Vista Way where a resident was washing rug into the gutter. Staff issued stop work and directed the resident to clean discharge and properly contain wash water. Resident received a $100 citation. Staff re-inspected site and it was clean, case closed.

3/18/09 – City staff received a call regarding a roof cleaning company pressure washing tile roofs and not properly containing the excess water. Staff investigated and found the contractor at 743 San Mario Drive and confirmed the complaint. Staff issued a stop work until the area was sufficiently cleaned, and educated the contractor on proper ways to manage excess wash water. This was the company's second offense, so a $200 citation was issued. Staff re-inspected and site was clean, case closed.

As mentioned in last year's Annual Report, City staff has noticed a pattern that the most prevalent and serious violations that were occurring throughout the City involved mobile concrete pumping trucks. These violations were also the most difficult to clean up after an accident, so the City decided to become very proactive when dealing with these companies. The proper handling of concrete and appropriate BMPs became a standing item to discuss during pre-construction meetings, and City staff routinely stopped at all construction projects if a concrete truck or pumper was seen onsite, regardless if there was a violation or not. City staff would talk to the project superintendent and the concrete pump and truck operator to ensure that all necessary precautions were being taken to prevent a spill, and also to remind them that enforcement actions will be taken

if a violation does occur. This proactive program was continued during this reporting period, and it has proven highly successful. The amount of concrete pumping violations continues to decrease, which can be attributed to this proactive outreach program.

7.2.2 Increased Code Enforcement Activities

As mentioned above, in an effort to reduce the number of violations that occur on the weekends, the City hired a part-time Code Enforcement Officer and directed him to work alternating Saturdays and off-peak weekday hours. It has come to the City's attention that a significant amount of violations are occurring on the weekends, when people know that no City staff is available for enforcement. This activity has been overwhelmingly successful, with the identification and elimination of many violations.

7.3 IDDE Program History and Current Prohibitions

The City implemented its first IDDE program in 1993, which included dry weather screening, annual storm water conveyance system inspections, and prompt responsiveness to complaints.

Between 1993 and 2002, the City's IDDE program did not indicate any significant problems, except for occasionally high levels of bacteria at a curb inlet or manhole leading down to the Seascape Sur outfall. A complete discussion about the activities related to this IDDE problem, including its history, can be found in the JURMP Annual Report Chapter 12: "Special Investigations."

Over the years, the City has responded to complaints and results from its dry weather monitoring reports to detect IDDEs. The City's efforts have been successful, but in response to the requirements of the Permit, the City expanded its program in 2001 to comply with the old Permit (Order No. 2001-01). During this reporting period, the City continued implementing the new IDDE program required in the new Permit (Order No. 2007-0001), which is described in detail in the City's new JURMP.

Prohibitions

As noted in the City's JURMP, most non-storm water discharges are prohibited by Solana Beach Municipal Code (Storm Water Management Chapter 13.10). The City modified its Municipal Code and General Plan to ensure the City has sufficient legal authority to enforce the prohibitions of non-storm water discharges included in Order No. 2007-0001.

7.3.1 Significant Spills

The City operates a storm water hotline and email address that the community can use to report any violations or suspicious behavior they may observe. This hotline can also

be used to notify City staff of any significant spills that have occurred. Additionally, the City's website has a link to directly e-mail the Environmental Program's Manager to report violations or spills. The residents can also directly call City Hall and talk to the appropriate Staff member to report any significant spills. These multiple communication options allow the community to get in direct contact with staff immediately, which greatly speeds up the identification and elimination of spills.

The City had *four significant sewer spills* during this reporting period. The causes ranged from debris and grease blockages to a construction accident. Fortunately, only two of them escaped total containment and reached the environment. A brief description of each spill and the follow-up actions are explained below.

- 10/22/08 – A resident reported a discharge coming out of a manhole on the access road to the Solana Beach pump station. City crews immediately responded and cleared the blockage, caused by grease buildup in the sewer line. Approximately 3,000 gallons were released and 2,250 gallons were recovered. The line was placed on the "hot spot" list for increased cleaning, so it is now cleaned four times per year instead of the normal one time per year.

- 11/24/08 – A construction crew notified City staff that a discharge was coming out of a manhole in the middle of Valley Avenue. City crews immediately responded and discovered that the construction crew had drove a sheet of metal piling through the sewer line, completely blocking the pipe. City crews immediately implemented a "high-line" device that pumped the sewage from the manhole immediately upstream of the blockage to a manhole immediately downstream of the blockage, eliminating the spill. Construction crews worked 24 hours a day the next three days to repair the line and return it to normal operations. 9,450 gallons were spilled and 1,360 gallons were recovered. The remaining sewage ended up in Steven's Creek, so Dog Beach in Del Mar was closed until bacteria samples showed the receiving waters were safe.

- 11/27/08 – City staff was notified by a resident that their bathroom fixtures were backing up and there might be a problem with the City's main line. Staff responded and located a blockage of the main line due to debris. The line was cleared, but the built up sewage behind the blockage created a surge that resulted in a sewer spill from a private lateral. 8,700 gallons spilled, but all 8,700 gallons were recovered as it traveled into the City's Low Flow Diverter at Fletcher Cove and was diverted back into the sewer system. No discharge reached the beach or ocean.

- 4/3/09 – City staff was notified by a resident that a discharge was coming out of a

manhole in the middle of Via De La Valle road. City crews cleared the blockage, which was determined to have been caused by grease. 2,030 gallons were spilled and 1,100 gallons were recovered. The remaining amount made it into Steven's Creek, but samples at Dog Beach revealed that it was not contaminated by the spill. City staff inspected the upstream restaurants and confirmed that they were conducting the required maintenance on their respective grease management devices. The line was placed on the City's "hot spot" list for increased cleaning.

Although there were four significant spills during this reporting period, the City is confident that its sewer maintenance program is progressive and successful. The City has an aggressive sewer maintenance program to prevent sewer spills from occurring. The City cleans the entire system at least once per year, and the known "hot spots" are cleaned and CCTV videoed four times per year. The aggressive Grease Management Ordinance has drastically cut down on the amount of grease in one particular hot spot, but the area is still monitored four times per year. The City is proud of its aggressive maintenance program and strives to attain zero sewer spills.

7.3.2 HHW Program

The City manages an extensive HHW Program that is discussed in detail in the Residential Component of the 2008 JURMP Annual Report.

7.3.3 Grease Trap Ordinance

In October 2004, the City Council adopted a grease trap ordinance that requires new, remodeled, and even *existing* restaurants to install a properly designed grease management device (including grease interceptors, traps, etc.). Previously, the City's Building Department would require all new and significantly remodeled restaurants to install a grease management device, but it was simply a policy, not an ordinance. The City realized the need for an enforceable ordinance that would grant the City the power to inspect the devices to ensure proper installation and maintenance. These inspections are now part of the annual commercial/industrial storm water inspections and City staff (or designated contractors) review maintenance records to ensure the proper devices are installed and properly maintained. The ordinance allowed existing restaurants eighteen (18) months to install the grease traps/interceptors and enforcement began in April 2006. As mentioned in the JURMP Annual Report, the City contracted out commercial/industrial inspection services to a private firm. This private firm inspected grease management devices and reviewed maintenance records for all restaurants/eating establishments that were inspected.

7.4 Dry Weather Monitoring Program (DWMP)

The dry weather field screening data is an important part of the City's IDDE program. The results provide information on whether pollutants are detected in the storm drain system, which can be used to identify potential illegal discharges or connections.

The specific purpose of this program is to detect by system inspection and by field screening and lab water quality testing the existence of either illicit connections to the storm drainage system or the use of the storm drainage system for illegal discharges, during the dry season. The basic requirements for the program are described in the Permit and City's JURMP.

The purpose behind conducting tests of storm drains during dry periods is that illicit connections and illegal discharges are most apparent when they are not being masked by storm flows or ground water discharges. Theoretically, there should be no flow in the storm drains during dry periods, except for the limited amount of exemptions listed in the Permit Section B.2 "Non-Storm Water Discharges." Therefore, if flow is present, an investigation must be conducted to determine where the flow is coming from to determine if there is an IDDE violation.

Prior to the implementation of the original JURMP (from 1993 to 2001), the City completed eight years of dry weather testing, primarily with the services of Kinnetic Laboratories/Cooper Engineering Associates, which collected the field samples and conducted the testing and analysis. The City's program was based on a systematic and comprehensive approach.

In 1993, the City inspected selected outfalls within the City limits and monitored selected sites along Stevens Creek. In 1994, major outlets from the City were tested, in addition to the sites monitored in 1993. The primary objectives in the 1995 through 1999 dry weather field screening programs were to target strategic locations where the potential existed for possible pollutant discharges or illicit connections, as well as carry out a comprehensive monitoring of the City.

For completeness and consistency in reporting, the City will briefly summarize the results from the DWMP over the past few years.

7.4.1 Historical Results

The 1995 dry weather field screening data characterized outfalls, identifying areas of non-storm water, non-permitted discharges as well as the identification of problem or potential problem areas. Sampling points were selected in an effort to survey in-line flow as well as inflow and outflow at the City limits. As a result of the 1995 field

screening, dumping of grease into Stevens Creek was discovered at a local restaurant. The City notified the property owner, as well as the business owner, to cease such activity, which occurred.

The 1996 dry weather field screening data continued to characterize outfalls, identifying areas of non-storm water, non-permitted discharges as well as the identification of problem or potential problem areas. Results from the 1996 program indicated elevated bacteria levels at the Fletcher Cove Outfall (O-03A). Subsequently, the City constructed a low flow diverter (in 1998), which diverts the flow to the City's sanitary sewer system. The diverter pumps 40 gallons per minute, year round, 24-hours a day. Runoff is only discharged at Fletcher Cove outfall during storm runoff events that exceed 40 gallons per minute. The diverter helps eliminate the contamination at the Fletcher Cove Outfall caused by storm water runoff.

The 1997 dry weather field screening data included several sites that had been screened in previous years, two new sites and an independent study. The new sites were added upstream of two previously monitored sites in Stevens Creek to try to isolate the sources of pollutants that had been detected at those sites during screening in several past years. The independent study was conducted to isolate the source of bacteria that the San Diego County Department of Environmental Health indicated had been found at a commercial site contributing to Seascape Sur Outfall. Additional investigations were conducted in Stevens Creek and the cleaning of the commercial site was ordered. Results indicated no significant problems had occurred during this reporting period.

The 1998 dry weather field screening data included further investigation of locations with consistent evidence of possible pollutant discharges (high pH) in Stevens Creek, the continual monitoring and bacterial testing of Seascape Sur Outfall, and the continual monitoring of representative areas in the City. The samples from Stevens Creek Outfall were collected while the Del Mar Racetrack was in operation to determine if that location (and its activities) was having an effect on the elevated levels bacteria. The results indicated that the pH phenomena in Stevens Creek were due to leachate migrating through the concrete structure. However, the effects of the Del Mar Racetrack were found to be inconclusive, but several outfalls were cleaned of trash and debris.

The 1999 dry weather field screening data continued to screen the same sites as in the previous year and again included the Fletcher Cove Outfall. The 1999 DWMP was again conducted during the early part of the racing season in Del Mar to build on the data collected in the previous years. Fletcher Cove was added back to monitor the bacteria and the effectiveness of the City's structural Best Management Practices for the low flow diverter. Results from the testing did not indicate any significant problem

areas and the effects of the Race Track were again inconclusive.

The 2000 dry weather field screening data continued to build on the database the City has established. The report identified two locations with high levels of coliform (both flowing to the Seascape Sur Outfall). The City conducted an investigation and sealed off an old leaking sewer lateral that was found to be located near the curb inlet of the upstream site with elevated bacteria counts. The City contracted with Kinnetic Labs to provide additional testing, which showed reduced counts during the follow-up tests. The 2000 report recommended that the City clean several sites of trash and debris, which was done.

The 2001 DWMP included ten sites for testing, including the same two sites that had elevated bacteria counts in 2000, and Fletcher Cove Outfall (where the diverter is in operation). Site S-13A and S-13 were also included to detect the effects of the Del Mar Race Track during racing season. Seven of the ten sites had at least some flow or ponded water; and one site (S-02) required a follow-up investigation based on elevated levels of fecal and coliform bacteria. Although the S-02 site had elevated bacteria levels, they were lower than the previous year, which led City staff to believe that the problem (for which repairs had been recently completed), was simply residual bacteria. As a result, the City ordered that the line between the curb-inlet and the outfall be cleaned.

The 2002 DWMP increased the number of sites from 10 to thirty-one, with a representation of all five watershed sub-basins in the City. Sites were selected ensuring that historical problem areas, drainage to sensitive water bodies and sites with potential discharge from commercial areas were all represented. This was the first year of dry-weather monitoring under the new Permit, which included specific rules and guidelines developed by the Copermittees to ensure consistency. Some of the keys findings include the following:

- Water clarity at all but one site was clear.
- Floating trash was observed at four sites and sedimentation was observed at four sites.
- At the majority of sites, there was no biological activity noted.
- One site had excessive algae growth, while four had some vegetation and algae growth.
- All sites had pH levels below the action levels agreed upon by the Copermittees.
- Several sites had elevated levels of Ammonia, which triggered a follow-up investigation.
- Elevated levels of detergents were found at one site; as a result, staff has scheduled some time to pass out “door-hanger” flyers to educate the surrounding

community as to the cause of this result (which is likely due to car washing, which is prohibited in the City).

- Levels of the all of the following were below the Copermittee action levels: oil and grease, surfactants, Diazinon[1], Chlorphyrifos and dissolved cadmium, copper, lead and zinc.

7.4.2 Results from the 2003-2008 DWMPs

The Dry Weather Monitoring Programs from 2003-2007 were all conducted under the requirements of Permit Order No. 2001-01, and the 2008 program was conducted under the similar requirements of Permit Order No. 2007-0001. Although the results were slightly different from year-to-year, the program results can be generally summarized into the following information. Each year, there were approximately 28-30 sites chosen, depending on the amount of flow in each year. The sites were relatively static throughout the years, as the City has identified the key catch basins/outfalls/manholes in each sub-basin and has monitored them every year. There is one significant problem area that has been identified and it has been the subject of an ongoing IDDE investigation for years. Chapter 12 “Special Investigations” of the JURMP Annual Report is dedicated entirely to this ongoing problem, so all the information can be found there. The City has worked tirelessly on this ongoing problem and plans to continue until a resolution is found.

7.4.3 Results from the 2009 DWMP

The 2009 Dry Weather Monitoring Program is included as an attachment to the 2009 JURMP Annual Report (Appendix V).

7.5 Action Levels to Trigger Follow-up Investigations

The City collaborates with the other Copermittees of Order 2007-0001 in developing the standardized responses, procedures, processes, policies and programs by participating in the Dry Weather Monitoring Workgroup. This helps by providing consistency in messages, requirements and community expectations. This includes the continuation of the “Trash Assessment Form” analysis at each site, which is a new requirement included in Permit Order No. 2007-0001. This form was utilized during the 2008 and 2009 DWMPs for all Copermittees and is included in the 2009 DWMP report. These assessment forms will assist the Copermittees in long-term assessments of DWMP sites, to determine any trends in the prevalence of trash throughout the City. It should be noted that there were no locations in the 2009 DWMP where the sites were less than Optimal. Trash does not appear to be a problem in the City’s MS4 system.

7.6 Coastal Monitoring Program

The purpose of the City's Coastal Outfall Monitoring program is to detect IDDEs through monitoring of the City's coastal outfalls, and to protect human health and public safety by notifying the public of any potential health hazards in the ocean. Prior to 2002, the San Diego County Department of Environmental Health designed and conducted the Coastal Outfall Monitoring Program. In 2002, the City utilized its own staff to conduct an inventory of its outfalls and design the monitoring program, which is currently being implemented.

During this reporting period, the Coastal Monitoring Workgroup, comprised of the cities that have storm drains that flow into the ocean, met monthly to discuss pertinent issues and establish monitoring guidelines and reporting limits. Here is a brief description of the City's Coastal Monitoring Program for FY 08/09.

As stated in last year's Annual Report, the new Permit requires Copermittees to monitor all flowing coastal outfalls located within the City. The sampling frequency is once per month required during both the wet and dry season (two samples at each location, one at storm drain, one at receiving waters). The samples are taken to a State-certified laboratory for analysis of three parameters; Total Coliform, Fecal Coliform, and Enterococcus.

Under the new Permit, the City monitors one coastal outfall (Seascape Outfall). The other coastal outfall in the City (Fletcher Cove Park) is connected to a Low Flow Diverter and sampling is not required.

The Seascape Outfall has had historical problems and is the current target of an ongoing IDDE investigation. This is discussed in detail in Chapter 12 of the JURMP Annual Report. For complete results, please see the Coastal Outfall Monitoring Annual Report submitted annually with the County Unified URMP.

7.7 Wet Weather Monitoring

The Copermittees of Order 2007-0001 collectively hired MEC Analytical again to continue the Wet Weather Monitoring Program (WWMP) for 2008/09. The complete report can be found in the County Unified URMP annual submittal.

7.8 MS4 Map

The City has a Geographic Information System (GIS) map of all catch basins in the located throughout the City. The City also has a Drainage Master Plan that includes all storm drain conveyance structures included (catch basins, inlets, outfalls, manholes,

drainage channels, etc.) available in GIS format that is accessible digitally. In addition, the City has an independent consultant working on a new database that will incorporate the Drainage Master Plan, will allow violations to be tracked and documentation of maintenance and inspection of long-term construction BMPs. The intent of the new database will be to house all pertinent information into one location, making tracking and record retention much more efficient. The database is still under construction but hopefully will be functional during this next reporting period.

7.9 New Activities and Improvements in FY 09/10

The City will analyze its 2009 DWMP in FY 09/10, review the results in detail and integrate the findings into program activities. City staff will evaluate the results to determine areas within the city (residential and commercial etc.,) that need additional education to improve the water quality in the region. The City will use the results from the previous DWMP to design the 2009 DWMP and attempt to conclude the special investigation (see Chapter 12). The ongoing problem at Seascape Sur, which was detected again in this reporting period's Coastal Monitoring and Dry-Weather Monitoring Programs, are discussed in greater detail in Chapter 12 (Special Investigations) of the JURMP annual report.

Additionally, City staff continued enforcing the Grease Management Ordinance, including inspecting the grease management devices during the commercial/industrial restaurant inspections. Staff, or its designated consultant, will continue to inspect the grease traps/interceptors during future annual storm water inspections to ensure that proper maintenance is being conducted and records kept on-site. Analysis on the effects on sewer spills will also being conducted in the next few years to see if the ordinance has had a successful impact on reducing spills as a result of grease build-up.

Additionally, it is anticipated that the WURMP workgroups will begin analyzing the Dry Weather Programs of partnering jurisdictions and begin tailoring some of those activities to address high priority pollutants, and the activities/sources associated with them. In the years past, jurisdictions would self analyze their respective programs to address high priority locations and sources, but with the added emphasis on WURMP activities stressed by the RWQCB staff, these issues will now be attacked on a watershed basis. This has the potential to provide more knowledge and resources that were previously limited by staff resources, but now with the assistance of neighboring jurisdictions, this may prove very valuable. The DWMPs can be used to identify problem areas that may have a particular cluster of sources upstream, and will help focus the WURMP activities on these areas in mini-pilot programs to determine if the source can be identified or, maybe as important, eliminated as a possible source so that resources can be focused

on other potential sources.

7.10 Summary

As evidenced by the Copermittee WWMP, the City's DWMP, the City's "team approach" in responding to complaints, and the improvements made citywide in procedures and investigative processes, the City is proficient and effective at detecting and eliminating IDDEs, and working to change the human behavior that has caused negative impacts on water quality.

Recognizing that human behavior is the basis of many non-point source pollution problems, the City quickly acts on reports from residents, City staff, and other agencies to follow up on problems as soon as they are reported. The City's storm water hotline is link directly to the Environmental Program Manager's voice mail box so that calls can be consistently monitored and acted upon. The City has effectively utilized the administrative fine process which has proven to be a very efficient and timely procedure in issuing citations, which will reduce the potential for pollution into the City's MS4.

The City's aggressive sewer maintenance program and grease management ordinance has proved to be successful in preventing sewer spills. These programs are vital to prevent the catastrophic environmental effects that sewer spills have on the natural environment. In addition, the proactive approach that City staff takes in educating contractors before there is an illegal discharge has greatly reduced the amount of violations in the City. This is extremely evident by the concrete truck and pumper scenario discussed above. The violations at minor construction projects have reduced as a result of this proactive approach.

In addition, as a result of the effects of the long-term drought the region is mired in, water conservation efforts have been stepped up, which has proven to also help water quality in the City. The City has stepped up its educational outreach efforts with the assistance of the local water provider Santa Fe Irrigation District, and the community has responded extremely well. This has helped to reduce the dry weather flows into the City's MS4 system, thereby reducing the primary transport mechanism for pollutants entering the local waterways. Over-irrigation has reduced dramatically, and the City and residents have responded by planting more drought tolerant and native vegetation. Overall, water consumption is down close to 20% since the proactive and aggressive educational water conservation campaign has started. The City has forged a great relationship with the private water agency and the results have benefitted both water conservation and water quality. This is evident in the only two DWMP sites (out of 30 total sites) that had enough water present to take a sample.

CHAPTER 11: EFFECTIVENESS ASSESSMENT COMPONENT

This to be added to existing Chapter 11 component of 2009 JURMP Annual Report…….

Illicit Discharge Detection and Elimination Component

Program Strengths: The City continued to implement its IDDE program by responding to complaints and investigating potential violations promptly and thoroughly. The City serves the community effectively and efficiently by connecting the storm water hotline directly to the Environmental Programs Manager, saving valuable time and effort. The program has proven to be very successful as the community of Solana Beach is very intimate and prefers to do business face-to-face and requires immediate results. The City has a very customer service focused atmosphere, and the residents demand instant and effective action on relevant issues. This has, in turn, been very beneficial to the storm water program because many times, in order to effectively deal with a violation or IDDE, it has to be investigated immediately. This has led to many violations and violators being discovered while it is occurring, rather than letting time elapse which can lead to a lengthy and complex IDDE investigation that may yield no results.

The 2009 Dry Weather Monitoring Program (DWMP) was conducted in-house by City staff. The program was modeled after the initial report conducted by MEC Analytical, and the complete report is included in the 2009 JURMP Annual Report (Appendix V). In summary, there were no locations that showed evidence of an IDDE. This is a significant improvement over the past seven years, where the City had one persistent problem at Seascape Sur with extremely elevated bacterial indicators. This location had been an ongoing problem area in the City for many years and the source had proven elusive. The results of this year's Dry Weather Monitoring Program are extremely exciting and encouraging for City staff and the storm water program as a whole. The City had invested a significant amount of monetary and staff resources educating the adjacent property owners, cleaning the entire line annually, installing and maintaining upstream catch basin BMPs, conducting focused and thorough ongoing investigations and performing structural changes upstream to try and identify and eliminate the source. The results of the 2009 DWMP are the first real positive results the City has encountered at Seascape, and hope the source has finally been eliminated. The case is by no means closed, as this is only one year of results below the Copermittee Action Levels. But it is a significant step forward in the ongoing investigation and elimination of the persistent bacteria problem.

The City will continue to monitor the bacteria results throughout the year as part of its

Coastal Monitoring Program. In addition, the City continues to dedicate approximately $10,000 in the annual CIP budget to clean out the Seascape pipe with the intention of eliminating any residual bacteria and debris trapped in the sag in the pipe. The City will continue to work with the adjacent condominium complexes to eliminate the over-watering issues that may be contributing to the problem. City staff works very well in communicating possible IDDE situations around the outfall, as the Marine Safety Department has a lifeguard station located directly in front of the outfall (during summer months). Whenever there is a noticeable increase in flow or odor, the lifeguards are instructed to contact the Environmental Programs Manager to investigate. This will continue to occur until a remedy is found for the problem outfall. More information on this problem area can be found in Chapter 12 of the 2009 JURMP Annual Report.

It should be worth noting that in addition to the DWMP results, the Coastal Monitoring Program sampling results post-reporting period for Seascape Sur have dramatically improved. This may be the results of the aggressive educational outreach, the installation of the curb screen debris BMPs or a combination of both, but the results have been much lower than in previous years. Although it's only been a few months since the end of the reporting period, it's a positive improvement that will be analyzed throughout FY 2009/2010 and reported in next year's Annual Report.

One strength of the City's IDDE program is the aggressive sewer maintenance program. The City contracts with a private contractor to clean and video every sewer line in the City at least once annually and the "hot spots" are cleaned quarterly. This helps prevent the buildup of roots and grease in the system, preventing possible blockages and spills. Another strength is the aggressive Grease Management Ordinance that requires not only new and remodeled restaurants and eating establishments to install appropriate grease interceptors or traps, but also requires existing restaurants to install devices as well. This aggressive approach was adopted to address a specific problem area in the City, and the results have been overwhelmingly positive. The amount of grease buildup in the sewer lines of the "hot spot" has been drastically reduced, and there has not been a spill in the targeted area since the adoption of the ordinance.

Another strength of the program was the hiring of an additional part-time Code Enforcement Officer to assist with the storm water program. This part-time staff member made it a priority to engage the public when he noticed a potential violation occurring or about to occur. This is why the number of Staff contacts jumped drastically from last year's report of 87 storm water investigations to 220 during this reporting period. The City believes being proactive is an important part of storm water pollution prevention, and made this a priority by hiring a part-time code enforcement officer.

Improvement Areas: During the next reporting period, the City is committed to

eliminating the historical bacteriological problem at the Seascape outfall. More aggressive actions may have to be taken to determine the ultimate source of the problem. The IDDE investigations discussed in previous annual reports have turned out to be inconclusive; so the City may have to look at alternate solutions, such as a permanent BMP structure installation (i.e. Low Flow Diverter) or the possibility of blocking off the connections to the storm drain and rerouting the site drainage of the neighboring condominiums to the street before entering the catch basin. These solutions would be very expensive, and since the receiving water has not been affected yet, the City will continue to pursue the elimination of the bacteria at its source. As mentioned above, the results of the 2009 DWMP and Coastal Monitoring Program post-reporting period have shown a significant improvement in the water quality at Seascape, but more work still needs to be done. Additionally, the City will continue to gather and analyze additional data from the wet weather and dry weather programs and compare the datasets to determine other potential IDDE problems.

APPENDIX V: 2009 DRY WEATHER MONITORING PROGRAM RESULTS

THE ATTACHED DOCUMENT IS A COPY OF THE

PROGRAM DESCRIPTION,
NARRATIVE SUMMARY
AND
RESULTS SECTIONS
OF THE

City of Solana Beach
2009 Dry Weather Field Screening Program

Prepared by the City of Solana Beach

TABLE OF CONTENTS

APPENDIX V: 2009 DRY WEATHER MONITORING PROGRAM RESULTS I

1.0 EXECUTIVE SUMMARY 1

2.0 INTRODUCTION 1

- 2

- 2

2.1 Land Use Characteristics 3

3.0 METHODS 4

4.0 RESULTS 1

4.2 Field Chemical Analyses 2

4.3 Laboratory Chemical Analyses 4

4.4 Trash Assessment Monitoring 8

5.0 DISCUSSION 8

6.0 CONCLUSIONS 9

1.0 EXECUTIVE SUMMARY

The Dry Weather Field Monitoring Program (DWMP) is an integral part of the National Pollutant Discharge Elimination System (NPDES) Storm Water Permit issued to the City of Solana Beach (City) and other Copermittees by the San Diego Regional Water Quality Control Board (RWQCB).

The City of Solana Beach has implemented a comprehensive Storm Water Pollution Prevention Program. In 2009, twenty-eight sites were inspected with **no storm water conveyance** line showing evidence of an illicit discharge or illegal connection. This is a significant change from the last seven years of the Dry Weather Monitoring Program as there was always one line that showed persistent presence of high bacteria counts. It appears as if the mystery of the Seascape Sur bacteria source may have been eliminated. The City has focused an intense amount of time and resources over the past seven years to identify and eliminate the source of the high bacteria counts, and we may have finally succeeded in remedying the one problem area within the City.

In August 2009, City of Solana Beach staff conducted inspections at twenty-eight sites under the 2009 Dry Weather Monitoring Program regulations set forth in the NPDES Storm Water Permit Order No. 2007-0001. Each site was visually and chemically inspected for illegal discharges and/or illicit connections. The results were recorded on field data sheets and are included in the appendices of this Dry Weather Monitoring Program report.

2.0 INTRODUCTION

The Illicit Connection/Illegal Discharge Dry Weather Monitoring Program is one of the required tasks of the Storm Water NPDES Permit issued by the San Diego Regional Water Quality Control Board, under Order No. 2007-0001. This is the second year under this new Permit, which replaced NPDES Order No. 2001-01, that the San Diego Copermittees have conducted this particular dry weather monitoring program. The permit requires the City of Solana Beach, and all Copermittees, to develop and implement programs to prevent, reduce, and eliminate inappropriate discharges of pollutants from storm water conveyances into the waters of the United States.

The purpose of the Dry Weather Monitoring Program is to detect illicit connections and/or illegal discharges to the storm water conveyance system. In order to accomplish this goal, strategic sites were identified to test for chronic and/or improper discharges. Chemical parameters specified by the U.S. Environmental Protection Agency (EPA) for field screening were used as indicators of potential pollution from industrial, commercial, or domestic sources. The EPA has presented the following most common non-storm water sources and has placed them into three contamination categories: pathogenic/toxic, nuisance, and clear. The pathogenic/toxic category can cause illness upon contact or consumption. The nuisance category can cause degradation of water quality and impair aquatic ecosystems. Clear water usually comes from natural sources such as springs and

ground water infiltration. Table 1 displays the potential for these sources to enter the storm drainage system (EPA 1993).

Table 1: Potential Inappropriate Entries Into Storm Drainage Systems (EPA 1993)

Potential Source:	Storm Drain Entry		Flow Characteristics		Contamination Category		
	Direct	Indirect	Contin-uos	Inter-mittent	Patho-genic/ toxic	Nuis-ance	Clear
Residential Areas:							
Sanitary wastewater	●	❍	●	❍	●	❍	
Septic tank effluent		●	●	❍	●	❍	
Household chemicals	❍	●		●	●		
Laundry wastewater	●			●		●	
Excess landscaping watering		●		●	❍	❍	●
Leaking potable water		●	●				●
Commercial Areas:							
Gasoline filling station	●	❍		●	●		
Vehicle maintenance/ repair	●	❍		●	●		
Laundry wastewater	●		●	❍	❍	●	
Construction site de-watering		●	●	❍		●	
Sanitary wastewater	●	❍	●		●		
Industrial Areas:							
Leaking tanks and pipes	❍	●	●	❍	●		
Miscellaneous process waters	●	❍	●	❍	●	❍	❍

Note: ● - most likely condition
❍ - may occur
Blank - not very likely

Discharges to the storm water conveyance system can originate from a variety of sources. The following provides a brief discussion of potential sources:

- Sanitary wastewater sources:
  - Sanitary wastewater (usually untreated) from improper sewer connections, exfiltration, or leakage
  - Effluent from improperly operating, or improperly designed, nearby septic tanks

- Automobile maintenance and operation sources:
  - Car wash wastewater
  - Radiator flushing wastewater
  - Engine degreasing wastes
  - Improper oil disposal
  - Leaky underground storage tanks

- Irrigation sources
  - Lawn runoff from over-watering
  - Direct spraying of impervious surfaces

- Relatively clean sources:
  - Infiltrating groundwater
  - Water routed from pre-existing springs or streams
  - Infiltrating potable water from leaking water mains

- Other Sources
  - Laundry wastewater
  - Non-contact cooling waters
  - Metal plating baths
  - Dewatering of construction sites
  - Washing of concrete trucks
  - Sump pump discharges
  - Improper disposal of household toxic substances
  - Spills from roadway and other accidents
  - Chemical, hazardous materials, garbage, sanitary sludge landfills and disposal sites

2.1 Land Use Characteristics

The City of Solana Beach consists of a total drainage area of 2,158 acres. The land use characteristics are estimated as follows (SANDAG 2000):

Agriculture	4 acres
Commercial and office	192 acres

Industrial	35 acres
Parks and Recreation	246 acres
Public Facilities and Utilities	110 acres
Residential	1436 acres
Transportation	98 acres
Undeveloped	37 acres
Water	1 acre

Figure 1 gives a visual presentation of the land use characteristics for the City of Solana Beach.

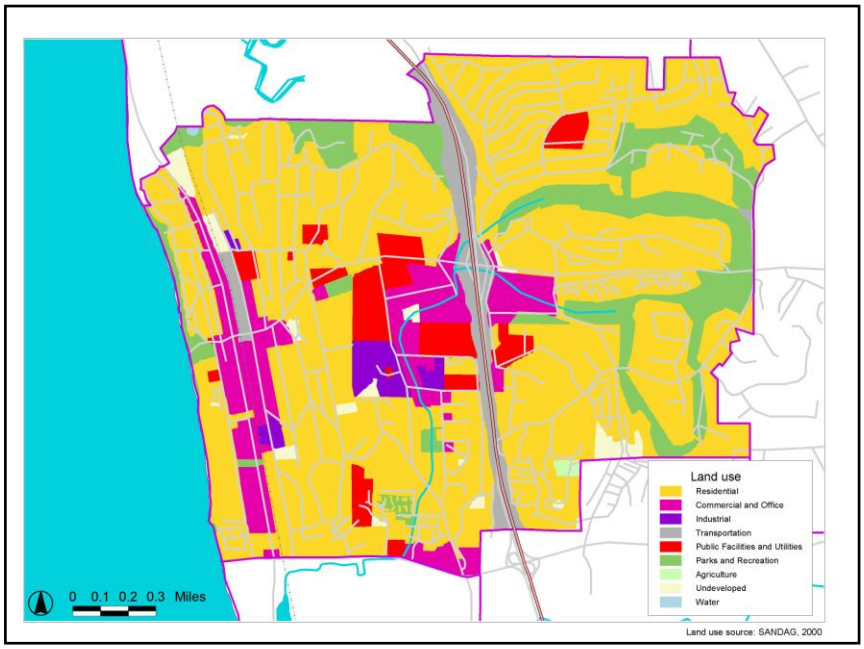


Figure 1. Land use in Solana Beach.

3.0 METHODS

This year marked the second year of dry weather monitoring conducted under the new municipal storm water discharge permit. Under the "Receiving Waters and Urban Runoff Monitoring and Reporting Program No. R9-2007-0001" Section II. B. 3, specific requirements for field observations, field screening monitoring and analytical monitoring are listed. Further, the Copermittee Monitoring Workgroup has developed protocols for the jurisdictions to use to ensure consistency among the Copermittees.

First, the City selected dry weather field screening and analytical monitoring stations based on the criteria listed in the Order. In determining which storm drains and/or outfalls to monitor, a map was analyzed and sites were prioritized and selected based on the following:

- Review of the City's past Dry Weather Monitoring Programs
- Stations should be located downstream of any sources of suspected illegal or illicit activity
- Stations shall be located to the degree practicable at the farthest manhole or other accessible location downstream in the system within each cell
- Hydrological conditions, total drainage area of the site, traffic density, age of the structures or buildings in the area, history of the area, and land use types shall be considered in location stations
- Each Copermittee shall determine alternate stations to be sampled in place of selected stations that do not have flow

The City of Solana Beach is relatively small with highly defined geographic boundaries. The City is bordered to the north by the San Elijo Lagoon, the west by the Pacific Ocean, the south by the San Dieguito Lagoon and the east by the County of San Diego. All major outfalls on each border were selected for this program, along with the furthest accessible downstream storm drain structure for each sub-basin. These sites were selected with the thought that if any water were present in the structures furthest downstream, then upstream investigations would take place to determine the source of the water during dry periods. Therefore, no "alternate" stations were identified because staff would investigate all catch basins upstream from flowing or ponded outfalls/catch basins to attempt to find the source. Based on the above criteria, the following sites were selected for the City of Solana Beach.

Four monitoring locations were selected within the coastal basin based on historical problem areas and proximity to the Pacific Ocean (Sites 11, 24, 25 and 26). Three monitoring locations were selected within the Fletcher Cove Basin based on their drainage to sensitive water bodies (Sites 20, 21, and 23). Eleven sites were selected within the San Elijo Basin. These sites were chosen based on their proximity to the environmentally sensitive San Elijo Lagoon, at the furthest possible point downstream before it enters the lagoon (Sites 1-10 and 22). Seven sites were chosen for the largest basin in the City, the Steven's Creek Basin (Sites 12-17, 19). The majority of this basin drains into Stevens Creek. Monitoring locations were selected at specific points throughout the basin based on the combination of criteria discussed in the previous paragraph. These sites were chosen to capture data from all the different land uses in the basin. These include industrial, residential, commercial and parks. The last basin, the Via de la Valle East Basin, is located in the southeast portion of the City. Three monitoring locations were selected there to monitor what was leaving the City and entering the City of San Diego (Sites 18, 27, and 28).

An initial list of potential monitoring locations was developed. Twenty-eight sites met the criteria and were selected for the 2009 Dry Weather Monitoring program. All twenty-eight sites were identified as primary sites for monitoring based on the factors listed previously within this report.

In accordance with Order No. 2007-0001, City staff made an initial visit to each site to determine if there was flow present, ponded water, or if the storm drain structure was dry.

Field data sheets were used to record site descriptions and characteristics, flow estimations, visual observations, and field chemistry results (see Table 3 for a summary of field observations; individual data sheets are included in Appendix C). A new requirement included in Order No. 2007-0001 was the development of a Trash Assessment program. This program will be used to assess the presence of trash in receiving waters and urban runoff at each dry weather field screening or analytical monitoring station. Assessments of trash shall provide information on the spatial extent and amount of trash present, as well as the nature of the types of trash present. The Copermittees met and developed the "Trash Assessment Form" which is included with each Dry Weather Monitoring Field Datasheet for each station. This is the second year collecting visual data on trash at each site, with the intent being to characterize the amount of trash collected by the MS4 and to assess the long term progress of reducing or eliminating this pollutant if present.

If flowing or ponded water was observed during the initial visit, water quality tests were conducted. Sites that had elevated chemistry levels or abnormal visual observations were investigated immediately and the site was revisited within a period of not less than four hours and not more than twenty-four hours. Observations and chemical testing were repeated during the second visit. If the site was dry on the initial visit, a follow-up visit was not conducted.

Sites 14 and 25 had ponded and flowing water present, respectively. Field screen tests and lab analysis were performed on both stations. The Order only requires that jurisdictions take ¼ (25%) of samples that were field screened to lab for analysis, but the City decided that since there were so few sites that had enough water to sample, it would be prudent to take them all to the lab for analysis.

Samples were collected by inserting a pre-cleaned HDPE bottle into the middle of the flowing or ponded water. Samples were tested on-site using CHEMetrics field test kits for the colorimetric analysis of ammonia, nitrate-N, orthophosphate-P, and detergents. In addition to the colorimetric analyses, the samples were also analyzed for pH, conductivity, and temperature using an Oakton Model 35630-62 pH/Conductivity/ Temperature Meter. Turbidity was measured using a Hach 2100P Turbidimeter..

Table 2 presents the specific ranges and detection limits of the field test kits and meters.

Table 2: Range and Detection Limits for Field Test Kits and Meters

Parameter	Kit or Meter	Range	Detection Limits (mg/L)	Accuracy/ Increment
pH	Oakton Model 35630-62 pH/ Conductivity/ Temperature Meter	0.00 to 14.00 pH	NA	± 0.01 pH
Temperature (^{o}C)	Oakton Model 35630-62 pH/ Conductivity/ Temperature Meter	0 to 100 ^{o}C	NA	± 0.5 ^{o}C
Conductivity (mS/cm @ 25 ^{o}C)	Oakton Model 35630-62 pH/ Conductivity/ Temperature Meter	0.0 to 19.99 mS/cm	NA	± 1% Full Scale ± 1 Digit
Turbidity	Hach Model 2100P Turbidimeter	0-1000 NTU	NA	± 2% of reading plus stray light from 0-1000 NTU
Ammonia (mg/L)	CHEMetrics K-1510	0-1.0 and 1.0-10.0 mg/L	0.1	NA
Nitrates (mg/L)	CHEMetrics K-6902	0 – 1.0 and 1.0-5.0 mg/L	0.05	NA
Detergents (mg/L)	CHEMetrics	0-3.0 mg/L	0.25	NA
Phosphate (mg/L)	CHEMetrics K-8510	0 –1.0 and 1.0-10.0 mg/L	0.1	NA

4.0 RESULTS

Table 3 presents a detailed summary of all chemical, biological and visual observations made during the 2009 Dry Weather Screening Program. The following provides a brief discussion about the purpose and results of visual observations and chemical and biological tests.

TABLE 3

SITE CHARACTERISTICS							
Site ID	**Watershed**	**Location Description**	**Drainage Area Land-Use (1)**	**Conveyance Type (2)**	**Conveyance Construction (3)**	**Date**	**Time**
1	Carlsbad	Rios Road Trailhead	Residential	Catch Basin	Concrete	8/10/2009	8:30 AM
2	Carlsbad	Glenmont/Rawl	Residential	Catch Basin	Concrete	8/10/2009	8:30 AM
3	Carlsbad	Santa Inez Outfall	Residential	Outlet	Concrete/Steel	8/10/2009	9:00 AM
4	Carlsbad	626 Canyon Dr	Residential	Catch Basin	Concrete	8/10/2009	9:20 AM
5	Carlsbad	635 Canyon Dr	Residential	Catch Basin	Concrete	8/10/2009	9:25 AM
6	Carlsbad	Highland Ave (Executive Golf Course)	Residential/Parks	Catch Basin	Concrete	8/10/2009	9:40 AM
7	Carlsbad	Santa Helena Trailhead	Residential	Catch Basin	Concrete	8/6/2009	9:45 AM
8	Carlsbad	Santa Carina Trailhead	Residential	Catch Basin	Concrete	8/10/2009	9:50 AM
9	Carlsbad	Santa Luisa Outfall	Residential	Catch Basin	Concrete	8/10/2009	10:25 AM
10	Carlsbad	East Side Railroad Tracks	Residential/Commercial	Channel	Concrete	8/6/2009	11:00 AM
11	Carlsbad	645 Pacific	Residential	Catch Basin	Concrete	8/10/2009	11:20 AM
12	San Dieguito	Steven's Creek Outfall	Residential/Commercial/ Industrial/Parks	Open Channel/Box Culvert	Concrete Channel/Natural Creek	8/10/2009	11:35 AM
13	San Dieguito	Valley (N. Baker Iron Works)	Residential/Industrial/ Commercial	Catch Basin	Concrete	8/10/2009	11:45 AM
14	San Dieguito	Genevieve Ave/Steven's Creek	Residential/Commercial	Outfall	Concrete Channel	8/5/2009	10:00 AM

SITE CHARACTERISTICS (continued)

Site ID	Watershed	Location Description	Drainage Area Land-Use (1)	Conveyance Type (2)	Conveyance Construction (3)	Date	Time
15	San Dieguito	309 Solana Hills Drive	Residential	Catch Basin	Concrete	8/10/2009	1:00 PM
16	San Dieguito	559 Glencrest Ave	Residential	Catch Basin	Concrete	8/10/2009	1:15 PM
17	San Dieguito	Wells Fargo	Residential/Commercial	Catch Basin	Concrete	8/10/2009	1:25 PM
18	San Dieguito	Avocado Place	Residential	Catch Basin	Concrete	8/10/2009	1:45 PM
19	San Dieguito	Dell Street	Residential/Parks	Catch Basin	Concrete	8/10/2009	2:10 PM
20	San Dieguito	South Cedros/Via De La Valle	Residential/Commercial	Catch Basin	Concrete	8/12/2009	1:00 PM
21	San Dieguito	605 Marsolan Ave	Residential/Commercial	Catch Basin	Concrete	8/12/2009	1:05 PM
22	San Dieguito	779 Barbara Ave	Residential	Catch Basin	Concrete	8/12/2009	1:20 PM
23	San Dieguito	North Cedros/Lomas Santa Fe	Residential/Commercial	Catch Basin	Concrete	8/12/2009	1:30 PM
24	San Dieguito	347 Acacia St	Residential	Catch Basin	Concrete	8/12/2009	1:45 PM
25	San Dieguito	Seascape (Outfall)	Residential/Commercial	Outfall	Steel	8/5/2009	8:30 AM
26	San Dieguito	248 Sierra Ave	Residential	Catch Basin	Concrete	8/12/2009	1:55 PM
27	San Dieguito	San Andreas (City Limits)	Residential	Catch Basin	Concrete	8/12/2009	2:15 PM
28	San Dieguito	Spindrift Way/American Lane	Residential	Catch Basin	Concrete	8/12/2009	2:20 PM

QUALITATIVE OBSERVATIONS

Site ID	Estimated Flow (gpm)	Light Conditions	Odor	Color	Clarity	Floatables	Deposits	Vegetation	Biology	Other
1	Dry	Sunny	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Catch basin dry
2	Dry	Sunny	Damp/No Flow	Damp/No Flow	Damp/No Flow	Damp/No Flow	Damp/No Flow	Damp/No Flow	Damp/No Flow	Catch basin damp; no flow observed.
3	Dry	Sunny	None	None	None	None	None	None	None	Dry, no flow observed.
4	Dry	Sunny	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Catch basin dry; no flow observed.
5	Dry	Sunny	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Catch basin dry; no flow observed.
6	Damp	Sunny	Damp/No Flow	Damp/No Flow	Damp/No Flow	Damp/No Flow	Damp/No Flow	Damp/No Flow	Damp/No Flow	Catch basin damp, not enough to sample. Evidence of overland flow from irrigation.
7	Dry	Sunny	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Catch basin dry; no flow observed.
8	Dry	Sunny	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Catch basin dry; no flow observed.
9	Dry	Sunny	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Catch basin dry; no flow observed.
10	Dry	Sunny	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Concrete channel dry; no flow observed.
11	Damp	Sunny	Damp/No Flow	Damp/No Flow	Damp/No Flow	Damp/No Flow	Damp/No Flow	Damp/No Flow	Damp/No Flow	Catch basin damp, not enough to sample.
12	Dry	Sunny	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Box culvert damp; not enough to sample.
13	Dry	Sunny	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Catch basin dry; no flow observed.
14	Ponded	Sunny	None	None	Clear	None	Sediment/ Gravel	Normal	Insects, Fish, Crawfish	No flow coming from Outfall; significant water ponded in Stevens Creek concrete channel; no overland flow; fish & crawfish detected in water.

QUALITATIVE OBSERVATIONS (continued)

Site ID	Estimated Flow (gpm)	Light Conditions	Odor	Color	Clarity	Floatables	Deposits	Vegetation	Biology	Other
15	Dry	Sunny	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Catch basin dry; no flow observed.
16	Dry	Sunny	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry, no flow observed.
17	Dry	Sunny	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Catch basin dry; no flow observed.
18	Dry	Sunny	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Catch basin dry; no flow observed.
19	Dry	Sunny	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Catch basin dry; no flow observed.
20	Dry	Sunny	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Catch basin dry; no flow observed.
21	Damp	Partly Cloudy	Damp/No Flow	Damp/No Flow	Damp/No Flow	Damp/No Flow	Damp/No Flow	Damp/No Flow	Damp/No Flow	Catch basin damp; no flow observed.
22	Dry	Partly Cloudy	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Catch basin dry; no flow observed.
23	Dry	Partly Cloudy	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Catch basin dry; no flow observed.
24	Dry	Partly Cloudy	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Catch basin dry; no flow observed.
25	Flowing	Sunny	Musty	None	Clear	None	None	None	None	Slow trickle coming out of outfall; flow was no reaching receiving water. Slightly musty with no color and no evidence of overland flow.
26	Dry	Partly Cloudy	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Catch basin dry; no flow observed.
27	Dry	Sunny	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Catch basin dry; no flow observed.
28	Damp	Partly Cloudy	Damp/No Flow	Damp/No Flow	Damp/No Flow	Damp/No Flow	Damp/No Flow	Damp/No Flow	Damp/No Flow	Catch basin damp; no flow observed.

LAB ANALYSIS																				
Site ID	**Surfactants**		**Oil and Grease**		**Total Hardness mg/L**		**Cadmium (dissolved)**		**Copper (dissolved)**		**Lead (Pb) (dissolved)**		**Zinc (dissolved)**		**Diazinon**		**Chlorpyrifos**		**Malathion**	
	mg/L	DL	mg/L	DL	CaCO3	DL	mg/L	DL	mg/L	DL	mg/L	DL	mg/L	DL	ug/L	DL	ug/L	DL	ug/L	DL
14	ND	0.5	ND	5	832	10	ND	0.005	ND	0.005	ND	0.005	ND	0.02	ND	0.05	ND	0.05	ND	0.05
25	6.3	0.5	ND	5	517	10	ND	ND	0.0320	0.005	ND	0.005	0.055	0.02	ND	0.05	ND	0.05	ND	0.05

	BACTERIAL ANALYSIS					
Site ID	**Total Coliform**		**Fecal Coliform**		**Enterococcus**	
	MPN/100ml	DL	MPN/100ml	DL	MPN/100ml	DL
14	2,000	50,000	2,000	20,000	7	10,000
25	30,000	50,000	4,000	20,000	1,600	10,000

FIELD SCREENING							
Site ID	**Temperature °C**	**pH**	**Turbidity NTU**	**Conductivity uS/cm**	**Nitrate mg/L NO_3-N**	**Ammonia mg/L NH_3-N**	**Reactive Phosphorus PO_4-P mg/L**
1	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8	N/A	N/A	N/A	N/A	N/A	N/A	N/A
9	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10	N/A	N/A	N/A	N/A	N/A	N/A	N/A
11	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12	N/A	N/A	N/A	N/A	N/A	N/A	N/A
13	N/A	N/A	N/A	N/A	N/A	N/A	N/A
14	18	7.9	12	6.3	0	0.5	0
15	N/A	N/A	N/A	N/A	N/A	N/A	N/A
16	N/A	N/A	N/A	N/A	N/A	N/A	N/A
17	N/A	N/A	N/A	N/A	N/A	N/A	N/A
18	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20	N/A	N/A	N/A	N/A	N/A	N/A	N/A
21	N/A	N/A	N/A	N/A	N/A	N/A	N/A
22	N/A	N/A	N/A	N/A	N/A	N/A	N/A
23	N/A	N/A	N/A	N/A	N/A	N/A	N/A
24	N/A	N/A	N/A	N/A	N/A	N/A	N/A
25	18.3	8.17	5	2.92	0	3	0
26	N/A	N/A	N/A	N/A	N/A	N/A	N/A
27	N/A	N/A	N/A	N/A	N/A	N/A	N/A
28	N/A	N/A	N/A	N/A	N/A	N/A	N/A

4.1 Visual Observations

Visual observations included water color, clarity, and flow rate, floating materials, biological observations, structural condition of the conveyance, and vegetative condition at the site. If any particular odors were associated with the site, those observations were also recorded.

- **Flow:** Flowing water was only observed at Site 25; a slow trickle was observed dripping from the outfall, but flow was not reaching receiving water. Although ponded water was observed at Site 14, no flow was coming from the Outfall. However, significant water was observed ponded in the Stevens Creek concrete channel, with no overland flow; fish and crawfish were detected in the water. The catch basin at Site 6 was damp, but there was not enough to sample; this site showed evidence of overland flow from irrigation sources Sites 11, 21 and 28 were damp with insufficient water available to collect a sample. Sites 1- 5, 7-10, 12-13, 15-20, 22-24 and 26-27 were all dry.

- **Odor:** Odor can be caused by chemicals from residential, commercial, and industrial discharges; and from natural sources including decaying organic matter and microbial activity.

  Only Site 25 had a slightly musty smell associated with it. This may have been due to aging organic matter within the pipe.

- **Water Color:** The apparent color of water results from dissolved substances and suspended matter. Soil runoff and decaying organic matter produce a variety of yellow, red, brown, and gray colors. Some algae and dinoflagellates produce reddish or deep yellow colors in water, while high levels of phytoplankton and other algae appear green.

  None of the sites tested produced distinctively colored samples.

- **Water Clarity:** Turbidity refers to the cloudiness of water. Water that is turbid generally has low clarity, and may appear cloudy or opaque, while less turbid water will appear clear. Suspended solids and microscopic plankton that scatter light passing through the water cause turbidity. High turbidity can be an indicator of soil runoff or blooms of microscopic organisms due to high nutrient inputs.

  Site 25, the only one observed with flowing water, was clear with a turbidity NTU of 5; and Site 14, the only one showing ponding was also clear, with a turbidity NTU of 12. All of the other sites had no flow.

- **Floatable materials:** The type of floating matter can help identify the source of contamination, since these substances are often direct products of the source of the pollution.

All of sites were free of floatable materials during the 2009 inspections.

- **Biological:** Only Site 14 indicated biological activity; insects, fish and crawfish were detected in the water ponded in Stevens Creek concrete channel.

- **Vegetative condition:** Excessive vegetation can be an indicator of elevated levels of nutrients in the runoff.

  There were no sites with abnormal vegetative growth. Vegetation was observed at Site 14 but it was normal vegetation similar to that found in the natural portion of the Stevens Creek channel.

- **Deposits:**

  Only Site 14 was observed with sediment/gravel deposits.

4.2 Field Chemical Analyses

All sites with flowing or ponded water were tested for the following parameters: temperature, pH, conductivity, turbidity, ammonia, detergents, nitrates, and orthophosphates. Only two sites that were monitored had flowing or ponded water associated with them. Both these sites had field and lab tests conducted on the water present. The results for both sites will be included under each parameter below, and any exceedances will be discussed in Section 11.6.2 of this report. Table 3 included in this report provides a detailed list of analytical results.

- **Temperature:** Extreme temperatures can be an indication of commercial or industrial runoff.

  Site 14: 18°C
  Site 25: 18.3°C

- **pH:** Measures of pH represent the intensity of the acidity or alkalinity of water, on a scale from 0 to 14.0, with 7.0 considered neutral. The pH of natural waters ranges from 6.0 to 9.0 (EPA 1993). Measurements outside of this range could be an indicator of commercial or industrial discharges.

  The pH for Sites 14 & 25 were 7.9 and 8.17 respectively – both considered neutral and within the EPA pH levels for natural waters.

- **Conductivity:** Conductivity is the measure of the ability of water to carry an electrical current and high levels are an indicator of high total dissolved solids (TDS). The conductivity of saltwater is generally above 43 uS/cm. The Copermittees have

not developed an action level for conductivity, but Best Professional Judgment (BPJ) is used. Generally, values greater than 5,000 umhos/cm may indicate an IC/ID.

Site 14: 6.3 uS/cm
Site 25: 2.92 uS/cm

Both levels were under the >5,000 uS/cm that is generally used for an IDDE investigation so no follow up from these results was required.

- **Turbidity:** Turbidity refers to the clarity of water. The cloudier the water, the higher the turbidity. Sources of turbidity include suspended organics/detritus, re-suspended bottom sediments, sediments originating from erosion, and phytoplankton. High turbidity can be an indicator of soil runoff or blooms of microscopic organisms due to high nutrient inputs.

  Site 14: 12 NTU
  Site 25: 5 NTU

  Best Professional Judgment is used for IC/ID follow up for turbidity. No follow-up was necessary from these results.

- **Ammonia**: Ammonia is a common ingredient in commercial and household cleaning products. In addition, organic material contains nitrogen, which can convert into ammonia by means of biochemical degradation. Elevated levels of ammonia can be an indication of decaying organic matter or discharges containing cleaning agents. Ammonia levels range from 6 to 380 mg/L in raw sanitary wastewater, and from 0.1 to 3.0 mg/L in all other waters (EPA 1993). The Copermittee action level for ammonia is 1.0 mg/L.

  Site 14: 0.5 mg/L
  Site 25: 3.2 mg/L

  Site 25 had a slightly elevated ammonia level but the results from the bacterial lab testing came back below action levels, so no follow-up actions were taken. This site is the subject of an intense source identification study and the lab results showed that the efforts of City staff may have finally abated the bacteria source.

- **Detergents:** Detergents are found in household and commercial cleaning and laundering products. Elevated detergent levels are a good indicator of commercial and/or residential wash water entering the storm water conveyance. Detergent (surfactant) concentrations are usually below 0.1 mg/L in natural waters and range from 1.0 to 20.0 mg/L in raw sanitary wastewaters (EPA 1993). The Copermittee action level for MBAS (detergents) is 1.0 mg/L.

  Site 14: 1 mg/L

Site 25: 2 mg/L

Site 25 exceeded the Copermittee action level, and follow-up activities were conducted as a result. An immediate upstream investigation did not reveal the source of the detergents. The most likely source of detergents at this site is residential car washing.

- **Nitrate-N:** Nitrates are commonly found in fertilizers, human or other animal wastes, in certain manufacturing processes, and in decomposing organic materials. Elevated levels of nitrate may be present in irrigation runoff, or may be indicative of an illicit connection to the storm drain system, by either commercial or residential sources. The Copermittee action level for Nitrate is 1.35 mg/L.

  Site 14: 0 mg/L
  Site 25: 0 mg/L

  Nitrates were not found at either site.

- **Orthophosphate-P**: Orthophosphate-P occurs naturally from rocks, and with the decay and mineralization of dead plants and animals, but may also indicate the presence of human sewage, and commercial, agricultural or residential waste water. The Copermittee action level for Orthophosphate is 0.07 mg/L.

  Site 14: 0 mg/L
  Site 25: 0 mg/L

  Neither site exceeded the action level for Orthophosphate.

4.3 Laboratory Chemical Analyses

In accordance with Order No. 2007-0001 Section D.4, a minimum of 25% of all sites with flowing or ponded water shall be tested for the following parameters: total hardness, surfactants (MBAS), oil and grease, diazinon, chlorpyrifos and malathion, dissolved cadmium, copper, lead, and zinc, and *Enterococcus*, total coliform, and fecal coliform bacteria. Sites 14 and 25 were selected for laboratory analysis because they had ponded and flowing water, respectively. The following provides a brief discussion of each parameter and the results at each site. Table 3 provides a detailed list of analytical results. Section 5 provides a discussion of sites that appear impacted by illicit discharges.

- **Total Hardness:** Total hardness refers to the calcium and magnesium concentrations in water. The hardness of water can vary considerably between locations. Natural sources of hardness are dissolved limestones. Guidelines for maximum dissolved metals concentrations in natural water are linked to the hardness or alkalinity of the water (i.e., the softer the water, the lower the permitted level of dissolved metals).

Site 14: 832 $CaCO_3$
Site 25: 517 $CaCO_3$

- **Surfactants (MBAS):** Surfactants are discharged from household and commercial cleaning and laundering operations. Anionic surfactants are commonly used in detergents and account for approximately two-thirds of the total surfactants used. Anionic surfactants are commonly measured as Methylene Blue Active Substances (MBAS). Surfactant concentrations are usually below 0.1 mg/L in natural waters and range from 1.0 to 20.0 mg/L in raw sanitary wastewaters (EPA 1993).

  Site 14: Non Detect (ND) mg/L
  Site 25: 6.3 mg/L

- **Oil and Grease:** The oil and grease analysis is applicable for the determination of hydrocarbons, vegetable oils, animal fats, waxes, soaps, grease, and related matter. Discharges may cause surface films and shoreline deposits leading to environmental degradation.

  Site 14: ND mg/L
  Site 25: ND mg/L

  Both sites registered Non-Detect for Oil and Grease and therefore no follow-up required.

- **Diazinon:** Diazinon is an organophosphate insecticide. It kills insects, as well as other organisms through its effect on the nervous system. It is moderately persistent and has moderate to high mobility in soil. Diazinon, in high enough concentrations, is highly toxic to birds, mammals, honeybees, and other beneficial insects. It is also very highly toxic to freshwater fish and invertebrates following acute exposure.

  Site 14: ND ug/L
  Site 25: ND ug/L

  Diazinon was not detected at either site and therefore no follow-up required.

- **Chlorpyrifos:** Chlorpyrifos is also an organophosphate insecticide and is the most widely used insecticide in the United States. It is used in agriculture on a variety of crops and for residential use as a termiticide, mosquitocide, lawn treatment, as well as other uses. It adsorbs readily to soil particles and therefore is not highly mobile in soil. Chlorpyrifos presents a high risk to birds, fish and mammals and an even a higher risk to aquatic invertebrates. The Copermittee action level for chlorpyrifos is 0.05 µg/L.

  Site 14: ND ug/L
  Site 25: ND ug/L

Diazinon was not detected at either site and therefore no follow-up required.

- **Malathion:** Malathion is an organophosphate parasympathomimetic which binds irreversibly to cholinesterase. Malathion is an insecticide of relatively low human toxicity. Malathion is a pesticide that is widely used in agriculture, residential landscaping, public recreation areas, and in public health pest control programs such as mosquito eradication. In the US, it is the most commonly used organophosphate insecticide

  Site 14: ND ug/L
  Site 25: ND ug/L

  Malathion was not detected at either site and therefore no follow-up required.

- **Dissolved Cadmium:** Cadmium occurs in sulfide minerals that also contain zinc, lead, or copper. It is used in electroplating, batteries, paint pigments, and alloys with various other metals. It is usually associated with zinc at a ratio of about one part cadmium to 500 parts zinc in most rocks and soils. It is nonessential for plants and animals and is extremely toxic and accumulates in the kidneys and liver. The average abundance of cadmium in streams is 1 µg/L and in groundwater is from 1 to 10 µg/L. The U.S. EPA primary drinking water standard MCL is 10 µg/L (Standard Methods 1998).

  Site 14: ND mg/L
  Site 25: ND mg/L

  Dissolved cadmium was not detected at either site and therefore no follow-up required.

- **Dissolved Copper:** Copper occurs in its native state, but is also found in many minerals. It is widely used in electrical wiring, plumbing, roofing, various alloys, pigments, cooking utensils, brake pads, and the chemical industry. Copper is considered an essential trace element for plants and animals. The average abundance of copper in streams is 4 to 12 µg/L and in groundwater is less than 0.1 mg/L. The U.S. EPA drinking water 90th percentile action level is 1.3 mg/L (Standard Methods 1998).

  Site 14: ND mg/L
  Site 25: 0.0320 mg/L

  Dissolved copper was below the Copermittee action level and no follow-up required.

- **Dissolved Lead:** Lead is normally found in the mineral galena. It is commonly used in batteries, ammunition, solder, piping, pigments, insecticides, and some alloys. It is

nonessential for plants and animals and is toxic by ingestion and is a cumulative poison. The average abundance of lead in streams is 3 µg/L and in groundwater is generally less than 0.1 mg/L. The U.S. EPA drinking water 90th percentile action level is 15 µg/L.

Site 14: ND mg/L
Site 25: ND mg/L

Dissolved lead was not detected at either site therefore no follow-up required.

- **Dissolved Zinc:** Zinc occurs in its native state and is used in many alloys such as brass and bronze. It is also used in batteries, fungicides and pigments. It is an essential growth element for plants and animals, but at elevated levels it is toxic to some species of aquatic life. The average abundance of zinc in streams is 20 µg/L and in groundwater is less than 0.1 mg/L. The U.S. EPA secondary drinking water standard MCL is 5 mg/L.

  Site 14: 0 mg/L
  Site 25: 0.0550 mg/L

  Dissolved zinc was below Copermittee action levels therefore no follow-up required.

- **Bacteria:** Bacteria are commonly found in human and animal feces. They are generally not harmful themselves, but they do indicate the possible presence of pathogenic bacteria, viruses, and protozoans that also live in human and animal digestive systems. Total coliform, fecal coliform and *Enterococcus* bacteria are common test organisms for water quality sampling.

  - **Total Coliforms:** Total coliforms are a group of bacteria that can occur in human feces, but can also be present in animal manure, soil and other places outside of the human body. The Copermittee action level for Total Coliform is 50,000 MPN/100mL.

    Site 14: 2,000 MPN/100mL
    Site 25: 30,000 MPN/100mL

    Neither site had results that exceeded the Copermittee action level (50,000 MPN/100mL).

  - **Fecal Coliforms:** Fecal coliforms are a subset of total coliforms and are more fecal-specific in origin. The Copermittee action level for Fecal Coliform is 20,000 MPN/100mL.Fecal coliform levels were the following:

    Site 14: 2,000 MPN/100mL

Site 25: 4,000 MPN/100mL

Neither site had bacteria readings that exceeded the Copermittee action level for Fecal Coliforms (20,000 MPN/100mL).

- **Enterococci:** Enterococci are a subgroup within the fecal *Streptococcus* group and are better suited for survivability in salt water. They are generally found in the digestive systems of humans and other warm-blooded mammals.

  Site 14: 7 MPN/100mL
  Site 25: 1,600 MPN/100mL

  Neither site exceeded the Copermittee action levels for enterococci (10,000 MPN/100mL).

4.4 Trash Assessment Monitoring

A new component added to the Dry Weather Monitoring Program in Order No. 2007-0001 is a Trash Assessment Monitoring requirement. According to the Order, Copermittees must "Assess the presence of trash in receiving waters and urban runoff at each dry weather field screening or analytical monitoring station. Assessments of trash shall provide information on the spatial extent and amount of trash present, as well as the nature of the types of trash present."

The Copermittees developed a standardized "Trash Assessment Form" (Form), through the Dry Weather Monitoring Workgroup, which encompasses all the requirements listed in Order No. 2007-0001. This Form was completed for all twenty-eight sites included in this Dry Weather Monitoring Program. Twenty-eight sites received an "Optimal" level rating, which is the highest ranking level. The Optimal level states, "On first glance, little or no trash visible. Little or no trash (<10) evident when evaluated area is closely examined for litter and debris." In last year's DWMP report, one site (Site 12) received a Suboptimal ranking, which is the next level down. However, this site increased its ranking to Optimal in this year's report, which is a significant improvement.

All Trash Assessment Forms are included with their respective Field Datasheets at the end of this Report.

5.0 DISCUSSION

During the 2009 Dry Weather Monitoring Program, two sites (Site 14 and 25) contained either ponded or flowing water and therefore field and lab testing were conducted on both. Only one site showed slightly elevated levels of analytes during the field screen testing, but neither site had levels exceeding Copermittee Action Levels during the lab testing. Since the field screening is very rudimentary and more susceptible to testing

error, it's worth noting that neither site exceeded Action Levels during the more rigorous and detailed lab analysis.

Twenty-six of the twenty-eight sites inspected this year were either dry or damp. Site 25 was the subject of an ongoing IDDE bacteria investigation, but results from this year's DWMP revealed that the bacteria levels are significantly reduced, and are under the Copermittee Action Levels. The following analytes exceeded Copermittee action levels at their respective sites:

- Site 14: N/A
- Site 25: Ammonia, Detergents (MBAS) – Field Screening Only

- **Site 14:** Samples were taken from the outfall located in Steven's Creek where the channel goes from earthen to concrete and eventually drains into the San Dieguito Lagoon. There is a small depressed area that constantly contains ponded water, and it has come to harbor small fish, tadpoles and crawdads. The water quality is good as no results came back exceeding Copermittee Action Levels.

- **Site 25:** Samples were taken from the outfall located at the Seascape Sur beach access. This outfall has historically high levels of bacteria, and the City is actively pursuing the source of the bacteria through an ongoing IDDE investigation. Last year's DWMP revealed bacteria exceedances (Total, Fecal and Entero) and field screening tests revealed exceedences in Ammonia and Detergents (MBAS). This year's DWMP revealed that the bacteria results were significantly reduced and were under the Copermittee Action Levels. However, Ammonia and Detergents (MBAS) continued to exceed the Action Levels during the field screening portion of the program. Immediate upstream investigations did not reveal the source, and it was probably due to residues from car washing. All upstream catch basins were dry and no flow was coming from the commercial property across the street or from the street.

6.0 CONCLUSIONS

The 2009 Dry Weather Monitoring Program did not find any evidence of a storm water conveyance line with an indication of illegal discharges to the City of Solana Beach's storm water system. The majority of the sites visited were dry or damp, with one site (Site 25 Seascape Sur) showing possible evidence of over-irrigation and/or car washing discharges. However, this site did not have analyte concentrations high enough to cause great concern. All necessary follow up activities did not reveal a dominant source, as the catch basins and outfalls were dry.

This site has had historical problems and has been the focus of an ongoing IDDE investigation for over seven years. A significant improvement in this conveyance line was detected as all bacteria indicators were below Copermittee Action Levels, which is a

great accomplishment. This conveyance line has been the subject of intense focus and scrutiny, costing the City large amounts of money and staff time.

This major improvement in bacteria counts is a major victory for the City. However, it is only one year and may be later determined to be an anomaly. City staff will not consider this investigation closed until we gather a few years of data to confirm the bacteria source has been eliminated. That being said, the City will continue with its efforts to educate the Beachwalk business district and adjacent private condominium complexes about the City's pollution prevention programs and continue its efforts to eliminate the discharge at Site 25 (Seascape Sur). Commercial educational programs will continue and include both the proprietors and their employees. Residential programs will include building owners, Homeowner Associations (HOA's) and residents. An informed public will provide support for new and already existing prevention programs.

Additionally, the City will continue to explore options for capital improvements in the Seascape area if the recurring bacterial problems return. The City will continue to look into possibly correcting the structural problems within the pipe, which may be leading to bacterial re-growth. The outfall has not affected the quality of the receiving waters, yet, but a proactive approach by the City to abate the bacterial problem is recommended.

CITY OF SOLANA BEACH

JURISDICTIONAL URBAN RUNOFF MANAGEMENT PROGRAM (JURMP) ANNUAL REPORT

SEPTEMBER 2010

Reporting Period:
July 1, 2009 to June 30, 2010

Respectfully Submitted to:
San Diego Regional Water Quality Control Board
In compliance with:
Order No. 2007-0001, NPDES Permit No. CAS0108758

CITY OF SOLANA BEACH
ANNUAL REPORT
STORM WATER PROGRAM
SEPTEMBER 2010

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The activities described in this report are not merely *written words on a page*, but are the result of *tremendous efforts* of City staff to integrate many new activities into their daily routines and tasks. The City's Fiscal Year 2009/2010 (FY 09/10) Storm Water Program Manager wishes to thank the City's Storm Water Team for their assistance, dedication and collaboration to make the City's FY 09/10 storm water program successful *and meaningful.*

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CITY OF SOLANA BEACH
ANNUAL REPORT/ STORM WATER PROGRAM
SEPTEMBER 2010

TABLE OF CONTENTS

ACKNOWLEDGEMENTS ii

Acronyms ix

Executive Summary 2

Certification Statement 6

Chapter 1: Introduction 8

1.1 Report Organization 8
1.2 Common Activities 9
1.3 Report Content 9
1.4 Program Goals 10

CHAPTER 2: Development Planning Component 13

2.1 Assessment and Modification of General Plan 13
2.2 Project Approval and Environmental Review Process Modifications 14
2.2.1 Project Requirements 17
2.2.2 SUSMP 18
2.2.3 Low Impact Development (LID) 19
2.2.4 Treatment Control BMP Maintenance Tracking 20
2.2.5 Treatment Control BMP Maintenance Inspections 21
2.2.6 Priority Development BMP Verification Prior to Occupancy 21
2.2.7 Hydromodification Plan (HMP) 22
2.3 Education 22
2.4 New Activities and Improvement for FY 10/11 24
2.5 Summary 24

CHAPTER 3: Construction Component 27

3.1 Introduction 27
3.2 Modification of Grading Ordinance 27
3.3 Modification of Construction and Grading Approval Process 28
3.3.1 SUSMP BMPs Installation and Tracking 28
3.4 Construction Site Inventory 29
Table 3-1 Construction Site Inventory 31
Grading Projects 2009/2010 31
Table 3-2 Construction Site Inventory 32
Small Private Projects 2009/2010 32
3.5 Construction Follow-Up Activities: 34
3.6 Capital Improvement Projects Inventory 35
Table 3-3 Construction Site Inventory 36
Capital Improvement Projects 2009/20010 36
3.6.1 Significant CIP Project Narratives 37
3.7 Threat to Water Quality Prioritization 38
3.8 BMPs and Pollution Prevention Methods 40

3.9 Enforcement and Inspections 41
3.10 New Activities and Improvements in FY 10/11 47
3.11 Summary 48

Chapter 4: Municipal Component (Existing Development) 51
4.1 Introduction 51
4.2 Inventory of Municipal Facilities 51
4.2.1 Inspection Frequency of Municipal Sites 52
4.2.2. Follow-up Activities 54
4.2.3 Implementation of Pesticides, Herbicides and Fertilizer BMPs 54
4.3 Pollutant Source Identification 54
4.4 Threat to Water Quality Prioritization 56
4.5 Pollution Prevention Methods 57
4.5.1 Proactive Approach to Pollution Prevention – JURMP Requirements 58
4.6 Pollution Prevention Strategy Effectiveness 70
4.7 New Activities and Improvements for FY 10/11 74
4.8 Summary 75

Chapter 5: Industrial And Commercial Component 78
5.1 Introduction 78
5.2 Industrial Facilities Section 79
5.2.1 Inventory of Industrial Facilities 79
5.2.2 Pollutant Source Identification 79
5.2.3 Threat to Water Quality Prioritization 81
5.2.4 Pollution Prevention Methods 81
5.2.5 Industrial Inspections 81
5.2.6 New Activities and Improvements for FY 10/11 82
5.2.7 Summary of Industrial Section 82
5.3 Commercial Facility Section 83
5.3.1 Inventory of Commercial Facilities 83
5.3.2 Pollutant Source Identification 87
5.3.3 2009 Dry Weather Monitoring Results 89
5.3.4 Threat to Water Quality Prioritization 90
5.3.5 Business Community Education Campaign 90
5.3.6 Pollution Prevention Methods 91
5.3.7 New Pollution Prevention Methods 92
5.3.8 Ensuring Implementation through Commercial Property Inspections 94
5.3.9 Enforcement 95
5.3.10 Mobile Businesses 96
5.3.11 New Activities and Improvements for FY 10/11 96
5.3.12 Summary of Commercial Section 97

CHAPTER 6: Residential Component 100
6.1 Introduction 100
6.2 Pollution Prevention Methods 100
6.3 BMP Implementation 100
6.3.1 Hazardous Waste and Used Oil Collection and Recycling 101
6.3.2 Annual Bulky Item Clean-up Day and Coastal Clean-Up Day 104
6.3.3 24-hour Hotline 104
6.3.4 Pet Waste Bag Dispensers 104
6.3.5 Education and Outreach 105
6.4 Threat to Water Quality Prioritization 109

6.5 Implementation of BMPs....109
6.6 Enforcement Actions....110
6.7 New Activities and Improvement for FY 10/11....110
6.9 Summary....111
CHAPTER 7: Illicit Discharge Detection and Elimination Component....113
CHAPTER 8: Education Component....115
8.1 Introduction....115
8.2 Pollution Prevention through Education – Jurisdictional Activities....116
8.2.1 Staff Training....117
8.2.2 Annual Beach Cleanup Days....118
8.2.3 Storm Drain Tile Marker Installation....118
8.2.4 Local Community Events....119
8.2.5 School Programs....120
8.2.6 Marine Safety Department Educational Presentations....120
8.2.7 Kids Korps Educational Presentations....121
8.2.8 Targeted Education for Underserved Community....121
8.2.9 Water Conservation....122
8.2.10 Educational Brochures....123
8.2.11 City Newsletter (Shorelines)....124
8.2.12 Website....124
8.2.13 Business Community....125
8.2.14 Special Events Permit....125
8.3 Pollution Prevention through Education – Regional Activities 126
8.3.1 Regional Monitoring....126
8.3.2 Model Programs....126
8.3.3 Linking to Regional Resources....127
8.4 Pollution Prevention through Education – Watershed Activities....127
8.5 New Activities and Improvements for FY 10/11....128
8.6 Summary....129
Chapter 9: Public Participation Component....132
9.1 Introduction....132
9.1.1 Chapter Content....133
9.2 Community Events....133
9.2.1 Fiesta Del Sol....133
9.2.2 Beach Clean Up Opportunities....134
9.2.3 Adopt-A-Beach Program....134
9.2.4 Beach Blanket Movie Night....135
9.2.5 San Elijo Lagoon Day....135
9.2.6 Paws in the Park....135
9.2.7 Green Fair....136
9.2.8 “Keep Solana Beach Beautiful Day”....136
9.3 City Council Meetings....137
9.4 Copermittee Meetings....137
9.5 Collaborative Community Partnerships....137
9.5.1 Solana Beach Clean and Green Community Committee....140
9.6 Other Opportunities....141
9.6.1 City Storm water Hotline....141
9.6.2 Website....142

9.6.3 Local Media 142
9.7 New Activities and Improvements for FY 10/11 142
9.8 Summary 143
CHAPTER 10: Fiscal Analysis 145
10.1 Introduction 145
10.2 General Budget Information 145
10.3 Fiscal Analysis Methods 145
10.4 Fiscal Analysis Results 146
10.4.1 JURMP Expenditures 146
10.4.1.1 Administration 147
10.4.1.2 Development Planning 147
10.4.1.3 Construction 147
10.4.1.4 Municipal 147
10.4.1.5 Industrial and Commercial 147
10.4.1.6 Residential, Education, and Public Participation 148
10.4.1.7 Illicit Discharge Detection and Elimination 148
10.4.2 WURMP Expenditures 148
10.4.3 RURMP Expenditures 148
10.5 Funding Sources 149
CHAPTER 11: Effectiveness Assessment Component 151
11.1 Introduction 151
11.2 "A Framework for Assessing the Effectiveness of Jurisdictional Urban Runoff Management Programs" 151
11.3 Level 1: Compliance with Activity-Based Permit Requirements 153
11.4 Levels 2&3: Changes in Knowledge/Awareness and Behavioral Changes 153
11.5 Level 4: Load Reductions 170
11.6 Levels 5&6: Changes in Discharge and Receiving Water Quality 171
11.6.1 Dry Weather Monitoring Data 172
11.6.2 Coastal Water Quality 172
CHAPTER 12: Special Investigations 176
12.1 Introduction 176
"The Mystery of the Bacteria at Seascape Sur…" 176
12.2 Background 176
12.3 The 2002 Investigation 178
12.3.1 More Testing 179
12.3.2 Traveling Further Upstream 180
12.3.3 Just When We Thought the Problem was Solved… 181
12.3.4 Brainstorming 182
12.3.5 Not again! 182
12.3.6 Action Taken By Property Owners During FY 03/04 Annual Reporting Period 183
12.3.7 What Happens Next…? 184
12.3.8 Where We Were in FY 04/05 185
12.3.9 Special Pilot Program FY 07/08 186
12.4 Timeline of Significant Actions 188
12.5 Where We Are Now 190
12.6 Future Activities 193

12.7 Summary 194
CHAPTER 13: Non-Emergency Fire Fighting 196
CHAPTER 14: JURMP Revisions 198
CHAPTER 15: Conclusion and Recommendations 200
15.1 Conclusion 200
15.1.1 2009/2010 Accomplishments 201
15.2 Recommendations 204
Appendix A: Street Sweeping Materials Form 206
Appendix B: Smoking Ban Ordinance 207
Appendix C: Special Event Vendor BMP Guidelines 211
Appendix D: Keep Solana Beach Beautiful Day 2009 212
Appendix E: Fiesta Del Sol Flyer 2010 213
Appendix F: Leaf Blower Ban – Ordinance 399 214
Appendix G: Mandatory Commercial Recycling Ordinance 217
Appendix H: RWQCB Field Audit Report 220
Appendix I: Construction BMP Brochure 225
Appendix J: Storm Water Plan Check Comment Form 227
Appendix K: Building Plan Check Routing Form 228
Appendix L: Public Project Pre-Con Meeting Agenda 229
Appendix M: Civil Penalty Matrix 231
Appendix N: Rainy Season Reminder (Sample) 236
Appendix O: General Construction "Good Neighbor" Brochure 238
Appendix P: Underground Utility District Special BMP Handout 240
Appendix Q: Commercial Facility Litter Reduction Ordinance 241
Appendix R: Beach Blanket Movie Night Flyer 244
Appendix S: Special Events Permit Conditions of Approval i
Appendix T: Summer Camp Programs/Classes iii
Appendix U: 2010 Dry Weather Monitoring Program Results iv
Appendix Z: Effectiveness Assessment Table i

ACRONYMS

Acronym	Description
BMP	Best Management Practices: minimum standards that everyone and every business must adopt to reduce or eliminate urban runoff. BMPs are part of all storm water programs.
DWMP	Dry weather monitoring program: the procedures, requirements and program to collect samples during the dry season each year. Samples are typically collected over a one-two day period and then sent to the lab for analysis.
HHW	Household Hazardous Waste
IC/ID	Illegal Connection and Illicit Discharge: the term used to discuss connections to the MS4 that are not approved (illegal) or non-storm water (illicit) discharges.
JURMP	Jurisdictional Urban Runoff Management Program
MEP	Maximum Extent Practical: A term used by the RWQCB, and Copermittees to refer to the "best efforts," or "as much as possible."
MS4	Municipal Separate Storm Sewer System: references the City's storm water drainage system and the City's wastewater conveyance system.
NPDES	National Pollution Discharge Elimination System: the Federal program created by the 1972 Clean Water Act that governs State water quality / storm water programs.
Permit	Order 2007-0001 issued by the RWQCB, which requires cities to adopt and implement the JURMP, WURMP, and SUSMP.
PPM	Pollution Prevention Measure: a method, procedure, and/or process to control, reduce, prevent, or eliminate pollution.
RWQCB	Regional Water Quality Control Board. The Board is a California board, but for the *purposes of this report,* RWQCB represents the local water quality board (San Diego Regional Water Quality Control Board).
SUSMP	Standard Urban Storm water Mitigation Plan: a plan as to how the City will alter its review of construction plan (public and private) and estimate the extent of pollutant contributions from the site; the plan must specify BMPs that the City will require.
WURMP	Watershed Urban Runoff Management Program: programs that focus on urban water runoff from a larger point-of-view, which is the entire watershed (a watershed is aka a hydrological unit). Programs must specify how cities will work together on planning urban projects and solving water quality problems.
WWMP	Wet weather monitoring program: the procedures, requirements and program to collect samples during the wet season each year. Samples are collected on a monthly basis, depending on weather.

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

During reporting period Fiscal Year 2009/2010 (FY 09/10), the City worked with the other Copermittees to continue developing model programs and implementing all the established requirements of Permit No. R9-2007-0001 (Permit). This was the second complete year of implementation of the City's new Jurisdictional Urban Runoff Management Program (JURMP) that was developed and submitted in March, 2008 to comply with the new Permit, Order R9-2007-0001. This Annual Report (Report) incorporates the changes recommended by Regional Board Staff after review of last year's Annual Report, and complies with the requirements of each section of the Permit.

This is the second full year implementing the new JURMP, in compliance with the Permit regulations. The new activities will be discussed in their respective chapters of this Report, with some chapters modified or removed. The City began the process of developing the new programs in cooperation with the other Copermittees, and any new programs that were actually implemented in this reporting period will be discussed in this Annual Report.

The City is confident that it has implemented all programs required of them during the five year permit cycle of Order 2001-01. The City is also actively working on developing and implementing improved programs for the next five year permit cycle in compliance with Order R9-2007-0001. During the last five year permit cycle, the City was able to create a storm water team consisting of staff from various departments, implemented all of the components of the JURMP and trained all pertinent Staff as to the expectations of the Permit.

Accomplishments to prevent and reduce pollution, eliminate contamination and improve water quality include the following:

- *The City successfully implemented comprehensive educational, inspection and enforcement procedures for municipal, commercial, residential, industrial and construction component activities as described in the City's JURMP.*
- *The City monitors a dedicated Storm Water Hotline and email address to receive complaints, questions, and general information 24 hours a day, seven days a week, 365 days a year.*

- *The City maintains an inventory of all municipal, commercial and industrial properties in the City, including prioritization of those that pose a threat to water quality.*
- *The City inspected the minimum amount of high priority businesses as stated in the new JURMP and notified all high-priority businesses of specific BMPs related to each type of business.*
- *The City collaborated with neighboring jurisdictions within their respective watersheds to develop educational brochures, surveys, and host community events and distributed hundreds of brochures to residents and the business community.*
- *The City continues to modify plan-check review processes to include a requirement for Erosion Control Plans, BMPs, and runoff mitigation alterations in project proposals and/or construction activities.*
- *The City participated in the 2009/2010 San Diego County Wet Weather Monitoring Program.*
- *The City continues to enforce a smoking ban at all local beaches and parks, the first jurisdiction in the nation to do so. In addition, the City strengthened its tobacco ordinance to ban smoking in all public parks, restaurants and buildings.*
- *The City provided several opportunities for public participation including educational workshops/classes, community events, Copermittee meetings and Household Hazardous Waste home pick-up and permanent drop-off collection sites.*
- *The City continues to implement the new "Environmental" review to ALL building/grading permit applications to ensure every project that gets approved by the City is reviewed for storm water management.*
- *The City Council lowered the grading threshold from 200 cubic yards to 50 cubic yards for all projects within the City. This caused more projects to be assessed by the City engineers to implement pre, during, and post construction BMPs than previously.*
- *The City co-sponsored the fifth annual "Beach Blanket Movie Night" that provided residents a night of free movies and environmental education. The City had a booth co-sponsored by the Solana Center for Environmental Innovation that contained educational materials and games for attendees, and the films shown were dedicated to environmental protection of our ocean resources.*
- *The City authorized a part-time Code Enforcement Officer to continue weekend and off-hour patrols for storm water violations.*

- *The City added storm water specific language and reporting duties to new "standard" street sweeping contract to be used in all current and future contracts.*
- *The City modified its Municipal Code to comply with the new requirements of the Permit.*
- *The City implemented the new model SUSMP.*
- *The City participated in the development and implementation of the new Low Impact Development (LID) and Hydromodification Plan (HMP).*
- *The City developed and implemented the post-construction BMP verification, tracking and inspection program.*

CERTIFICATION STATEMENT

CERTIFICATION STATEMENT

I certify that the work performed, and the report prepared herein, was conducted under the supervision and guidance of the City of Solana Beach Public Works/ Engineering Department to meet the requirements of the *Waste Discharge Requirements for Discharges of Urban Runoff from the Municipal Separate Storm Sewer Systems (MS4s) Draining the Watersheds of the County of San Diego, the Incorporated Cities of San Diego County, the San Diego Unified Port District, and the San Diego County Regional Airport Authority* (NPDES No. CAS0108758). I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

Mohammed Sammak, P.E. **Date**
Director of Public Works/City Engineer
City of Solana Beach

CHAPTER 1
Introduction

CHAPTER 1: INTRODUCTION

The City of Solana Beach (hereinafter, referred to as "City") has prepared this report in compliance with Order No. R9-2007-0001, NPDES Permit No. CAS0108758, *Water Discharge Requirements for Discharges of Urban Runoff From Municipal Separate Storm Sewer Systems Draining Watersheds of the County of San Diego, the Incorporated Cities of San Diego County and The San Diego Unified Port District and the San Diego County Regional Airport Authority* (hereinafter referred to as "Permit"). The California Regional Water Quality Control Board, San Diego Region (hereinafter, referred to as "RWQCB") issued the new Permit to all "Copermittees" (all cities in San Diego County, the County of San Diego, the Airport Authority and the Port District) in January, 2007.

Under the Permit, each Copermittee is required to submit an Annual Report in September of each year describing its jurisdictional program for the previous fiscal year (July 1 to June 30). The purpose of the report is to document to the RWQCB the City's progress and program accomplishments during the reporting period.

The Permit, first adopted on February 21, 2002 and subsequently updated in March, 2008, requires Copermittees to implement a comprehensive storm water program (Jurisdictional Urban Runoff Management Program [JURMP]) and submit a copy of the program to the RWQCB. The implementation of this program occurred during the reporting period covering July 1, 2009 to June 30, 2010 for this 2010 Annual Report. This Annual Report will cover the third year of implementation under Permit Order No. 2007-0001, but the second full year of implementation of the new JURMP.

1.1 Report Organization

This Report contains a description of all activities conducted to meet the requirements of the Permit. The information will be discussed in chapters applicable to each component of the JURMP, which occurred during this reporting period.

The organization of this report follows the outline of the new JURMP and includes the following sections:

- Development Planning Component
- Construction Component
- Municipal (Existing Development) Component
- Industrial and Commercial (Existing Development) Component
- Residential (Existing Development) Component

- Illicit Discharges Detection and Elimination Component
- Education Component
- Public Participation Component
- Fiscal Analysis Component
- Effectiveness Assessment Component
- Special Investigations
- Non-Emergency Fire Fighting
- JURMP Revisions
- Conclusions and Recommendations

1.2 Common Activities

The City participated with the Copermittees in several common activities (workshops, educational program component elements, model programs, etc.) that allowed for a sharing of resources and knowledge, which will provide a more cohesive message to the community. The common activities are described in the Copermittee Unified Urban Runoff Management Program (URMP) Annual Report, submitted with this report by the County of San Diego and incorporated herein by reference.

1.3 Report Content

The content of this report includes the activities associated with implementing the storm water program (JURMP). The development of the City's JURMP required the City to inventory and prioritize its municipal facilities, commercial and industrial businesses, develop a method to educate the business and residential community about the new requirements, evaluate existing municipal ordinances, and adopt new laws if needed to ensure enforcement action was available, develop a method for educating agency staff, and develop a commercial, industrial and construction site inspection program. Each subsequent year of Permit implementation requires the City to revisit these items and update as necessary. This Report contains those updates, where applicable.

The content of this report will include discussions about the programs and activities that occurred during this reporting period (July 1, 2009 to June 30, 2010). The City presumes that RWQCB staff recognizes that significant activity may occur subsequent to the end of the reporting period for this report. As a result, throughout this report a summary of post-reporting period activities will be discussed (where appropriate) to assist the RWQCB in understanding the City's efforts to reduce urban runoff and pollution and to comply with the Permit.

1.4 Program Goals

The primary goal of the City's JURMP is to reduce or eliminate pollutant discharges into the City's MS4 (municipal separate sewer storm system) and receiving water bodies, including the Pacific Ocean, thus improving the quality of water in the City, neighboring jurisdictions, and region-wide.

The City recognizes that a *scientifically measurable* change in water quality is a long-term goal that would require many years of data collection, research and analysis, extending beyond the life of the current Permit (which expires in 2012). As a result, the City's program includes short-term goals expected to focus the City's program on permit compliance as well as water quality improvements. The following summarizes the City's past and current short-term annual program goals:

FY 02/03: Integration of WURMP(s), SUSMP and JURMP activities

FY 03/04: Complete assessment of JURMP (using regional strategy)

FY 04/05: Complete overall assessment of Regional Programs JURMP, WURMP and SUSMP; prepare for new Permit from RWQCB

FY 05/06: Assessment of JURMP, WURMP and SUSMP in preparation of new Permit anticipated to be adopted in early 2007. This involves the assessment of water quality data to focus on the sources of high priority pollutants locally as well as watershed and regionally.

FY 06/07 Further assessment of JURMP, WURMP and SUSMP to effectively develop new programs for incorporation in the new JURMP, WURMP and SUSMP that will be required by the new Permit (adopted January 2007). The complete program will be assessed to determine the effectiveness of existing programs and to develop better, more efficient programs to include in the next Permit cycle.

FY 07/08 Development and implementation of new JURMP to comply with Permit Order No. 2007-0001. The new Permit includes additional and improved requirements from those included in Order No. 2001-01. Although the City continued the implementation of Order 2001-01 during FY 07/08, significant time and resources were spent developing the new programs included in Order 2007-0001.

FY 08/09 Continue developing the new programs and activities under Permit Order No. 2007-0001, such as the Low Impact Development (LID) and Hydromodification Plan (HMP). In addition, track all SUSMP project post-construction BMPs and develop inspection protocol for annual inspections.

FY 09/10 Continue implementation of the new JURMP to further reduce and eliminate pollutant discharges into the City's MS4 system. The focus of new water quality regulations are shifting to development and implementation of Total Maximum Daily Loads (TMDLs), which the City will actively participate in. The City will continue to be involved in the LID, HMP and new SUSMP requirements development for future implementation.

FY 10/11 Continue implementation of the JURMP to further reduce and eliminate pollutant discharges into the City's MS4 system. The focus of new water quality regulations are shifting to development and implementation of Total Maximum Daily Loads (TMDLs), which the City will actively participate in. The City will continue to implement the LID, HMP and new SUSMP requirements on priority projects. The City will continue assessing the Storm Water Program to determine if there are any other areas where the utilization of specialized consultants will bring a higher value to the community while at the same time assisting Staff with Permit compliance as resources continue to dwindle during these tough economic times. Currently, Staff utilizes outside consultants to assist with:

- Commercial/Industrial facility inspections
- Dry Weather Monitoring Program
- Department specific specialized Staff trainings

All aspects of the Permit are under review by Staff to determine the most effective and efficient means of compliance. The City is fortunate to have a voter approved NPDES fee, so funding is not a problem, but Staff's resources are. So, outsourcing certain aspects of the storm water program may be a benefit to the City as well as the community.

CHAPTER 2
Development Planning Component

CHAPTER 2: DEVELOPMENT PLANNING COMPONENT

In accordance with Permit Section D.1, this section of the report describes the City's efforts to reduce Development Project discharges of pollutants from the MS4 to the Maximum Extent Practicable (MEP); to prevent Development Project discharges from the MS4 from causing or contributing to a violation of water quality standards; and to manage increases in runoff discharge rates and durations from Development Projects that are likely to cause increased erosion of stream beds and banks, silt pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force.

In each Annual Report to the RWQCB, this section will include new modifications to the City's General Plan (if any), review process for new and redevelopment projects, inventory of current public and private projects and activities associated with the Standard Urban Storm Water Mitigation Plan (SUSMP). Activities conducted post-reporting period may be included if the activity is deemed essential to understanding the City's efforts at reducing urban runoff or permit compliance.

The JURMP (Section 4.0: Development Planning Component) describes the City's plans to integrate new project review processes to require mitigation of urban runoff. In addition, the City adopted the new model SUSMP in February, 2008.

2.1 Assessment and Modification of General Plan

Effective land use planning can provide important water quality protections by controlling the type and placement of activities allowed in critical areas, and by providing a framework within which site-specific control measures may be identified and imposed during land development and redevelopment activities. As such, the General Plan is crucial to the long-term success of its water quality and environmental programs.

There were *no changes* to the General Plan during this reporting period. However, the City has tentatively scheduled the General Plan update to begin in January 2011. It has been included in the City Council's FY 2010/2011 Workplan and is a priority project. Updates will be given in subsequent annual reports.

There were three modifications to the Municipal Code as a result of the new Permit and subsequent JURMP. These modifications were approved by the City Council in February 2009:

1. Minor revisions to Chapter 13.10 Storm Water Management that adds provisions that meet the requirements of the new storm water permit within the timelines required for implementation.
2. The second ordinance change adds a new Chapter 13.30 to the Municipal Code to include the City's storm water mitigation plan (SUSMP) that governs methods of controlling storm water pollution. The SUSMP contains the specific types of best management practices that the city will impose on development.
3. The third ordinance change revises Chapter 15.40 Excavation and Grading, which controls the manner and method of grading properties and excavation within the City. The revised ordinance updates the existing ordinance to include new erosion control measures required by the SDRWQCB.

2.2 Project Approval and Environmental Review Process Modifications

The City is tasked with ensuring that land uses in Solana Beach comply with City codes, the General Plan, City Council policies, Engineering standards and State law requirements. Approval of projects through the discretionary review process is generally, but not always, required prior to issuing grading, building and right-of-way permits. The City's Municipal Code (Code) requires compliance with storm water regulations for all discretionary approvals and ministerial permits. The Planning, Engineering, Environmental, Building and Fire Departments review all building plans that are submitted to the City. The Engineering and Environmental Departments administer all aspects of design and construction for public improvement projects. The Planning Department administers the environmental review (Initial Studies, Negative Declarations, EIRs, etc.) of both public and private projects.

The City has reviewed its General Plan and Municipal Codes and determined that the General Plan meets the requirements of Order No. 2007-0001. The following is a short list of recent improvements to the project review process that ensures all projects are reviewed and properly address storm water concerns:

FY 05/06 - Every applicant who inquires about a particular project at the City Hall counter was given a copy of the City's Construction BMP Brochure (Appendix I). This is being done to ensure that every person will have received a copy of the City's educational guide, often times more than once.

FY 05/06 - Any project that increases the impervious area of a site by a minimum of 1,000 square feet must complete a Storm Water Plan Check Comment Form (Appendix J). This sheet requires a variety of information to ensure that there will be no additional run-off as a result of the project. The first requirement is the preparation of an Erosion Control Plan. Also, the applicant must demonstrate that the project *does not increase storm water runoff*. Lastly, the applicant must demonstrate that they are implementing and maintaining all precautionary measures necessary to ensure that pollutant discharges from the site *will be reduced to the maximum extent practicable*. All additional storm water must be completely contained and treated onsite. This is not required by the Permit, but the City believes that it would be prudent to address this issue on such a small scale because of the relative abundance of these smaller projects within the jurisdiction and the lack of larger scale projects that would otherwise be dealt with through the SUSMP process. Instead of ignoring these projects all together, the City felt it would be in its best interests to review these “minor” projects to ensure that most new construction and redevelopment would address these storm water concerns.

FY 06/07 - City continued to evaluate its project approval process and made some modifications to the process for approving new and redevelopment projects. The plan check routing sheet was further modified to include additional information regarding storm water management. The intent of the modifications is to ensure that pollutants and runoff from development will be reduced to the maximum extent practicable (MEP) standard and/or will not contribute to an exceedance of receiving water quality objectives.

FY 06/07 - Project Applicants (Applicants) are required to submit a detailed project application, which addresses a variety of concerns, including urban runoff and environmental impacts. The project application provides an opportunity for City staff to determine whether or not the project will be exempt from the California Environmental Quality Act (CEQA) process. If the project is subject to CEQA, the environmental impacts of the project must be reviewed and depending on the potential impacts, a more substantial environmental impact report (EIR) may be required.

FY 06/07 - The plan check routing sheet was further modified to include another section titled *Environmental* (Appendix K). This section was included to ensure that *all* plans submitted would be reviewed for storm water implications, no matter how small or relatively insignificant. Previously, plans would be routed through the Engineering Department and if the Engineering Technician

determined that it warranted further review, the plans would be passed through to the Environmental Programs Manager. The process was modified to ensure that all plans would be reviewed just in case something was missed or overlooked. The City believes that plan review is essential to ensuring storm water compliance, so we are doing everything possible to make sure it is done thoroughly and accurately. This new and improved process resulted in the Environmental Programs Manager reviewing 224 plans during this reporting period.

FY 08/09 – The City implemented a complex and highly efficient computer database (BEACH) that greatly improved the internal plan review process. This database was developed by a local resident and was tailored to the specific needs of the City's departments. The database was built after extensive comment and review from the various departments to maximize the efficiency and streamline the process, while at the same time incorporating all the necessary information for each department. This process and subsequent database has greatly improved the Environmental plan review process by ensuring that all comments of the Environmental review are addressed prior to initial permit issuance, as well as final permit occupancy. This will be explained in further detail later in the Report, but it has been a tremendous success.

In addition to the CEQA review process, all applicants must obtain a permit from the California Coastal Commission (CCC) because the City does not have a Local Coastal Plan. The City also has strict environmental standards requiring compliance and governing land-use planning and construction.

The application includes some of the following questions:

- Financial interest of all parties who own, or intend to own the property.

- Proof that all owners of record within 300 feet of the exterior boundaries of the property have been noticed of the intent to develop (this allows opportunity for public participation in the process).

- Present use of property and proposed development description (commercial, residential, mixed use, etc.).

- Current floor area ratio (FAR) and proposed (this allows review of the proposed change in impervious to pervious surface area). The City has a strict FAR and prohibits development within 40 feet of the western edge of

the coastal bluffs.

- Proposed area to be graded (this allows the Engineering Department to assess potential erosion and runoff).

- Environmental condition of property (vegetation, drainage, noise, etc.) and neighboring properties.

- Business Applicants are required to submit information pertaining to the types of hazardous materials, whether or not industrial wastewater will be discharged in the property *and/or* off the property.

2.2.1 Project Requirements

As mentioned above, applicants are required to submit plans for all new and redevelopment of private properties to both the Planning and Engineering departments prior to approval. The Engineering Department (which includes Environmental Review) reviews the project's grading and construction plans for a project's potential pollutant contribution to urban runoff. The City Engineering Department also determines the appropriate pre, during and post BMP requirements for each project and attaches the Storm Water Plan Check Comment form to the project plans and returns the plans to the applicant for modification, if required. Applications may be required to submit one or more of the following:

- An Erosion Control Plan (which requires BMPs to manage storm water and non-storm water discharges from the site at all time and shall emphasize sediment control).

- Evidence that the project will not increase storm water runoff.

- Storm Water and Non-Storm Water Runoff Control (this requirement address long-term control of runoff and may require structural modifications to direct discharges into permeable areas such as landscaping).

In addition, all grading projects are required at a minimum to include the following:

- Source control BMPs for all projects expecting to generate runoff.

- Implementation of site design/landscape measures to reduce and/slow runoff, minimize impervious to previous ratio, maximize infiltration and promote alternative driveways and parking lots to include pervious land surfaces (as described in detail in the City's JURMP).

- Implementation of buffer zones for natural water bodies, where feasible and if not, trees, lighting and access restrictions are required.

Industrial applicants are also required to provide evidence of coverage under the California General NPDES Permit for Storm Water Discharges Associated with Industrial Activities.

Applicants are required to be in compliance with the City's current grading and storm water management ordinances, inspection requirements, general requirements for construction activities during the wet and dry season and implementation of appropriate BMPs to control erosion and runoff.

2.2.2 SUSMP

The City participated with other Copermittees in the development of the original model Standard Urban Storm Water Mitigation Plan (SUSMP), which was approved by the RWQCB on June 13, 2002. The Solana Beach City Council adopted the City's SUSMP on December 3, 2002, which was submitted to the RWQCB on December 13, 2002. The City also participated in the development of the new SUSMP in accordance with the new Permit. The City Council adopted the updated model SUSMP in February 2008.

The SUSMP addresses post-construction urban runoff pollution from new development and redevelopment projects that are designated as "priority projects" under the Permit. Most of the criterion that specifies which projects will be priority projects will not be applicable to the majority of City projects. The reason for this is that the City of Solana Beach is more than 95% "built-out" and primarily a residential community with small commercial properties. As a result, the City made few modifications to the Model SUSMP that was developed collectively by the Copermittees for its SUSMP. Over time, City staff will evaluate the effectiveness of the SUSMP and discuss changes, if necessary, in this section of the Annual Report.

During this reporting period, the City of Solana Beach had *no SUSMP projects submitted or approved*. The majority of the development in Solana Beach consists of single-family construction and remodeling projects.

The City's Planning Department (also referred to as Community Development Department) is well aware of the SUSMP requirements and is consistently on the lookout for potential projects that may fall under the SUSMP requirements. The Engineering Department handles all of the BMP review for the City, however, the Planning Department is the first department to review applicant plans. Often times for larger projects, meetings are held between City Staff and the applicants well before the plans are submitted. At this time, Planning Staff works with the applicants to ensure the project complies with the SUSMP regulations. This helps to avoid costly delays in the project timeline by ensuring the applicant is aware of the SUSMP requirements and incorporates them into the project prior to submittal. It's a very proactive approach that has proven successful on all large projects in the City, not just SUSMP projects.

2.2.3 Low Impact Development (LID)

LID is one of the most significant new requirements of the new Permit. The Permit states that each Copermittee shall develop and require each Priority Development Project to implement LID BMPs which will collectively minimize directly connected impervious area and promote infiltration. The City's new JURMP describes the LID site design BMPs required at each Priority Development Project. The LID requirements were developed by the Copermittees during this reporting period, which promoted consistency throughout the region for the development community. The City has now incorporated the LID requirements into the development review process. There has not been a project subject to the SUSMP or LID requirements in the City to date, but there are a few in the pipeline including the following CIP projects:

- Highway 101 Corridor Revitalization Project
- La Colonia Park and Community Center Renovation

City Staff will continue to monitor these projects to ensure compliance of the new requirements.

2.2.4 Treatment Control BMP Maintenance Tracking

The City has developed a database to track and inventory approved treatment control BMPs and treatment control BMP maintenance for Priority Development Projects within the City. The database contains all necessary information as required by the new Permit. In addition, the City has developed a program to verify that approved treatment control BMPs are operating effectively and have been adequately maintained. The City's current treatment control BMP inventory is listed below. Not all projects are a result of the SUSMP process because they were built prior to the requirements; however the City still lists them in their inventory and inspects annually.

Private Project Treatment Control BMP Inventory

Address	Type of Project	Type of BMP(s) Installed	Maintenance Agreement	Inspection Date
533 Lomas Santa Fe	Boys and Girls Club Remodel/Construction	CDS Unit (1), Storm Chamber Infiltration Basins (2), Drainage Inserts (2)	Yes	9/25/09
420 Steven's Avenue	Office Building Construction	CDS Units (3)	Yes	9/25/09
667 San Rodolfo	Shopping Center Remodel	CDS Unit (1)	Yes	9/25/09
634 Steven's Ave	Commercial Building Construction	Bio-Swale	No	9/25/09
601 North	Single Family Sub-	CDS Unit	No – City	9/25/09

Cedros Ave	Division (23 Units)	(1)	Maintained	
641 Valley Ave	Mixed Use Comm/Res	Bio-Swale, pervious concrete	No	9/25/09
715 Valley Ave	Park	Bio-Swale	No - City Maintained	9/25/09
111 South Sierra Ave	Park	CDS Unit, Low Flow Diverter	No- City Maintained	9/25/09
749 Genevieve St	Parking Lot >15 spaces	Bio-Swale, Pervious Pavers	No	9/25/09

2.2.5 Treatment Control BMP Maintenance Inspections

According to the City's JURMP, annual inspections will be completed on an annual basis prior to October 1st. City Staff conducted the annual inspections of the projects listed above as required by the Permit prior to October 1st (9/25/09). Due to the relatively small amount of projects, Staff plans to inspect all treatment control BMPs annually, regardless of their frequency priority. City Staff sent out Verification Letters to all sites prior to the inspections. *The City is happy to report that all properties were in full compliance during the first inspection.*

2.2.6 Priority Development BMP Verification Prior to Occupancy

Although there were no priority development projects approved during this reporting period, the City does have a BMP verification process set up to ensure all BMPs are installed prior to occupancy. This process is not only conducted for priority development projects, but grading and building projects that require post construction BMPs (small infiltration pits, roof drains to landscaping, etc). As mentioned in previous Annual Reports, the building permit routing sheet that goes to each department reviewing the plans was modified to include check boxes in the "Environmental Review" section. These check boxes are for projects that require a post construction BMP of any kind, and if they are checked for any project, the Building Department will not issue final occupancy permits until the

Environmental section is complete. This includes an inspection either during construction for BMPs underground (to ensure they were installed prior to being covered by landscaping) or final inspection if the BMPs can be identified at the end of the project. It is the responsibility of the contractor to notify the Environmental staff for inspection or the “pink card” will not be signed and the final Permit will not be issued. City Staff has required contractors to dig up and remove landscaping in order to show that the BMP was actually installed according to the plans if the contractor failed to properly notify Staff for an inspection. This ensures that all post-construction BMPs are installed prior to the final permit being issued for occupancy.

2.2.7 Hydromodification Plan (HMP)

The HMP was finalized and adopted by the Regional Board just after this reporting period (July 2010). As mentioned in last year’s Annual Report, Staff does not anticipate that any projects in Solana Beach will be subject to the new HMP requirements. The City participated in the development of the HMP and has paid our share for the development costs, realizing that this is a regional issue and as a Copermittee we have a responsibility to assist the other Copermittees in complying with the Permit requirements. If any project is subject to the HMP, it will be reported in this section of each Annual Report.

2.3 Education

Municipal Staff Education

The City of Solana Beach is a very intimate, cooperative group. All departments work very well with one another because they are forced to work together on a daily basis to serve the relatively small community. This makes training and education a much easier task.

The previous formation of the storm water team brought together the directors of all the different departments (Planning, Engineering, Public Works, City Manager’s, Public Safety (Fire and Marine Safety, Code Enforcement, Environmental, City Attorney’s and City Inspector) and provided them a forum to discuss storm water issues, keep everybody in the loop on ongoing issues and develop solutions collectively. In turn, the directors would educate their respective employees on the specific tasks they were to perform. This was a very effective and efficient way to educate the Municipal Staff when the Permit was first adopted and the JURMPs were initially being implemented.

City staff welcomes additional training opportunities and often seeks outside training opportunities to keep up with the ever-changing storm water world. In addition, Staff welcomes presentations from consultants regarding the latest technologies in the protection of water resources, including techniques to reduce erosion, bacteria and other COCs in urban runoff. City Staff is always seeking new training opportunities to stay on top of this rapidly evolving field. Specific trainings are listed in their appropriate sections throughout this Report.

Owner / Developer Education

The City, along with the other North County Copermittees, developed a Construction BMP Brochure (Appendix I) which describes the construction storm water regulations and required BMPs. The BMPs are generic with a simple diagram of a "typical" construction site, which has been very well received by the development community. It is simple and easy to understand, and City staff makes certain developers and contractors know every site is different and has unique characteristics. These brochures are distributed at the counter, at pre-construction meetings and in the field during inspections.

In addition, the City sends a "Rainy Season Reminder" (Appendix N) to all current and active private projects within the City as a tool to educate and remind project owners and developers about the need to strictly adhere to the erosion control requirements during the rainy season. These letters are sent out in the beginning of October as a "friendly reminder" that they need to ensure their sites are in compliance before the rain events start, or risk increased enforcement actions.

Inspections are another opportunity staff utilizes to educate owners and developers about City and State runoff and erosion requirements. During inspections, the City Inspector points out problem areas and requires mitigation compliance immediately. If an owner or developer fails to comply, increased enforcement including fines can be levied and the City Inspector has the authority to halt construction activities with a Stop Work notice.

The City has implemented similar procedures for public projects as those utilized for private projects. During mandatory pre-construction meetings (for all grading and public projects) the requirements for erosion control and runoff management are discussed. In addition, City staff notifies the primary contractor that they are ultimately responsible for all actions of their subcontractors, and violations of the City's storm water requirements will result in enforcement actions.

2.4 New Activities and Improvement for FY 10/11

The City will continue implementing the activities described in the Development Planning Component of the City's JURMP. In addition, with the development and implementation of the new SUSMP, LID and HMP requirements, the focus for FY 10/11 will include the continued implementation and education of planning/engineering Staff, builders, residents, and the community at-large as to how regulations of the SUSMP, LID and potentially HMP will impact construction.

The BEACH database will continue to be implemented and updated during this reporting period with improvements and advancements made as necessary. The goal is to modify the database to include maintenance and inspections records so that all information on a particular project will be contained in one electronic location. Currently, these maintenance records are being kept in an Excel spreadsheet, but the BEACH database will ultimately be the most effective and efficient location for all project records.

2.5 Summary

The City has successfully implemented the Development Planning Component of the JURMP. Some of the key accomplishments include:

- Education of planning Staff, owners/developers and the community regarding changes in planning processes.
- Implementation of new procedures to ensure new and redevelopment projects do not contribute to an exceedance in water quality standards.
- Addition of Environmental section of permit routing sheet to ensure *all* plans/projects are reviewed by Environmental Specialist for storm water issues. Addition of post-construction BMP tracking and inspection box on routing sheet to ensure all BMPs are installed according to approved plans.
- Increased cooperation between City departments in implementing SUSMP requirements.
- Developed and implemented new post-construction BMP inventory and inspection tracking database.
- Development and implementation of new BEACH database to store all pertinent information regarding parcels in Solana Beach. This includes environmental fields that are used during plan review and permit issuance as well as housing all the necessary information for post-construction BMP tracking and maintenance.

- Conducted department specific Staff trainings by outside consultant specifically for Planning and Engineering Staff regarding the new program requirements in the new Permit (HMP, SUSMP and LID).

CHAPTER 3
Construction Component

CHAPTER 3: CONSTRUCTION COMPONENT

3.1 Introduction

In accordance with Permit Section D.2, this section of the report describes the City's efforts to reduce construction site discharge of pollutants from the MS4 to the MEP and prevent construction site discharges from the MS4 from causing or contributing to a violation of water quality standards.

In each Annual Report to the RWQCB, this section will include modifications to the City's inventory of active construction sites (private and public), modifications to the City's policies or Municipal Code with respect to construction activities, and modifications to identified potential threats to water quality. In addition, this section of each Annual Report will include results from the City's efforts to require BMPs at construction sites and program accomplishments. Also, a summary of activities conducted post-reporting period may be included if the activity is deemed essential to understanding the City's efforts at reducing urban runoff or Permit compliance.

During this reporting period, the City conducted an evaluation of its construction practices and inventoried existing construction sites in an effort to understand potential sources of pollution, threats to water quality, and to develop a plan to mitigate or eliminate urban runoff and pollution from these construction sites by requiring BMPs.

3.2 Modification of Grading Ordinance

There were *no significant modifications* of the Grading Ordinance during this reporting period as a result of new requirements in the Permit. As reported in last year's Annual Report, Chapter 15.54 (Excavating and Grading) was modified on February 13, 2008 to include the new requirements of the Permit. The amendments updated and strengthened the City's regulations regarding storm water pollution controls. The two main areas of impact in the updated ordinance dealt with two new concepts (Hydromodification Plan (HMP) and Low Impact Development (LID)). As mentioned previously, Hydromodification is a state mandate that requires all local jurisdictions to regulate erosion control and other land-shaping impacts from storm water runoff on priority projects.

Low Impact Development is a new requirement included in the new storm water permit. It deals with using various techniques to channel storm water runoff and

the pollution it contains away from the storm water conveyance system and into landscaping and other on-site features to limit the amount of pollution escaping from individual parcels.

Previously, the last significant modification to the City's grading ordinance occurred June 30, 2005 in which the grading threshold was lowered from 200 cubic yards to 50 cubic yards for all construction projects. This resulted in much smaller projects that would not normally be scrutinized for storm water management would now be required to go through the grading permit process. This gave City Staff more discretion on smaller projects to require storm water mitigation, and with it, gave Staff more power to enforce the installation and/or site design modifications to that would not have been required if a grading permit were not necessary.

3.3 Modification of Construction and Grading Approval Process

The modifications to the City's processes for project approvals are described in detail in the previous chapter of this report (Chapter 2). Although Chapter 2 specifically addresses Development Planning, the discussion included a description of various processes that project applicants must proceed with in order to obtain approval of their construction plans. Chapter 2 also describes the improvements made to the plan check database BEACH as well as the increased education efforts City staff has made to ensure Permit compliance.

The Storm Water Plan Check Comment Form (see Appendix J) may require the applicant to submit an Erosion Control Plan, proof that the project does not increase runoff from the property and/or implementation of structural changes to redirect runoff onto impervious surfaces.

3.3.1 SUSMP BMPs Installation and Tracking

The City continued implementation of the updated SUSMP process during this reporting period, but there were *no projects that required the SUSMP process review.*

The City does not anticipate many projects that will fall under the SUSMP guidelines, since the City is 95% "built out." However, any project that may be proposed that fall under the guidelines will be put through the process. Planning Staff and Engineering Staff have been trained and are aware of the SUSMP requirements, and will implement the program when appropriate.

As reported in previous Annual Reports, a significant improvement to the building permit routing sheet that recently occurred was the addition of the *Environmental* review section (Appendix K). As noted previously in this Report, the routing sheet was modified to ensure *all* permit applications were thoroughly reviewed by Environmental Staff. Even though the revision occurred before this reporting period, it's significant to mention because it brings the Environmental Programs Manager into the review process for all projects, regardless of size or type. This is significant because no projects will slip through the cracks, and all will be required to address storm water concerns. In addition, as mentioned above, the routing sheet also contains an area to mark if the project requires the installation of post-construction BMPs. Final permit approval and building occupancy will not be granted until a final inspection confirms the BMPs were installed correctly, according to the approved plans.

3.4 Construction Site Inventory

This section of each Annual Report will include an inventory of construction sites active during this reporting period. Given that the reporting period for these Annual Reports ends prior to the submittal of the report, the inventory will most likely be slightly outdated by the time the report is reviewed by the RWQCB. However, the City maintains an inventory of current construction project sites, which is always available for review.

The construction inventory is updated periodically, but at a minimum monthly, to ensure all active projects are included and inspected according to the frequency set forth in the JURMP. The update process consists of reviewing the Building Department files of active sites. In the past, the inventory was updated as soon as a building permit was approved. However, it was discovered that often times, construction activities would not commence for many months after permit issuance. This led to a significant amount of wasted time and resources for limited City Staff to visit multiple sites where there were no construction activities occurring. Since the City's Building Department Staff is required to be onsite when the project begins, review of their files is the most appropriate and accurate manner to update the construction inventory. Review of the Building Department files is now possible due to the fact that they are now housed at the City of Solana Beach City Hall. This is a major improvement over the last few years when the files were located at the City of Encinitas City Hall, along with Building Department Staff.

As shown on Table 3-1, there are currently seven construction sites that required a grading permit active within the City. In addition, City Engineers are in constant discussions with private project property owners during the plan check process to ensure their projects include an Erosion Control Plan, modify drainage alterations to re-route runoff to pervious surface areas, proof that the project would not result in an increase in runoff from the site or other various structural BMPs, and require all projects to control and mitigate all run-off before it reaches the City's MS4 system. Table 3-2 shows all construction projects that have a potential to discharge pollutants but did not require a grading permit. These projects had extensive plan review by City Staff and storm water/erosion control conditions placed on them even though a grading permit was not required. Table 3-3 shows all Capital Improvement Projects (CIP) and their priority and inspection frequencies.

The City had no projects subject to the HMP or requiring advance treatment during this reporting period. In addition, there were no projects over 1 acre in size, which is very common considering the City is 95% built-out and most projects are in-fill and redevelopment projects.

Table 3-1 Construction Site Inventory
Grading Projects 2009/2010

Project Name and Location	Inspection Frequency	Type of Construction	Start Date	Project Size	Watershed	FY 09/10 Active Wet Season / # Inspections	FY 09/10 Active Dry Season / # Inspections	FY 09/10 Total # Inspections
514 Barbara	Medium	Single Family Home	Oct-08	<1 acre	San Dieguito	28 Weeks / 7 Inspections	24 Weeks / 3 Inspections	10
403 Marview	Medium	Single Family Home	Mar-09	<1 acre	San Dieguito	28 Weeks / 7 Inspections	24 Weeks / 3 Inspections	10
624 Barbara	Medium	Single Family Home	Nov-09	<1 acre	San Dieguito	20 Weeks / 5 Inspections	12 Weeks / 1 Inspection	8
638 Marsolan	Medium	Single Family Home	Dec-09	<1 acre	San Dieguito	16 Weeks / 4 Inspections	12 Weeks / 2 Inspections	6
190 S Rios	Medium	Single Family Home	Apr-10	<1 acre	San Dieguito	0 Weeks / 0 Inspections	12 Weeks / 2 Inspections	2
717 Seabright	Medium	Single Family Home	May-10	<1 acre	San Dieguito	0 Weeks / 0 Inspections	8 Weeks / 1 Inspections	1
427 Barbara	Medium	Single Family Residence	Jun-10	<1 acre	San Dieguito	0 Weeks / 0 Inspections	4 Weeks / 1 Inspections	1

Table 3-2 Construction Site Inventory
Small Private Projects 2009/2010

Project Name and Location	Inspection Frequency	Type of Construction	Start Date	Project Size	Watershed	FY 09/10 Active Wet Season / # Inspections	FY 09/10 Active Dry Season / # Inspections	FY 08/09 Total # Inspections
603 Canyon Pl	Low	Residence	Dec-08	<1 acre	Carlsbad	28 Weeks / 3 Inspections	24 Weeks / 1 Inspection	4
437 E Cliff St	Low	Addition/Remodel	Mar-10	<1 acre	San Dieguito	4 Weeks / 1 Inspection	12 Weeks / 1 Inspection	2
338 Glenmont Dr	Low	Addition/Remodel	Oct-09	<1 acre	San Dieguito	28 Weeks / 2 Inspections	12 Weeks / 1 Inspection	3
241 S Granados	Low	Addition	Mar-10	<1 acre	San Dieguito	4 Weeks / 1 Inspection	12 Weeks / 1 Inspection	2
514 S Granados	Low	Addition/Remodel	Jun-09	<1 acre	San Dieguito	28 Weeks / 3 Inspections	24 Weeks / 1 Inspection	4
445 Holmwood Ln	Low	SFD	Jul-09	<1 acre	Carlsbad	28 Weeks / 6 Inspections	24 Weeks / 4 Inspections	10
830 Ida	Low	Addition	Mar-10	<1 acre	San Dieguito	4 Weeks /	12 Weeks /	2

Avenue						1 Inspections	1 Inspection	
401 Loma Larga	Low	Addition/Remodel	Mar-10	<1 acre	San Dieguito	4 Weeks / 1 Inspection	12 Weeks / 1 Inspection	2
501 Mar Vista	Low	Addition	Apr-10	<1 acre	San Dieguito	0 Weeks / 0 Inspections	12 Weeks / 1 Inspection	1
274 Pacific Ave	Low	Residence	Sep-08	<1 acre	San Dieguito	28 Weeks / 4 Inspections	24 Weeks / 1 Inspection	5
831 Mola Vista	Low	Addition	Jun-08	<1 acre	San Dieguito	0 Weeks / 0 Inspections	4 Weeks / 1 Inspection	1
173 S Nardo	Low	Addition	May-10	<1 acre	San Dieguito	0 Weeks / 0 Inspections	8 Weeks / 1 Inspection	1
365 Pacific	Low	Remodel	Mar-10	<1 acre	San Dieguito	4 Weeks / 1 Inspections	12 Weeks / 1 Inspection	2
499 Santa Dominga	Low	Addition	Jun-10	<1 acre	San Dieguito	0 Weeks / 0 Inspections	4 Weeks / 1 Inspection	1
1223 Santa Luisa	Low	Addition	Apr-09	<1 acre	San Dieguito	28 Weeks / 6 Inspections	24 Weeks / 2 Inspections	8
698 Solana Circle	Low	Addition	Jan-10	<1 acre	San Dieguito	12 Weeks / 2 Inspections	12 Weeks / 1 Inspection	3

3.5 Construction Follow-Up Activities:

The City is very aggressive with its construction inspections and follow-up, and unless otherwise stated, all follow-up corrective activities were properly addressed and corrected within seven (7) working days. Many times the corrections are made immediately, however the City's policy is to allow the responsible party seven days to correct the violation. That being said, if there is an immediate threat to public health or safety, the City can, and will, require immediate corrective actions.

As stated above, the City takes a very pro-active approach toward construction projects. Plans are heavily scrutinized and discussions with the contractors often happen before the project even begins. The City has found that initiating contact with the contractor before the project even starts and maintaining contact throughout the construction process leads to continued compliance with storm water regulations. Since the City of Solana Beach is relatively small and built out, the City's inspector has the ability to visit sites almost daily, and at a minimum weekly. Due to this high level of supervision, sites are not allowed to get out of compliance with storm water BMPs. That being said, there are instances where accidents do take place, most often when concrete trucks and pumpers are involved.

There were no significant violations from construction sites during this reporting period. There were minor issues that Staff would encounter during inspections such as open trash dumpsters, minor sediment tracking or BMPs that were improper installed or needed replacing, but there were no citations issues. Staff believes that the proactive approach to construction inspections, pre-cons and the constant contact in the field from the City Inspector, EsGil Inspector and the Environmental Programs Manager all helped to keep the construction sites in compliance. Also, due to the lengthy drought the region is experiencing, there were relatively few rain events that occurred.

3.6 Capital Improvement Projects Inventory

In addition to the inventory for private projects, City staff believes it is equally important to discuss public (Capital Improvement Projects [CIPs]) projects under construction.

CIPs are held to the same *or stricter* standards for reducing runoff as private projects. BMPs, Erosion Control Plans, and structural changes to reduce or mitigate runoff pre, during and post-construction are required. Most, if not all, CIPs in Solana Beach are constructed by private contractors selected through the standard public construction bid process. Contractors are informed *prior to submitting a bid,* that the City requires adherence to RWQCB standards, Permit and City storm water regulations. To ensure compliance, the City Inspector conducts a daily inspection of each CIP site during construction. Stop Notices are issued if the contractor fails to comply with any storm water / erosion control regulations.

Additionally, the Environmental Programs Manager is included in pre-construction meetings that are required for *all* public projects. A line item discussing NPDES regulations and requirements is standard for all public project agendas (Appendix L). This is just another way to ensure that all contractors are aware of the requirements before the project begins, and to help with possible enforcement actions, if necessary.

In FY 09/10, the City Inspector did not issue any Stop Notices to contractors for failing to comply with storm water/erosion control regulations.

Table 3-3 below shows the inventory of CIP projects during FY 09/10. The City had four projects, and placed all of the projects in the high priority category. This was done to ensure that the City's projects would be inspected at a very high frequency in order to ensure compliance at all times. The City even hired a consultant to monitor the Eden Gardens Pump Station project daily because of the sensitivity of the project, and so the site was technically inspected daily, but as far as compliance inspections are concerned, they were conducted at the frequency outlined in the JURMP. For the other CIP projects, the City's Inspector was onsite daily to monitor the site.

Table 3-3 Construction Site Inventory
Capital Improvement Projects 2009/20010

Project Name and Location	Inspection Frequency	Type of Construction	Start Date	Project Size	Watershed	FY 09/10 Active Wet Season / # Inspections	FY 09/10 Active Dry Season / # Inspections	FY 09/10 Total # Inspections
Eden Gardens Pump Station	High	Sewer Pump Station	Jun-08 Completed Apr-10	<1 acre	San Dieguito	28 Weeks / 14 Inspections	16 Weeks / 4 Inspection	18
Steven's Ave Emergency Storm Drain Repair	High	Storm Drain Repair	Jun-10	<1 acre	San Dieguito	0 Weeks / 0 Inspections	4 Weeks / 4 Inspections	4
Sewer Repair Project	High	Sewer Repairs	May-10	<1 acre	San Dieguito	0 Weeks / 0 Inspections	8 Weeks / 8 Inspection	8
Pump Station Vault Maintenance	High	Sewer Vault Maintenance	Mar-10	<1 acre	San Dieguito	4 Weeks / 4 Inspections	12 Weeks / 6 Inspections	10

3.6.1 Significant CIP Project Narratives

In this section, Staff felt it was necessary to add some additional narrative to some of the more significant CIP projects, and to explain some other projects that weren't necessarily planned construction activities, but ones that were either emergency, preventative or experimental that occurred during this reporting period. Staff feels that these projects were significant in showing the City's proactive approach to protecting the local environment. There are as follows:

Sewer Assessment and Repair Program

The City embarked on a significant project to video and inspect the entire sewer system infrastructure during this reporting period. The City Council authorized approximately $150,000 towards this assessment and repair program with the intent to prevent any failures in the City's infrastructure. The City hired consultants to video the entire length of the sewer pipes and develop an assessment report to categorize the infrastructure into priority replacement projects. The City repaired all high priority areas on the western side of the City (west of I-5) and has scheduled the eastern side for FY 2010/2011. This is a very aggressive and proactive program that demonstrates the City's commitment to no sewer spills in the City.

Fletcher Cove Pump Station Vault Maintenance

The City identified some maintenance that needed to be conducted on the Fletcher Cove Pump Station Vault (Vault), as the top portion was starting to erode away. The Vault is located directly downstream from the public restrooms in the Park, which has had some minor overflow issues in the past. The restrooms contained floor drains that were connected to a "Sand Trap" permanent treatment control BMP maintained by the City. The Sand Trap was connected to the Low-Flow Diverter, which is connected back to the sewer system. The RWQCB was notified by a concerned resident that there is a small potential for bacterial contamination of the ocean receiving waters if the restrooms backed up, the Sand Trap was full and the Low-Flow Diverter was not working. Although highly unlikely, Staff did take this concern very seriously. City Staff met with RWQCB staff multiple times to discuss the issue and potential solutions, and the City took the opportunity to fix the problem along with the Vault maintenance project. The City redesigned the floor drain pipes, realigned them to bypass the Sand Trap and Low-Flow Diverter and connected them directly to the Vault. A manhole was also installed to allow for routine cleaning and maintenance of the lines to prevent blockages.

This project demonstrated the City's willingness to go above and beyond the requirements of the Permit to fix a potential pollutant source before it became a problem. In addition, City Staff would like to thank RWQCB staff for their assistance and cooperation in developing a workable solution for all, including the community. Although there was never a spill that reached the ocean, the City still felt it necessary to take proactive steps to ensure the integrity of the receiving waters.

Marine View Slope Maintenance

The City has a very large slope on the east side of I-5 on Marine View Avenue that has been a problem area for large-scale erosion. The slope is now bare with no vegetation, and gullies have been cut out over the year by large rain events. These rain events produce a significant amount of erosion, and the City has attempted many solutions over the years, with minimal success. Staff has attempted to work with specialized erosion control consultants, but has been told by them all that there are no solutions for this particular problem. The slope is too large, steep and has too many ruts and gullies for the standard erosion control BMPs, such as hydroseeding, matting and even bonded fiber matrix. The City has installed a reinforced silt fence at the bottom that has to be replaced after every rain event, and takes up a lot of Staff resources.

Staff was approached by a local erosion control company in August 2009 to become a pilot project for a new hydroseed formula called "Rhino Snot." Staff agreed to use the product on the Marine View Slope, and it held up remarkably well during the rainy season. The product was placed on a portion of the slope and prevented erosion throughout the entire rainy season. It worked so well that Staff has scheduled for the application to be done on the entire slope the first week of October, 2010. Staff will be monitoring the location throughout this rainy season and hopes to have found a long-term solution. The City does have a large-scale CIP project planned for this slope, but does not currently have the funding for it. The results of this year's application will be reported on in next year's Annual Report.

3.7 Threat to Water Quality Prioritization

In accordance with Permit Section F.2.e., the City describes the criterion for designation of construction projects as high, medium, or low priority, in its JURMP. *There are **no changes** to report in the City's criterion for determining a project's impact or threat to water quality.* The City's prioritization criterion meets

the requirements of the new Permit, so no changes were needed.

Of the active projects currently under construction, *there are no changes to report with respect to the potential threat to water quality*. The City is 95% "built out" which does not leave much room for major development projects. The only projects that would fall under the high priority would be significant redevelopment projects, which there were none of during this reporting period. The City is closely monitoring two potential projects that may fall under the high priority in the next reporting period, pending permit approval. It is important to note that City Staff is currently working with the prospective developers to ensure they integrate beneficial storm water designs (LID) during the design phase. The following projects are being closely monitored by City Staff:

1) Multiple plans have been submitted to the City to build a hotel/restaurant and condos on the east side of Highway 101 at the northern tip of the City (commonly referred to as the Magellan site), however it has been met with some opposition within the community and a compromise is being sought. Plans still have not been adopted by the City Council at the time of this report. If a project is accepted for development in that area during the next reporting period, it will be a high priority project subject to the SUSMP process because of its proximity to the San Elijo Lagoon, a 303 (d) listed water body.

2) Another *potential* high priority project that is being discussed is a large multi-use residential/commercial development on what is currently the North County Transit District's (NCTD) train station property. This proposed project has also come under heavy scrutiny from the public and no plans have been approved by the City. If a project is approved for development on this site during the next reporting period, it will be a high priority project because of its size and pollutant potential. It will be subject to the SUSMP requirements much like the project mentioned above.

One of the projects including in last year's Annual Report was approved by City Council in April 2009. The project is the redevelopment of a portion of a commercial property located just east of Interstate 5 at Lomas Santa Fe Drive. However, like mentioned above, it often takes many months for a project to actually get started after the approval process. The project, much like most of the construction projects in the current economic times, has been suspended indefinitely until financing can be secured. If it becomes active during FY 2010/2011, it will be reported on in next year's Annual Report.

The City's Capital Improvement Projects (list available upon request) will be considered at least a medium priority for several reasons. First, priority categories may only result in a change in the frequency of oversight and since the City Inspector visits each public construction site on a daily basis, it eliminates the need for delineation in priority. Second, given the City's proximity to the Pacific Ocean, all erosion, sediment and runoff control practices are very important and are expected to be very beneficial to the community. Therefore, the designation of "medium or high priority" improves the likelihood that CIPs will not contribute to an exceedance of water quality standards. It doesn't make sense to categorize a CIP project as low priority since the City holds itself to a higher standard than the rest of the community. The City strongly feels it should lead by example, and since the City Inspector is onsite everyday at CIP projects, storm water issues are addressed daily.

3.8 BMPs and Pollution Prevention Methods

As noted in the City's JURMP, the City requires general and specific BMPs for construction sites. With the modifications in the development review process, the City is able to require site design, source control and treatment BMPs prior to construction. Owners and developers are provided a BMP Construction Brochure (see Appendix I), and they meet with Engineering Staff to develop methods to ensure that runoff is not increased as a result of their proposed project. The City believes that working with the contractors during the plan development (when applicable) and approval process is the most critical time period to ensure that appropriate BMPs (structural, pre-and post-development) are built into the project *before* pollutants are allowed to enter the storm drain conveyance system.

BMP Selection

The City does not require a specific or certain type of BMP (except for SUSMP projects) for all projects similarly designed. Instead, Staff evaluates each project on its own merit and determines if modifications to the plans are required to control erosion and/or reduce runoff. City Staff works together with property owners and developers to find satisfactory solutions to project problems.

Pollution Prevention Methods (PPM)

Construction limitations – the City limits construction during the wet season when construction plans warrant and when it is feasible. Implementation of this PPM reduces the potential for pollution.

Education – the City sends out letters to all active public and private construction projects prior to the wet season as a reminder of the importance of implementing the required BMPs (see City JURMP for a description) and the importance to take precautions during storm events (Appendix N). Additionally, a BMP Construction Brochure is attached to all permit approvals and distributed at City Hall Engineering and Planning counters to all prospective developers and interested members of the community.

Inspections – as discussed below and elsewhere in this report, the City Inspector and Environmental Programs Manager visit construction sites and keep a record of BMP implementation and effectiveness. When a developer does not comply with the City Inspector's request to modify practices to reduce runoff or erosion, a Stop Work can be issued and fines may be levied.

3.9 Enforcement and Inspections

Enforcement of the City's Municipal Code is conducted by the City's Code Enforcement Department. The City Inspector and Environmental Programs Manager conduct inspections of construction site BMPs, but if enforcement actions above verbal warnings and written NOVs are necessary, Code Enforcement Officers are notified.

Code Compliance

The City has developed procedures to track and monitor citations issued to property and business owners, visitors, and developers. These procedures include the implementation of an Administrative Fine process which was adopted by the City Council on June 18, 2002. This process allows Code Enforcement Officers to issue administrative citations and penalties beginning at $100 and rising up to $1,000 for each violation per day that the violation(s) occur; this applies to construction sites, public and private.

In addition to the administrative fine process, the City adopted a Civil Penalty Matrix (Matrix). This is a very significant tool that has greatly enhanced the efficiency and consistency of enforcement for storm water violations. The City felt it was necessary to develop a matrix to evaluate each violation in the field, and to respond to them in a consistent and appropriate manner. The Matrix was designed so that anybody in the field who witnesses a violation can apply the parameters of the Matrix to decide the appropriate way to respond. This greatly enhanced the efficiency of the storm water program, as not all violations require multiple Staff to respond or, if a fine was necessary, Staff did not have to wait for

approval from upper management to issue it. This would sometimes take as long as month, but with the Matrix, this could happen instantaneously in the field.

The Matrix was modeled after the City of San Diego's Civil Penalty Matrix. The Matrix was modified for the type of violations most often encountered in Solana Beach, but the foundations are very similar. The Matrix breaks down the violation into two categories, Environmental Significance and Compliance Significance. These categories are further broken down into Moderate, Major, and Severe. According to the type of violation and the history of the violator, the penalties will be placed in the appropriate section of the Matrix. This ensures that all violations are treated consistently, and the feelings of the investigating officer do not interfere, so the enforcement actions do not vary. This, according to our Code Enforcement Department, is extremely important if a fine gets challenged in court. The Matrix has been in use for over four years, and a fine has not been successfully challenged yet. The Matrix was developed in cooperation between the City's Environmental Specialist and Code Enforcement Officer, further showing the great working relationship between City Departments.

The Matrix is used for all violations, not just construction related offenses. It can be applied to municipal, commercial, and residential offenses. For the complete Civil Penalty Matrix, see Appendix M.

Site Inspections

All construction sites that have a potential to discharge pollutants are inspected by the City Inspector and Environmental Programs Manager, this includes public and private development projects. The City Inspector and Environmental Programs Manager inspect all development projects in the City in accordance to the JURMP.

The sites are inspected at the rate of frequency established in the JURMP. At a minimum, each site that is determined to be high inspection frequency priority will be inspected at least every two weeks during the rainy season (October 1st through April 30th). Medium inspection frequency priority projects are to be inspected at least monthly during the rainy season. Low inspection frequency priority construction sites will be inspected on an as-needed basis during the rainy season. All construction sites will be inspected for storm water management compliance on an as needed basis during the dry season.

With the combination of the City Inspector and Environmental Programs

Manager, the City is often times able to inspect construction sites more frequently than required by the Permit. Both the City Inspector and Environmental Programs Manager devote time out of their schedule to visually monitor all construction sites. Sometimes this is done in tandem, but often times it is simply a drive-by of all sites. They meet routinely and discuss any problems observed, if any. This has been very successful in preventing pollution from leaving construction sites, as most problems are fixed before any illegal discharges leave the property. Since there are not too many projects in the City, this type of monitoring is highly successful, as private project managers and City Staff communicate very effectively.

If any potential violations are noticed during either the visual inspections or on-site inspections, City Staff will stop and talk with the property owner/contractor, write a letter, request Code Compliance to issue a citation, issue a "stop work notice" or a combination of these activities. The City's Civil Penalty Matrix, discussed previously, is also used for construction related violations.

In addition, City Staff conducts informal visual inspections at all medium and high priority construction sites prior to a rain event to ensure all BMPs are installed correctly and working properly. A follow-up informal visual site inspection is then conducted during and/or after the rain event to monitor how effective the installed BMPs were and if any modifications need to be done. Construction sites are constantly evolving and require constant monitoring, which the City Staff understands and enforces.

All inspections conducted during this reporting period addressed all the required inspection steps to determine full compliance. There were no sites that required multiple follow-up inspections or reporting to the RWQCB, as all were either in compliance at the time of inspection or made the necessary corrections after the initial inspection and were in compliance during the follow-up inspection.

Enforcement of BMPs

During inspection of construction sites, City Staff verifies that appropriate BMPs have been installed correctly and are working effectively (sediment is on-site, erosion control methods in place, runoff mitigated or not leaving property, etc.). In addition, City Staff has the authority to immediately require new BMPs if erosion control, runoff, or other activity is taking place that contributes pollutants into the City's MS4.

During this reporting period, the City staff conducted inspections of all CIPs and mandatory inspections of private projects within the City's jurisdiction and did not need to report any non-compliant sites to the RWQCB. Any site that was determined to be out of compliance was immediately notified and the problems were resolved within the time frame specified by the City.

Educational Activities

The educational activities conducted for construction sites consisted mainly of verbal conversations between the contractor/developer and City Staff. Because of the relatively few projects in the City, it is possible and practical to discuss issues during the pre-construction meeting and on-site with the contractors. Also, they are given the Construction BMP brochure prior to the start of the project and ongoing inspections/meetings occur throughout the project. The City believes that it is much more effective to talk with the contractor face-to-face about storm water issues and, since we are a small city, it has been and continues to be very effective.

An educational brochure (Appendix O) was recently developed by the City that focuses on general construction site requirements relating to all City codes. The brochure, titled "Construction Site Supervision in Solana Beach: Code Requirements and Good Neighbor Practices," was requested by the City Council as a general educational tool to be distributed to all contractors. This has been very well received by the development community because it addresses everything from construction hours to permitting to storm water BMPs. This is another example of the City's proactive approach to community education.

Another tool that was developed and is currently being implemented is the Construction BMP Brochure (Appendix I). This was developed by the North County Storm Water Program to provide a single message and consistent requirements to all contractors/developers in the region, regardless of where they are doing work. This brochure was meant to supplement each individual cities educational outreach to ensure that the development community was receiving a consistent message regarding proper construction practices. This brochure has been very well received by the development community and in Solana Beach has replaced the Construction BMP Guide as the primary educational tool distributed to the development community.

Additionally, as discussed previously, the addition of the *Environmental* section to the building permit routing sheet has afforded the City another opportunity to

educate the applicant/contractor on the storm water regulations. Every project that has the potential to discharge pollutants to the MS4, regardless of size or type, is reviewed by the Environmental Programs Manager and commented on.

Another educational tool utilized by the City to get the word out to the community is the City's newsletter "Shorelines." The newsletter is updated and distributed four times per year and is eagerly anticipated by the community. A variety of storm water topics are touched upon in each edition, including construction. These articles are usually focused on education for single-family residential projects since often times these are done by smaller contractors that may not have the knowledge that larger developers do. In addition, the City wants to educate the property owners of the regulations and let them know that they are ultimately responsible for actions their contractors do, including violations. Often times, City Staff discovers that the property owners are the best allies to have because they don't want to be held responsible, so they ensure their contractors are adhering to the regulations. It's been a very effective tool in storm water management throughout the community.

These smaller projects hold a much higher priority in our City because of the lack of larger projects; so educating the individual homeowners is extremely vital. Also, the City has found that the smaller projects have the most potential violations, as most are owner/contractor situations where they are not aware of the storm water regulations. The larger projects often have erosion control specialists and employees who are required to attend storm water education classes. The newsletter comes out four times a year, and are included as Appendices and described in later chapters of this Report.

Special Project BMP Education

An effective tool that has been recently developed and continues to be implemented is the development of specialized BMP notices for specific types of specialized construction activities. For example, a large scale effort is being made to underground overhead power lines for view impact reductions around the City. These were special projects that did not go through the normal permitting process. Therefore, these plans would not have been reviewed by the normal parties, and since the City is dedicated to storm water protection, City Staff developed a special "Undergrounding Utility District Construction Best Management Practices" handout (Appendix P). This was a one page handout to be included in every permit application submitted by those participating in this program. Since the process of undergrounding utilities involves moving a lot of

dirt, the City felt it prudent to take this extra precaution to ensure the proper BMPs are in place.

If any special projects in the future require project specific BMPs, the City is dedicated to developing materials to distribute to the applicants.

Post Construction BMP Inventory and Inspection

Another significant new requirement in the Permit mandates that the City must develop an inventory of all post construction BMPs and conduct annual inspections for Priority Development Projects (SUSMP). The City now has the ability to ensure that all post construction BMPs are installed and maintained by the contractor and/or property owner. The *Environmental* review section on the routing sheet contains a section that can be marked for inspection required prior to installation or prior to final approval of the project. This was done to ensure post construction BMPs required on the plans are actually installed and ensures maintenance through a special agreement that is recorded on the property through the County of San Diego. The City found in some cases that the post construction BMP(s) are often buried in the ground before inspection, thereby making it impossible to inspect and ensure it was properly installed according to the approved plans. So, the City revised the routing sheet to include a box that, when checked, puts the onus on the contractor to call for an inspection during the installation to ensure it is actually being done. This way, it can be more efficiently documented and inspection required before the permit gets final approval. In addition, this allows the Environmental Programs Manager the ability to document in a spreadsheet the type of BMP, location and inspection frequencies as the plans are being reviewed. This will assist City Staff with post construction inspection documentation requirements prior to the start of the project.

Construction and Demolition Debris Recycling Ordinance

In January 2008, the City Council adopted a Construction and Demolition Debris Recycling Ordinance (C&D Ordinance). This ordinance requires all demolition projects and construction projects over a valuation of $100,000 to submit an approved Waste Management Plan (WMP) detailing how the contractor will recycle at least 50% of the waste generated from project. The contractor will not receive final permit approval until they have proven at least 50% of the waste was recycled.

This is an extremely significant accomplishment for the City and its clean water efforts. According to the National Association of Home Builders (NAHB)

Research Center, the building of a 1,700 square foot home requires:

- 9,700 board feet of lumber
- 750 copper wire
- 2,500 square feet of insulation
- 6,484 square feet of drywall
- 170 feet of copper pipe
- 55 gallons of paint
- 55 cubic yards of concrete

This is a significant amount of waste that would normally end up in the local landfills, or worse, illegally dumped in the environment. This ordinance requires contractors to recycle their used materials, guaranteeing that it does not pollute the environment. This is another example of the progressiveness of the community as a whole when it comes to protecting the environment.

3.10 New Activities and Improvements in FY 10/11

City Staff will continue to review all plans, enforce BMP (site, source and treatment) installation, conduct inspections and keep an accurate inventory of the private and public projects and post construction BMPs. The City is committed to working with the other cities within its respective watersheds (Carlsbad and San Dieguito) to ensure compliance with all storm water regulations and continue to develop watershed educational information.

The primary focus for FY 10/11 will be the continued development and implementation of the LID, HMP and SUSMP programs. These are major program components and the City is committed to working with the other Copermittees to develop a high quality work product that can be implemented region-wide. These three components are extremely important to maintaining and enhancing the water quality in the region as more and more land is developed. Training of appropriate City Staff on these new requirements will be a priority to ensure successful implementation of the new programs. In addition, Staff is currently reviewing its documents and handouts to ensure they are up to date and accurate with the new requirements.

City Staff is currently reviewing its construction inspection protocol and changes might be made in the upcoming reporting period. As reported above, the current construction inspections are being conducted by the City Inspector and Environmental Programs Manager. The City is analyzing the current practice and due to potential upcoming staffing changes (retirements, reorganization),

changes might be on the horizon. The City is assessing whether or not construction inspections should be continued in-house, or if contracting out those services to a specialized consultant would benefit the City and the community. The City's recent successes with contracting out the commercial/industrial inspections, Dry Weather Monitoring Programs services and Staff trainings have made the City take a hard look at other service areas as well. There is also the possibility that a part-time Code Enforcement Officer will be hired with the focus of construction inspections. This analysis is occurring at the time of the writing of this report and more information will be given in next year's Annual Report.

3.11 Summary

The City has been effective at implementing a plan-check process that has resulted in the implementation of BMPs, site design modifications, structural changes and runoff mitigation activities in project proposals and/or construction activities. Both public and private construction projects are subject to the City's strict standards, which provide a consistent approach to reducing urban runoff from construction activities. The City has effectively integrated the new stricter standards of the Permit, including the SUSMP, into its plan-check review process. The City has also developed project specific construction BMPs for large-scale specialized construction activities such as the Undergrounding Utility Districts that are forming around the community.

The City will continue to actively analyze the construction program and make necessary improvements/modifications to ensure the protection and enhancement of the local water quality. An example of the City's commitment was the addition of the Environmental review section of the permit routing sheet. The City felt like some smaller projects, although not specifically required to be plan reviewed and inspected by the Permit, may have the potential to be overlooked. Therefore, now *all* plans are reviewed by the Environmental Programs Manager and necessary changes can be made before plans are approved. Also, the reduced grading ordinance modification demonstrates the City's commitment to reviewing as many projects as possible and integrating storm water management requirements to projects that would have been overlooked in the past.

The City, along with the other regional Copermittees, developed and is now implementing the two significant new requirements, the HMP and LID. These two programs are significant additions that will require City Staff to work with the other Copermittees to implement regional programs to address runoff from

construction projects. These new programs also include an educational component, which the City is currently developing in conjunction with the region. The City is committed to participating with the regional Copermittees to develop and implement these respective programs, even though the HMP is not expected to affect any projects within the City. The City values itself as an active Copermittee, and allocated funds to the HMP development, even though it is highly unlikely to affect any projects within the City's jurisdiction.

The City is also currently analyzing the construction inspection protocol and is considering outsourcing the inspections to a specialized consultant. The City had such great success with outsourcing the commercial/industrial inspections and Staff trainings that it is now assessing whether or not an outside consultant would be a benefit to the community and help with limited Staff resources. This will be discussed further in next year's Annual Report.

CHAPTER 4
Municipal Component

CHAPTER 4: MUNICIPAL COMPONENT (EXISTING DEVELOPMENT)

4.1 Introduction

In accordance with Permit Section F.3.a, this section of the report describes the City's efforts to prevent or reduce pollutants in runoff from municipal land use areas and activities.

In each Annual Report to the RWQCB, this section will include modifications to the City's inventory of municipal facilities, pollutant source identification and potential threats to water quality. In addition, this section of each Annual Report will include results from the City's efforts to implement BMPs at municipal facilities, program accomplishments and activities. Also, a summary of activities conducted post-reporting period may be included if the activity is deemed essential to understanding the City's efforts at reducing urban runoff or Permit compliance.

Municipal facilities and areas within the City of Solana Beach include public parks, public buildings, streets, roads, and parking lots, a public works yard, and the MS4 system. During this reporting period, the City once again conducted a comprehensive re-evaluation of its municipal sites to understand potential sources of pollution, threats to water quality, and to develop a plan to mitigate or eliminate urban runoff and pollution from its facilities by implementing Best Management Practices (BMPs). This was accomplished through inspections of all public facilities.

4.2 Inventory of Municipal Facilities

During this reporting period, in response to the requirements of the Permit and in an effort to improve the quality of water in the region, the City once again inventoried its municipal sites and activities. Table 4-1 presents the City's municipal facilities, by prioritization level. *There are no changes in the City's inventory of municipal sites from those submitted to the RWQCB in the City's last Annual Report.*

The City's municipal facilities include five public buildings (City Hall, Fire Station, Marine Safety Center and the community centers at La Colonia Park and Fletcher Cove), one Public Works Yard, six public parking lots, City streets and roads, the Municipal Separate Storm Sewer System (MS4) and the beach (which consists of four access locations: Del Mar Shores, Seascape Sur, Tide Beach Park, and Fletcher Cove).

Table 4-1
Existing Municipal Facilities, By Priority Level

Facility Name	Facility Address	Type of Activity	Priority
Public Works Department	1764 Highland Drive	Materials storage, fleet parking, administration	High
North Seascape Sur Surf Park	Public beach access west of Highway 101	Public beach	High
Roads, streets	Citywide	Circulation	High
MS4 System	City-wide	Storm-water conveyance system	High
Fletcher Cove Parking Lot	North end of Plaza St.	Parking	High
Distillery Parking Lot	Sierra and Lomas Santa Fe		
Solana Beach and Tennis Club	West end of Dahlia St.		
Seascape Sur Parking Lot	Seascape Sur Easement		
Del Mar Shores Parking Lot	Sierra Ave. near Del Mar Terrace		
Del Mar Beach Club East Parking Lot	Sierra Ave. east of Del Mar Beach Club Dr.		
City of Solana Beach Fire Department	500 Lomas Santa Fe	Public Building - Fire Station, fleet and fire equipment storage	Medium
City of Solana Beach City Hall	635 S. Highway 101	Public Building -Administrative	Low
Marine Safety Department, Fletcher Cove	111 S. Sierra Ave.	Public Building Administrative, marine safety equipment storage	Low
Fletcher Cove Community Center	111 S. Sierra Ave.	Public Building – Community Center	Low
La Colonia Park and Community Center	715 Valley Ave	Public Park and Building – Community Center, administrative, park	Low
Tide Beach Park	302 Solana Vista Drive	Public beach	Low
Del Mar Shores	190 Del Mar Shores	Public beach	Low

4.2.1 Inspection Frequency of Municipal Sites

The City inspects all of its municipal sites listed above on a continuous basis. The inspections address all the required inspection steps to determine full compliance. Every winter, prior to the wet season, the Public Works Yard (Yard) is given a complete inspection and all Public Works employees are given a complete storm water refresher training seminar. Also, the Public Works Crew is put through a practice run of the Wet Weather Triggered Action Plan to prepare for the upcoming wet season. At this annual inspection, the current inventory of the storm water BMPs kept on-site (gravel bags, bio-filter rolls, straw rolls, etc) is

documented and additional supplies are ordered if necessary. Visual inspections are conducted on a daily basis by the Public Works Crew.

As required by Permit Section J.3.a(3)(c)xix, the City confirms that the municipal inspections addressed all required inspection steps to determine full compliance.

Here are the specific dates and numbers of inspections for the City's municipal areas:

Public Works Yard: Weekly facility visual inspections by City Staff. Compliance inspection conducted last year on June 18, 2010.

Roads and Streets: Daily visual inspections by City Staff. Every street is swept at least once per month. Main arterial streets and collector roads are swept twice per month. These frequencies are set based on Permit requirements and the size and frequency of use by vehicles on a daily basis.

Parking Lots: Weekly visual inspections by City Staff. Every City parking lot is swept once per month. In addition, the Fletcher Cove Park parking lot is swept monthly during the summer months due to an increase in use during the summer.

MS4 System: Weekly visual inspections by City Staff. Highest priority catch basins cleaned annually (those with accumulated debris inside). All 309 catch basins and 15 unimproved channels were inspected and 26 catch basins were cleaned. Approximately 3.5 cubic yards of debris was removed from the MS4 system during this reporting period.

Fire Department: Daily visual inspection by City Staff. Compliance inspection was conducted on June 18, 2010.

City Hall: Daily visual inspection by City Staff. Compliance inspection was conducted on June 18, 2010.

Marine Safety: Daily visual inspection by City Staff. Compliance inspection was conducted on June 18, 2010.

La Colonia Community Center: Daily visual inspection by City Staff. Compliance inspection was conducted on June 18, 2010.

Beaches: Daily visual inspection by City Staff (Marine Safety Department).

4.2.2. Follow-up Activities

There were no follow-up activities required as a result of the municipal inspections. Due to the education, knowledge and constant monitoring by City Staff, no violations were detected during the compliance inspections.

All municipal facilities are implementing the necessary BMPs and all employees were properly trained. The Public Works Yard required no corrective action as everything remained in compliance. The Wet-Weathered Action Plan was successfully implemented and the employees were trained again and had a practice run prior to the beginning of the wet season.

4.2.3 Implementation of Pesticides, Herbicides and Fertilizer BMPs

As reported in last year's Annual Report, the City used to house a small amount of pesticides, herbicides and fertilizers at the Public Works Yard. However, City Staff no longer handles any pesticides, herbicides or fertilizers and does not store any of this material onsite. Instead, all applications are conducted by the City's contracted landscaping company and no material is stored at City facilities. This greatly reduces a high priority pollutant source and eliminates the potential for a release into the City's MS4.

In addition, the City has recently switched to using only organic pesticides, herbicides and fertilizers on City property. This change was approved by the City Council and additional funds are allocated to implement the program. The City is extremely proud of this transition, as the chemically produced materials can create significant water quality degradation. This major transition (including financially) was approved and encouraged by the City Council, which reflects the environmentally conscientious attitude of the community.

4.3 Pollutant Source Identification

To assist the City in determining the source of pollutants in its receiving water bodies, and/or the receiving water bodies of neighboring jurisdictions, the municipal facilities were also identified by Watershed in the City's JURMP*. There are no changes to report in the municipal facility by watershed classification.*

During this reporting period, Staff continued to evaluate the possible types of pollution that could be generated from each municipal facility. The evaluation included the following:

- Type of materials stored or used on site
- Activities conducted on site

- Proximity to conveyance system, or environmentally sensitive areas
- Any additional activities that may affect water quality such as additional storage or new materials kept on-site

Results from the evaluation indicate that most City facilities are a low threat to water quality. Parking lots, streets and roads, and the Public Works Yard are the highest priority of municipal facilities as they could introduce pollutants into the conveyance system, which could impact water quality.

The City is committed to implementing BMPs that will reduce pollutants from parking lots, streets and roads and, in particular, the Public Works Yard. The City has installed and maintains a BioClean filter in one of the upstream catch basins that lead to the problem Seascape Sur storm drain outfall. In addition, the City installed a curb inlet screen at the same catch basin upstream from Seascape Sur to prevent debris, and possible pollutants, from entering the catch basin.

As reported in last year's Annual Report, an additional BMP catch basin inlet screen was installed in the opposite catch basin across the street as a pilot test project. This inlet screen automatically opens up during a rain event to prevent flooding, but remains in place during dry weather periods. The sturdy screen also contains a filter in the basket behind the screen to further filter out pollutants prior to entering the Seascape Sur storm drain. These two BMPs will be studied and sampling results analyzed to determine if they are effective BMPs for the problem pipe. The results will be described in more detail in Chapter 12 (Special Investigations)

The Public Works Yard is visually inspected daily and BMPs are maintained and reinforced as needed. In addition, the City utilizes results from its dry-weather-monitoring program to determine if pollutants are entering the system from its municipal facilities.

The City's 2009 Dry-Weather-Monitoring Program (DWMP) was completed by the City in September 2009. The results indicated a continuing concern at Seascape Sur, which has been an ongoing problem in the City (see discussion in Chapter 12, Special Investigations), where elevated levels of bacteria were detected. An investigation into the identification of the pollutant source is ongoing, and the City is looking into alternatives ways to address the situation. No municipal facilities were found to be contributing the pollutants.

The City utilized the information from the 2002-2009 DWMPs and the criteria established by the Permit (Order 2007-0001) to further develop its 2010 Dry-

Weather-Monitoring Program. The results of the 2010 program will not be available until after this reporting period, but if any exceedances are detected, follow-up actions will be taken immediately. The results of the 2010 DWMP will be included in Chapter 7 (IDDE) of this Report, which will be submitted separately in December 2010 as agreed to by the RWQCB Staff.

4.4 Threat to Water Quality Prioritization

The City utilized the criteria prescribed in Permit Section F.3.a. (3)(a) and (b) to prioritize the facilities based on their potential Threat To Water Quality (TTWQ) from storm water runoff. In addition, dry-weather monitoring data and previous complaint records were included in the evaluation. As noted in the City's JURMP, results from the 2009 DWMP indicated that there were no illegal discharges or illicit connections associated with existing municipal facilities. However, the City still classified its public parking lots, MS4 system, streets and roads and the Public Works Yard as *high priority* using the criteria of the Permit. Also noted in the JURMP, the City classified the beach at Seascape Sur as a *high priority* because results from historic dry-weather monitoring and Coastal Monitoring programs indicated elevated levels of bacteria (see Chapter 12, Special Investigations).

The Fire Station facility was the only municipal site classified as medium-priority, due to the types of materials stored onsite (although always indoors). The City Hall building, the Community Center at La Colonia Park, Tide Beach Park, Fletcher Cove Community Center and the Marine Safety Center facility were classified as low priority primarily due to the activities conducted at those sites.

There are no changes to report in the City's prioritization of its municipal facilities.

It should be noted that in the 2003 Annual Report, the results of the 2003 Wet Weather Monitoring Program revealed very high levels of the pesticide Diazinon within the watershed. The City focused its efforts on reducing the use of Diazinon within the City and by municipal landscaping contractors through educational activities. The City is happy to report that Diazinon was not found in any of the samples analyzed by the lab for our 2004, 2005, 2006, 2007 or 2008 dry weather programs. This is consistent with the overall trend region-wide showing that Diazinon levels have been steadily decreasing. The City can now focus on other pesticides or high priority pollutants in the ongoing effort to improve water quality in the region. This is a success story that can be celebrated by the entire region, and is a great case proving the validity of the

storm water program as a whole.

4.5 Pollution Prevention Methods

As described throughout the Municipal Component Section of the JURMP, the City has established pollution prevention methods that focus on municipal operations, including operation and maintenance of its MS4 system with the goal of preventing and reducing pollutants in runoff. The following is a list of some of the methods in place to accomplish this goal:

- Annual inspection and cleaning of the City's MS4 system
- Routine street sweeping (schedule is on the City's web site and available upon request)
- Sediment and erosion control methods (application of Visqueen, materials coverage, silt fences, etc.)
- Facility and ground maintenance conducted in a manner that would not contribute pollutants to a conveyance systems and expected to reduce pollutant runoff during storm events
- The use of bio-filter roll(s) as a PPM at municipal facilities
- The installation and maintenance of permanent treatment BMPs at City facilities (Two CDS units, pervious pavement, Sand Trap and a large Bioswale)
- Maintenance of the MS4 including routine inspections, annual cleaning and proper disposal of captured materials
- Spill response procedures (street and road spills, facility spills)
- Household Hazardous Waste Collection (Note: the City participated in a reciprocal use agreement with the Cities of Vista, Poway and Escondido for use by Solana Beach residents to recycle their household waste materials.) The City also offers a door-to-door program (more on this later in the Report).
- Installation and maintenance of two catch basin inlet filters and debris screens at ongoing problem area directly upstream from Seascape Sur beach outfall.

In the City's JURMP, the above pollution prevention methods were expanded for implementation at all City municipal facilities, depending on the type of activities conducted at each facility. To assist in developing appropriate BMPs, the facilities were categorized into the following types:

- Landscape and recreational facilities
- Roads and streets maintenance

- Public buildings
- Public Works Yard
- Parking facilities
- Storm Drain Conveyance System (MS4)

Specific BMPs were then developed for each category type identified and presented in the City's JURMP. For example, BMPs for the Public Works Yard (JURMP, Section 6) include:

- Materials storage alterations
- Visual inspections
- Improved operations and maintenance
- Good housekeeping procedures
- Preventative maintenance
- Spill prevention
- Sediment and erosion control
- Employee training
- Vehicle and equipment maintenance operation alterations
- Waste disposal and recycling
- Vehicle equipment and washing
- Storage tanks
- Outside storage

During this reporting period, the City implemented pollution prevention methods (BMPs) for each facility type based on what was presented in the City's JURMP. Municipal facilities were inspected by City Staff to ensure the implementation of BMPs was occurring.

4.5.1 Proactive Approach to Pollution Prevention – JURMP Requirements

Because of the City's proximity to the Pacific Ocean, Staff has been proactive in its approach to urban runoff and pollutant mitigation and reduction, not only during this reporting period but also prior to the implementation of the JURMP.

Annual Inspection and Cleaning of Storm Drain System

The City conducts an annual inspection of its storm drain system – citywide. Public Works staff inspects all 309 catch basins in the City and prioritize each based on the severity of sedimentation and trash build-up in accordance to the Permit**.** All catch basins that contain trash or sediment build-up in excess of the Permit requirements are cleaned using a Vactor truck. During this reporting

period, the City inspected all 309 catch basins and 15 unimproved channels. Twenty-six (26) catch basins had accumulated debris and all 26 were cleaned, resulting in 3.5 cubic yards of material removed from the storm drain system (which includes open channels, etc.). The material, primarily sediment and debris, was properly disposed of at the San Elijo Wastewater Reclamation Facility.

Special Events Vendor BMP Requirements

The City developed a "Special Events Vendor BMP Guidelines" (Appendix C) for all events that require a Special Events Permit. The guidelines include BMPs for food vendors, event coordinators and event workers. The guidelines include BMPs such as:

- Protecting all adjacent catch basins
- Trash and recycling containers required
- Portable restroom secondary containment
- No dumping into storm drains
- Proper clean-up practices (No water)

These requirements are all included in the Special Events Permit. For larger events, such as the City sponsored Fiesta Del Sol and Beach Blanket Movie Night, the City holds multiple meetings prior to the event with the organizers and all issues are discussed. The organizers are required to submit their BMP plans to the City, and City Staff monitors the events throughout their entirety. The City schedules post-event street sweeping through its street sweeping contractor for all major events.

Pet Waste Bag Dispensers

The City actively installs Pet Waste Bag Dispensers and maintains the dispensers to encourage proper pet waste disposal. Several years ago, the City placed these dispensers and signs along both sides of Sierra Avenue to encourage their use to prevent pollutants from entering the MS4 (Sierra Avenue is the street closest to the beach, and runs parallel west of Highway 101). The City implemented this BMP in response to results from its dry weather and coastal outfall monitoring, which indicated the presence of fecal bacteria at Seascape Sur. In an effort to educate the community about pet waste, the City periodically includes discussions about its pet regulations, which prohibits dogs in some locations of the City and on all beaches, in its community newsletter and recreation guide *Shorelines.* In addition, City Staff meets with property managers of the condominiums along Sierra Avenue and educated them on storm water

regulations and solicited their help in educating their residents.

The City recently completed its much anticipated Coastal Rail Trail. This trail runs parallel to Highway 101 the entire length of the City, and has become a popular walking/jogging spot for not only the residents, but their pets as well. The City required the project to include additional pet waste dispensers, and have found them to be used very frequently. In addition, the City recently completed the Fletcher Cove Park project, which is located adjacent to the ocean. One of the many environmental protection measures implemented as a part of this project was the installation of pet waste dispensers. City Staff maintains these new dispensers as well. This shows the City's proactive approach to protecting the integrity of the local waterways. This practice of requiring pet waste dispenser's at all new public projects will continue as it has been received very well by the community.

As part of the Public Works Department routine tasks, the pet bag dispensers are refilled daily. The amount of material that is prevented from entering the City's MS4 system as a result of this PPM is unknown and there is no acceptable method of estimating it, however, the City's Public Works Crew refilled approximately 1,385 bags per week during this reporting period. Here is how it compares to previous reporting periods:

- FY 08/09 – 1,380 per week
- FY 07/08 – 1,116 per week
- FY 06/07 – 1,298 per week
- FY 05/06 – 775 per week
- FY 04/05 – 625 per week
- FY 03/04 – 550 per week

The pet waste bags cost approximately $0.04 per bag, which resulted in an annual cost of $2,500 for FY 09/10.

Solana Center for Environmental Innovation

The City is proud to be associated with the Solana Center for Environmental Innovation (formerly Solana Recyclers), hereinafter referred to as Solana Center. Due in large part to the efforts of this group, the City was the first city in San Diego County to have a comprehensive *curbside* recycling program. In addition, to help educate the community, the Solana Center routinely writes articles for the City *Shorelines*. Also, Solana Center administers the City's Used Oil Recycling Program, providing education for schools, community groups and City events on

the proper disposal of used oil. For a complete listing of articles written in the *Shorelines,* please see Chapter 6, Residential Component. Finally, Solana Center Staff provides classroom presentations to Solana Beach schools educating the children on storm water issues and water quality. The presentations are free for the schools (paid for by the City) and are extremely popular. For a list of the presentations, see Chapter 8 (Education Component).

Recycling Efforts

The City takes a very proactive role in promoting recycling efforts throughout the community. In previous Annual Reports, the City would include in this section the diversion rates as reported to the California Integrated Waste Management Board (CIWMB). However, the CIWMB changed the way diversion rates are calculated and reported, so recycling percentages are no longer given. Instead, jurisdictions are given a "target" disposal rate for pounds/per person/per day based on historical disposal and recycling amounts. This can roughly be translated to recycling percentages, but as long as the City meets its designated disposal rate, it's considered 50% diversion (recycling) under AB 939. The City's 2008 (latest reporting period available) diversion rate is as follows:

- Target – 8.9 pounds per person per day
- Actual – 5.2 pounds per person per day

As you can see from the results, the City is significantly below the target rate, meaning the community is doing a tremendous job diverting waste from the landfills through means such as recycling, conservation, composting, etc. The City is extremely proud of the progress and results of its recycling efforts.

A significant effort to increase the already stellar recycling rates throughout the community was undertaken during this reporting period. The City recognized that the residential sector of the community was thoroughly committed to recycling and the results reflected this. This is due in large part to the City's transition to automated single-stream recycling a few years ago, which made it extremely convenient for residents to recycle. However, the results showed that commercial sector was not doing as well. The City analyzed its current Municipal Code to review its current requirements and identified some key areas to strengthen to help increase the commercial recycling rates. On May 12, 2010, the City Council adopted a new mandatory commercial recycling ordinance (Appendix G) requiring *all* commercial establishments to have a recycling program. The City anticipates this new requirement will have a positive impact on the overall

recycling rates once fully implemented.

As reported in last year's Annual Report, the City Council adopted a Construction and Demolition Debris Recycling Ordinance in January 2008. This ordinance is discussed in more detail in the Construction Component of this Report, however it's important to mention because it once again demonstrates the City's proactive and aggressive commitment to recycling and environmental protection.

Hazardous Materials Management Team

The City's Fire Department contracts with San Diego County Hazardous Materials Management Division and established an Emergency Response Program to contain hazardous materials that result from automobile accidents, spills, illegal dumping or any other activities within the City of Solana Beach. Generally, the County's Hazardous Materials Team handles recovery and disposal of the materials, although work crews from the City's Public Works Department also contain some small spills and are on call 24 hours a day, 7 days a week to respond to all spills that occur within City limits. All Public Works Staff has been trained to handle spills in the appropriate manner, to reduce and/or eliminate potential impacts to the City's MS4 and receiving waters.

Storm Drain Inventory and Stenciling

The City has inventoried all of its storm drain conveyance structures (inlets and catch basins). The inventory list includes addresses, cross streets and is available in GIS format. This information was then utilized to implement a program that affixed a stenciled tile at each location that reads, *"No Dumping! This drains to the ocean."* The City has successfully completed application of the tiles at *every* storm drain inlet and catch basin throughout the City. In addition, the City requires all new or re-development projects that install a storm drain curb inlet or catch basin to include the a stencil or tile. The City constantly monitors the catch basins and if a tile is broken or has been removed, another one is immediately installed.

The City also participated with the non-profit group I Love A Clean San Diego (ILACSD) to sponsor an ongoing Tile Stenciling Program in which the City provides volunteers with a GIS map of all catch basins in the City and a box of tiles so they can compass the City and replace any tiles that are damaged or missing. This was a highly successful program/partnership that the City will continue to ensure all catch basins have tiles permanently affixed to them.

Street Sweeping

The City already had a comprehensive street sweeping program prior to the Permit and the implementation of the JURMP. The residential streets are swept once each month, while major arterial streets and collector roads are swept twice per month. In response to the comments received from the RWQCB on the FY 02/03 annual report, the City developed a form to characterize and measure the amount of material collected by the street sweeper (Appendix A). The driver of the street sweeper completes the form after every trip and it is verified by the appropriate Public Works employee.

As reported in the City's FY 2005/06 Annual Report, the City was having significant problems with its contracted street sweeping company. The contractor was not performing up to contract specifications, and the City was having a difficult time getting the proper reports from the drivers. A contractual battle ensued and documentation was not submitted. The City eventually relieved the street sweeping company of their duties and selected another contractor. The new contractor has been much more effective and responsive.

This reporting year, the amount of debris collected by the street sweeper totals 207 cubic yards, which is slightly less than last year's amount of 275 cubic yards. The relatively consistent amount of debris collected by the street sweeper can be attributed to the fact that most of the debris consists of organic materials, including leafs and green waste. There is relatively no trash collected, which is a good indication that the City, and community's, efforts at trash and litter reduction are successful. The City will continue to monitor the street sweeping debris to see if there are certain areas where trash is more prevalent and litter reduction campaigns can be implemented. However, at this time, most of the debris is organic green waste materials.

To demonstrate the City's commitment to documenting the amount of debris collected by the street sweeper and to ensure that all activities were conducted in compliance with the storm water regulations, the City included specific language in its new street sweeping contract. This language will be used in every subsequent street sweeping contract to ensure all contractors are adhering to all storm water regulations, which was a comment made by the RWQCB in its JURMP Annual Report review.

As mentioned above, and now required by the new Permit, the City sets sweeping frequencies based on the type of street. The larger, more frequently

used by vehicles, are swept more often. The streets are classified based on SANDAG's Vehicle Miles Traveled (VMT) parameters. The lesser traveled streets, like residential streets, are swept once per month. Parking lots are swept as needed, but at a minimum once per year. The other higher frequency traveled streets such as arterials and collectors are swept twice per month. A complete schedule can be found on the City's website or upon request.

The Permit requires the Copermittees to identify the total distance of curb-miles of improved streets, and highways for high, medium, and low sweeping frequencies.

High Priority (twice per month):
Lomas Santa Fe – 4.06 miles
Highway 101 – 3.89 miles
South Sierra – 1.62 miles
Stevens/Valley – 3.29 miles
Cedros – 2.63 miles

Medium Priority (once per month):
All residential streets – 90.71 miles

Low Priority (once per month):
Parking Lots – 12 total lots, 59,750 square feet

These streets were cleaned on the set schedule listed above.

The Permit also requires Copermittees to identify the total distance of curb miles swept.

The City sweeps all (100%) streets at least monthly. The high priority streets are swept twice per month. Parking lots are swept as needed, but at a minimum once per year as identified in the JURMP. The total distance swept per year is:

High Priority: 402.74 miles per year
Medium Priority: 1,088.52 miles per year
Low Priority: 717,000 square feet per year

Spill Prevention

The City's Public Works Department maintains on-site at the Public Works Yard, a 55-gallon drum and specially equipped vacuum to handle small hazardous

materials spills. The drum and vacuum are small enough to travel with the work crews and have been utilized to contain oil from an automobile accident, spillage of work-related materials (paint and debris), and collection of minor hazardous materials. In the event the material exceeds the amount that can be collected by the work crews, the City's Fire Department initiates its spill response plan (discussed above). Currently, City work crews do not have the resources to weigh the amount of material collected or to track and document the amount of material collected. Significant spills for which the work crews responded to are discussed in Chapter 7: Illicit Discharges Detection and Elimination.

Staff Trainings

As reported in previous Annual Reports, the staff trainings used to occur at the monthly citywide Staff meetings. However, these trainings had to be general in nature because of all the varying departments and staff that attended. During this reporting period, staff decided to take a more proactive approach and implement a department specific training focusing on the sections of the Permit that pertained to their respective duties. Staff felt that more focused, detailed trainings would be a much more effective approach, and this turned out to be extremely successful. During this reporting period, the City contracted out the Staff trainings to a specialized consultant, which conducted the following department specific trainings:

On June 22nd, 2010, the City's Land Development and Engineering Staff were trained on storm water issues related to their work responsibilities. The training included the following information:

1) Basic laws, regulations and permits associated with the Storm Water Program
2) Impact of Land Development on water quality (hydromodification and pollutants)
3) Discussion on Receiving Waters
4) Watersheds
5) City's Land Development processes related to the Storm Water Program
6) Low Impact Development (LID)
7) Source Control BMPs
8) Treatment Control BMPs

Based upon feedback from Staff during the training session, the City has continued to further refine its Land Development processes related to the Storm Water Program. Specifically, the City is revising its intake and processing forms and checklists to ensure that all applicants continue to fulfill the City's

requirements with respect to LID, source control and treatment control BMPs. The City plans to fully implement these forms and checklists in the 2nd quarter of FY 2010-11.

On June 24th, 2010, the City's Public Works Department was trained on storm water issues related to their work responsibilities. It is important to note that the Director of Public Works/City Engineer was in attendance, further supporting Staff and the importance of the Storm Water Program. Training included the following information:

1) Basic laws, regulations and permits associated with the Storm Water Program
2) Introduction to Urban Runoff
3) Separation of MS4 and Sanitary Sewer Systems
4) Watersheds
5) MS4 and Receiving Waters
6) Pollutants in Waterways
7) City's Storm Water Program
8) General BMPs
9) Specific BMPs related to Public Works services

This new approach was extremely successful and will be used more frequently, while ensuring that all new employees receive the general training as well when they are hired. Details about specific Staff trainings are also discussed in the Education Chapter of this Report.

Storm Water Hotline

To assist the public in directing their calls for complaints and service, the City maintains and responds to a 24-hour storm water hotline telephone recording (858) 720-4424. When the number was first established, it was checked twice each day. However, to facilitate a quicker, more effective response time, the City now links all calls to the direct extension of the City's Environmental Programs Manager. Therefore, all calls that are made to the City regarding storm water issues will be handled immediately. This has been proven very successful, as the issues are addressed immediately. This leads to much quicker responses, which result in more efficient spill response and enforcement actions. The City informs the public about the hotline number at City Council meetings, on flyers and handouts at workshops, on business cards, on educational materials and during inspections.

Materials Storage

Although only minor quantities of hazardous materials are stored at municipal facilities (as noted in the City's JURMP), the City stores those materials indoors when feasible. Only non-hazardous materials, such as Class 2 gravel, temporary stockpiles of topsoil, etc., are stored outdoors for short periods of time. When this does occur, City Staff ensures all storm water BMPs are installed around the piles and they are covered, if necessary, to ensure no discharges occur from the Public Works Yard.

Sediment and Erosion Control

The City's Public Works Department augmented the City's supply of Visqueen as a method to reduce or prevent sediment and erosion control. The Visqueen is utilized at the Public Works Yard on the sand and soil that is kept on-site. In addition, the work crews utilize bio-filter rolls to prevent runoff. As added insurance, the City's Operations Manager always orders extra erosion control BMPs before the wet season to store on-site for emergency situations. Most of these practices were instituted as a result of suggestions made by the RWQCB during their inspection in August 2002.

Storm Drain Inlet/Catch Basin Insert

The City is currently participating in an ongoing experimental application of two catch basin inserts in one problem location at Seascape Sur. The inserts are being studied to determine its effect on the elevated levels of bacteria found downstream at the storm drain outlet. Early results from the pilot program show a slight reduction in the bacteria levels at the outfall and the catch basin filters have been extremely effective in eliminating large quantities of trash and organic matter from the MS4 system. Public Work Crews empty the filters on a weekly basis and routinely remove about half a trash bag full of debris.

Smoking Ban on Public Beaches and Parks

In 2003, the City of Solana Beach jumped to the forefront of pollution prevention on a nation-wide scale. The City was the first in the nation to ban smoking at its public beaches and parks. The Ordinance (Ordinance 316, see Appendix B) bans smoking at all public beaches and parks, and is actively enforced by the Marine Safety Department and Code Enforcement Department. The public has been very responsive to this ordinance, and the City has had many requests from other jurisdictions, as far away as Australia. The City appears to be a trend setter, as the City of Los Angeles and other Orange County cities followed suit

with their own ordinances a few years ago, and most other cities in San Diego County have recently implemented their own local bans. This is a significant pollution prevention action the City has undertaken, as cigarette butts are routinely found as the most abundant type of debris collected in beach clean-ups. The impact on the local beaches will be extremely beneficial, and the City is proud to be the trend setter in another environmental arena (the City was the first jurisdiction in San Diego County to provide curbside recycling).

During this reporting period, the City approved an enhanced No Smoking Ordinance that extends further than the one listed above. On August 7th, 2009, a much more stringent ordinance was adopted by the City Council that extended the ordinance to include the following no smoking areas:

- All enclosed or unenclosed dining areas and bars
- Street Fairs
- Farmer's markets
- On, near or around the Coastal Rail Trail
- Within 20 feet of all entry ways and all enclosed areas available to and customarily used by the general public and all businesses patronized by the public
- Tot lot and Playground areas

This will, without a doubt, significantly reduce the amount of smoking outdoors in Solana Beach, and therefore reduce the amount of cigarette butts that end up in our MS4 and receiving waters. The City is excited to start implementing this ordinance and reducing the amount of pollution that comes with smoking.

Another significant pollution prevention action the City has taken, although post-reporting period, is the recent adoption of a new commercial litter abatement ordinance. On September 8, 2010, the City Council adopted Ordinance 419, which requires, among other things, all commercial businesses to develop and implement a litter reduction plan. This plan must include at least daily inspections/cleanups around their businesses up to 200 feet. This should significantly prevent litter/debris from entering the City's MS4 as it would require employees to inspect sidewalks, gutter, streets and open space up to 200 feet surrounding the property, and remove any litter they encounter.

Recycling/Trash Containers

The City, and community, places a high priority on recycling, as evidence by the extremely high recycling diversion rate, discussed previously in this Report. The

City has made a conscientious effort to increase the amount of public recycling containers over the last few years. As discussed in previous annual reports, the City has focused on placing dual trash/recycling containers at all popular public locations throughout the City, including parks, beach accesses and the Coastal Rail Trail. The City receives an annual grant through the Department of Conservation as well as an annual grant through the Regional Solid Waste Association, and these funds have been used to purchase and install the dual trash/recycling containers throughout the community. This has dramatically increased the amount of public recycling, and the City anticipates continuing this program in the coming years.

Not only is the City focusing on implementing a public recycling program, but as previously mentioned, the City implemented a large scale residential recycling program. The City, along with its waste hauler Waste Management, converted the traditional source separated recycling program to a streamlined, single stream commingled recycling program. This has been a huge success as the residential recycling rates have dramatically increased by 20%.

Plastic Bag Advertising Ban

Another progressive action the City Council took was passing an ordinance banning the use of plastic bags for advertising. The ordinance bans the popular style of advertising used by companies in which they use small plastic bags full of rocks because often times it is unsolicited and the bags never get picked up, eventually ending up in the City's MS4. This emerging type of advertising is typically conducted by small residential and commercial support businesses such as landscapers, pool cleaners, housekeepers, and handyman type services. This is another example of the City taking a proactive approach to litter in the MS4. Plastic is the number one pollutant found in the ocean worldwide.

Plastic Bag Recycling Program

A significant accomplishment that occurred during last reporting period was the implementation of a revolutionary single-use plastic bag recycling program. This unique program is an unprecedented public/private partnership between the City and Trex, Inc., a private company that makes durable, high quality plastic building materials. This partnership is believed to be the first of its kind, in which the City designates specific "drop-off" locations throughout the community in which the community can take their used plastic bags and drop them off. The City then takes these bags and compresses them into small bales that are taken

to Trex's facilities for reuse.

This is an extremely unique and highly successful program that demonstrates the City's ability and willingness to think outside the box when it comes to dealing with the single highest pollutant in the world's waterways, plastic. Currently, there are no recycling programs established in the country in which plastic bags are collected locally and processed locally into reusable, high quality products. All plastic bag recycling occurs overseas due to the lack of "washing" facilities in the United States. The amount of contamination problems with current common plastic bag recycling programs requires the bags to be shipped overseas to China, where the lack of environmental regulations brings into question the reliability of recycling the bags at all. Often times, the material ends up in the local environment anyway, so the amount of resources it takes to ship the material overseas negates the environmental benefit of recycling the bags. However, the City has fostered a relationship with a local business that guarantees the bags are properly handled and recycled. The City is extremely proud of its plastic bag recycling program, and the results to date are pretty remarkable. To date, over 475,000 bags have been recycled and prevented from reaching our local waterways.

Ensuring Implementation

To ensure that the PPMs are implemented, City staff meets periodically with all Department Directors to review the BMPs, Permit requirements and program expectations. Department Directors are responsible for ensuring that their Staff carries out the BMPs for their facilities. The City Engineer meets every Wednesday with the Operation Manager, his public works crew and the City Inspector at the Public Works Yard for safety meetings. It was decided that at these meetings, storm water issues, including BMPs, should be discussed and the Yard will be inspected to ensure compliance. The Environmental Programs Manager will also conduct random compliance inspections. During this reporting period, there were no violations observed at the City's municipal facilities and all appropriate BMPs were being properly installed and maintained.

4.6 Pollution Prevention Strategy Effectiveness

One of the issues that the City faces is developing an appropriate process to determine the effectiveness of the pollution prevention methods and strategies, (BMPs). The City is committed to developing a consistent approach that could be agreed upon by all Copermittees. It is important to collect data and analyze

results in a consistent manner – county/region wide – in order to be able to share results and draw conclusions across agencies, particularly given that water is not restricted by jurisdictional boundaries.

To address this issue, the Copermittees met several times in the fall of 2002 and in 2003 to work out a more appropriate strategy. A guidance document was prepared by the Copermittees and submitted to the RWQCB on October 16, 2003, titled *"A Framework for Assessing the Effectiveness of Jurisdictional Urban Runoff Management Programs".* This guideline presents a comprehensive assessment strategy that initially focuses on programmatic assessments and moves toward water quality-based assessments to determine program effectiveness. More specifically, it addresses six levels of assessment:

Compliance with Activity-based Permit Requirements

- Changes in Knowledge/Awareness
- Behavioral Changes
- Load Reductions
- Changes in Discharge Quality
- Changes in Receiving Water Quality

The City implemented this assessment program during the last reporting period, which is described in more detail in the Effectiveness of JURMP Assessment Component of this report.

Compliance with Maintenance Activities

Tables 4-2 and 4-3 below outline the MS4, sewer system and permanent City BMPs maintenance schedules. The City has an extremely aggressive maintenance program to ensure the systems are clean and functioning properly.

Table 4-2
MS4 Maintenance Activities 2009/2010

Type	Frequency	Date	Total Number (and Distance)	Number Inspected (and Distance)	Comments
Inspection and Cleaning of MS4	Annual	Ongoing between May-October	309 catch basins– 14.5 Miles of MS4	309 catch basins- 0.5 Miles of MS4 pipe inspected	All catch basins inspected, 0.5 miles of pipe inspected (Seascape Sur) 26 catch basins were found with accumulated debris and 26 cleaned, 3.5 cubic yards removed
Inspection and Cleaning of Unimproved Storm Drains (Brow Ditches, Channels, etc)	Monthly	The 30th of every month	15 – 0.8 miles of Unimproved Storm Drains (Brow Ditches, Channels, etc)	15 – 0.8 Miles of Unimproved Storm Drains (Brow Ditches, Channels, etc)	All unimproved storm drains inspected on the 30th of every month and cleaned as needed.
Inspection and Cleaning of Sewer Lines	Annually (entire City)	Ongoing	Entire System	Entire System	The entire sewer system is inspected and cleaned annually, and 1/3 of the system is televised annually

The tables above represent the inspection and cleaning activities related to the City's MS4 and sewer system. As you can see, the City conducts the annual inspections of the entire MS4 as the Permit requires, but goes above and beyond the inspection and cleaning requirements with monthly unimproved storm drain (brow ditches, channels, etc) inspections and cleaning of the entire sewer system annually. The unimproved storm drains are handpicked by City Staff on an as needed basis as a result of the inspections. The City also has an aggressive sewer videoing program that televising one-third of the system each year, identifying possible leaks, infiltration into the City's MS4, grease build-up and root intrusions that may lead to sewer spills. This is an extremely aggressive sewer maintenance program, which reflects the commitment the City has to maintaining a healthy system and preventing spills into the environment.

In addition, the City has designated sewer "hot spots" that are cleaned quarterly (every three months). These "hot spots" are areas with historical problems such as heavy grease buildup, root intrusion, and flat lines that may need increased cleaning to prevent sewer backups. The program includes an aggressive "root foaming" procedure in areas with historical root intrusion problems.

Table 4-3
Municipal Treatment Control BMP Maintenance Activities 2009/2010

BMP Type	Location	Frequency	Total Number	Number Inspected	Comments
Low Flow Diverter	Fletcher Cove Park	Monthly	1	1	Low Flow Diverter is cleaned once per month and inspected daily
Sand Trap	Fletcher Cove Park	Monthly	1	1	Sand Trap is cleaned monthly

CDS Units	Fletcher Cove Park and North Rios Avenue	Monthly	2	2	The CDS units are cleaned monthly
Sewer Siphon	San Elijo Lagoon	Monthly	1	1	The siphon is cleaned monthly
Bio-Swale	La Colonia Park	Annually	1	1	The Bio-Swale is cleaned annually prior to rainy season and inspected weekly

The City has an aggressive maintenance program for all City-maintained permanent BMPs. The monthly maintenance frequency for the Sand Trap and CDS units are much higher than suggested by the manufacturer. The daily inspections of the Low Flow Diverter are conducted to ensure it is functioning at all times and redirecting the urban runoff away from the beach and into the sewer system.

RWQCB Audit – Field Inspection

In addition, the City was inspected by RWQCB staff on October 8, 2009. RWQCB staff conducted a field visit to inspect the City's permanent treatment control BMPs and to ensure the City was properly monitoring and maintaining them. City Staff met with RWQCB staff and visited all the permanent City maintained BMPs and demonstrated the cleaning operation at each one. RWQCB found that there were no violations and the City was in compliance, and issued a Facility Inspection Report (Appendix H).

4.7 New Activities and Improvements for FY 10/11

The City anticipates continuing implementing programs aimed at meeting the

requirements of the Municipal Component as specified in the JURMP. The focus will be continuing the cooperation among different departments, ensuring municipal facilities are in compliance with the Permit, and collaborating with other Copermittees. The Department Directors were required to integrate more responsibilities into positions in order to implement the Watershed Urban Runoff Management Programs (WURMP), Standard Urban Storm Water Mitigation Plan (SUSMP), Hydromodification (HMP) program and the Low Impact Development (LID) program. Because of our team approach, this transition occurred rather seamlessly. The Planning Department and Engineering Department worked closely together in implementing the respective requirements.

As mentioned previously in this Report, the new JURMP document was adopted in March 2008. This contained new elements that will require additional/modified requirements/duties of different Departments within the City. Additional Staff trainings were conducted to ensure that all Staff activities are in compliance with the new Permit and some job duties will have to be altered. Since the new Permit has now been adopted, the majority of the City's efforts will be spent implementing programs to meet the requirements of the new Permit. These changes will have to be implemented on the fly, and will require all Departments within the City to work collaboratively to accomplish the goals within the new Permit. The City is confident that the infrastructure of the City as a whole will allow for a relatively seamless transition to the requirements of the new Permit. Some of the new programs include:

- Minimum street sweeping and priority requirements
- Post-Construction BMP verification, tracking and inspections
- SUSMP implementation
- Low Impact Development (LID) development and implementation
- Hydromodification Plan (HMP) development and implementation

4.8 Summary

The City has been successful at implementing the Municipal Component of the JURMP, establishing BMPs for its municipal facilities and providing informative and meaningful Staff trainings. The City made significant advancements in the manner in which its storm water program is integrated into the routine tasks of various Staff and has developed an effective interdepartmental working relationship. The Environmental Programs Manager position has greatly

enhanced the coordination and implementation of the Permit, as well as other environmental programs (solid waste, Used Oil Recycling, HHW, etc.)

Highlights of some of the accomplishments of the City's Municipal Program Component include:

- Implementation of two comprehensive WURMPs
- Creation of an effective municipal inspection process, all municipal facilities were inspected regardless of priority
- Implementing storm water issues and inspections of Public Works Yard at weekly safety meetings between the City Engineer and Public Works Operations Manager and Staff
- Annual inspection and cleaning of the City's MS4 system resulting in 3.5 cubic yards of debris diverted from receiving water bodies
- Continued implementation of street sweeping tracking form that allows the City to evaluate the effectiveness of the street sweeping program (207 cubic yards collected).
- Provision of public pet waste bag dispensers (72,000 bags were utilized by the community during this year at a total cost of $2,880 (4 cents per bag)
- Addition of new trash/recycling receptacles in high traffic area of City to promote recycling and prevent trash/litter from entering storm drain system
- Enforcement and enhancement of Smoking Ban on Public Beaches and Parks Ordinance which has significantly reduced amount of pollution on local beaches and parks
- Implementation of weekly task for Public Works Crew to conduct weekly storm water inspections at the Public Works Yard
- Implemented scheduled cleaning of Fletcher Cove Sand Trap and CDS unit monthly
- Maintenance of Bioswale at La Colonia Community Center
- Maintenance of City-owned CDS unit at North Rios monthly
- Maintenance of two filter baskets at upstream catch basins of Seascape Sur outfall on a weekly basis
- Routine scheduled inspection and maintenance on unimproved channels on a monthly basis and after all rain events
- Routine scheduled inspection on Fletcher Cove Low Flow Diverter to ensure it is functioning properly on a daily basis
- Implementation of unique public/private plastic bag recycling program, resulting in the recycling of over 475,000 bags to date

CHAPTER 5
Industrial/Commercial Component

CHAPTER 5: INDUSTRIAL AND COMMERCIAL COMPONENT

5.1 Introduction

In accordance with Permit Section D.3.b, this section of the report describes the City's efforts to prevent or reduce industrial and commercial discharges of pollutants into the MS4 to the MEP. In compliance with the Permit, the City evaluated businesses within the City and categorized them as commercial or industrial, as noted in JURMP sections 7.0 (Industrial and Commercial Component).

In each Annual Report to the RWQCB, this section will include modifications to the City's inventory of industrial and commercial facilities, pollutant source identification and potential threats to water quality. In addition, this section of each Annual Report will include results from the City's efforts to implement and enforce BMPs at industrial and commercial sites, related accomplishments and activities. Also, a summary of activities conducted post-reporting period may be included if the activity is deemed essential to understanding the City's efforts at reducing urban runoff or permit compliance.

During the last reporting period (July 1 2009 to June 30, 2010), the City conducted a complete evaluation of the commercial and industrial facilities doing business within the City. Facilities were identified as industrial and commercial sites based on criteria required by the Permit, which included activities conducted on-site and also included a site visit for verification. The City prepared an inventory of the facilities in order to understand potential sources of pollution, threats to water quality, and to develop a plan to mitigate or eliminate urban runoff and pollution from the facilities by implementing Best Management Practices (BMPs). The City's complete inventory is listed in the JURMP.

As a result of the new Permit, this chapter now combines two previous Chapters from the old Permit. The old Permit separated the Industrial and Commercial Sections; however, they are now combined. To keep consistency and for ease of readability, the following sections in this chapter separate the two components, so each can be analyzed according to their respective requirements.

5.2 Industrial Facilities Section

5.2.1 Inventory of Industrial Facilities

There is currently one industrial site operating within the City (Baker Iron Works). Table 3-1 presents the City's industrial facility, including its prioritization level. *There is no change in the City's inventory of industrial sites from those submitted in last year's Annual Report.*

Table 5-1
Existing Industrial Facilities

Facility Name	Facility Address	Narrative Description	SIC Code	Priority
Baker Iron Works	710 Valley Ave	Iron works / metal fabrication	3441	High

5.2.2 Pollutant Source Identification

To assist the City in identifying potential sources of pollutants in its receiving water bodies, and/or the receiving water bodies of neighboring jurisdictions, City Staff evaluated the possible types of pollution that could be generated from each industrial facility. The evaluation included the following:

- Type of materials stored or used on site
- Activities conducted on site
- Proximity to conveyance system, or environmentally sensitive areas
- Watershed location

Results from the evaluation concluded that the City's only industrial facility could be a potential source of pollutants (Baker Iron Works),

The conclusion that Baker Iron Works could be a potential source of pollutant discharge was due to the fact that the facility generally uses metal materials in the fabrication of structural devices. Some of their work is performed and stored outdoors and is potentially exposed to storm water, and runoff from the property can potentially enter the City's conveyance system. However, the City has worked closely with Baker Iron Works to minimize the potential for pollutants to run off their property and into the City's MS4 system. Baker Iron Works has been more than willing to work with the City to ensure compliance with the Permit, and has completed numerous tasks suggested by the City. These include:

- Permanently covering all stock piles of metal materials kept outside to shield it from rain events.

- Routine cleaning of the yard as needed but no less than weekly with a magnetic device to pick up all loose metal shavings.

- Moving all chemicals indoors to ensure that they are protected from the weather and will not run off the property and into the City's MS4 system.

- Training all staff on proper storm water BMPs and general housekeeping for all activities that may impact the City's MS4 system.

- Installation of low flow sump/infiltration structure at the northwest corner of the facility to handle all low flows from the entire facility. The low flows will enter a small drain that extends across the driveway and enters into a small infiltration well structure to prevent the water from entering the MS4. This structure has worked very well in eliminating all low flows from leaving the site. Baker Iron Works employees routinely monitor and maintain the infiltration well to ensure proper functionality.

- Permanently sealing a trench drain near the office building that previously drained directly to street. The result is that the runoff bypasses the drain and travels into the low flow sump/infiltration structure mentioned above.

The results of the 2009 dry weather program indicate that no related pollutants were found downstream from this industrial facility. This is consistent with the 2001-2008 dry-weather-monitoring program results which also indicated that no related pollutants were found downstream from this facility. The City will continue to inspect and monitor these locations in the future to further ensure that they are not contributing to downstream pollution. In addition, Baker Iron Works has agreed to forward all results from their required water quality monitoring under the Statewide General Industrial Permit to City staff, upon request, for review during rain events.

The City utilized the information from the 2009 dry-weather-monitoring program, the criteria established by the Permit, and the evaluation of the potential sources of pollutants (discussed in this chapter and Section 7 of the City's JURMP) to develop its 2010 dry weather monitoring program. Similar to last year, one site downstream and one site upstream from Baker Iron are selected for testing. The City will continue to monitor runoff downstream from this facility as long as it is in operation.

5.2.3 Threat to Water Quality Prioritization

In the City's JURMP, the industrial sites were classified as a high, medium or low priority, based on their potential threat to water quality from storm water runoff. The classification utilized criteria prescribed in Permit Section F.3.a. (3)(a), (b).

There are no changes to report in the City's classification of its industrial facilities from last year's Annual Report. Baker Iron Works is still classified as a high priority industrial site.

5.2.4 Pollution Prevention Methods

The City realized that since Baker Iron Works is the only high priority industrial site in the City, it would be prudent and feasible to monitor their site frequently. Although the Permit requires only annual inspections, the City dedicates more time to ensure that the site is always in compliance. This pro-active approach that occurred in the beginning of this Permit cycle has proved to be well worth the effort. By spending the extra time and effort the first couple of years of this Permit to get this facility into compliance have built a strong working relationship between the owners and the City. This facility has had no violations and continues to stay in compliance.

The City has confirmed that Baker Iron Works is *in compliance* with the state GISW and is currently adhering to all requirements.

Baker Iron Works employees use a large magnet to clean their entire yard as often as needed but no less than once per week. This magnet is very effective in cleaning up small steel waste products that result from daily activities. The parking lot is swept and water is never used. All chemicals are kept in a locked storage shed that has secondary containment and is kept above ground, which was a recommendation of RWQCB staff.

5.2.5 Industrial Inspections

As stated in last year's Report, during FY 07/08, the City changed its inspection practices. Prior to FY 07/08, City staff conducted all industrial and commercial facility inspections. However, in FY 2007/08, the City hired an independent contractor that specializes in storm water inspections. This change occurred due to limited staff time to conduct the inspections, as well as to provide an increased service to the residents of Solana Beach. By hiring a contractor that specializes in storm water inspections, the City, and residents, can be assured that it is

getting the highest quality service.

The City contracted out these services to Environmental Compliance Inspection Services (ECIS) again in FY 09/10. Baker Iron Works was inspected on June 2, 2010 and all designated BMPs were implemented and the facility was found to be in compliance in all areas. The inspection addressed all the required inspection steps to determine full compliance. City Staff will also continue to visually inspect the facility at least once a month, and always before the wet season and during rain events. If the City observes a non-compliant facility, the City will inform its appropriate representative at the RWQCB.

As required by Permit Section J.3.a(3)(d)vi, the City confirms that the industrial inspections addressed all required inspection steps to determine full compliance.

5.2.6 New Activities and Improvements for FY 10/11

City staff will continue to work closely with the proprietors of Baker Iron Works to 1) ensure functionality and maintenance of the BMPs, 2) ensure compliance with the City's storm water regulations and 3) educate the business owners and employees about the importance of protecting the community's water resources. In addition, if any new requirements or activities are developed targeting industrial facilities on a watershed or regional basis, the City will communicate these requirements directly to Baker Iron Works and assist them in coming into compliance.

City Staff will also monitor business license applications to ensure if another industrial facility opens up that it will be added to the inventory and inspected to ensure full compliance.

5.2.7 Summary of Industrial Section

The City has been effective at working with owners of the one industrial site to ensure compliance with Permit and City regulations. The owners have installed and properly maintained the filtration system at the northwest corner of the property to collect and infiltrate all on-site low flow runoff before it enters the MS4 system. The City has established a great working relationship with the owners/operators of the site and they have made drastic strides to maintain compliance. City Staff will continue to monitor and inspect the facility frequently to ensure compliance with the Permit. Baker Iron Works have been very responsive and immediately remedy any problems encountered during

inspections. They have gone above and beyond what is required to ensure they are in compliance with the Permit.

5.3 Commercial Facility Section

5.3.1 Inventory of Commercial Facilities

During the process of revising the JURMP, submitted in March 2008, the City updated the inventory of commercial facilities. The City selected locations based on the requirements of the new Permit, and placed higher priorities on such facilities as automotive servicing, gas stations, repair and fueling, commercial rental yards, and golf courses (high Threat To Water Quality, TTWQ). The City's JURMP inventory had 77 stationary facilities; however the inventory is updated each year as a result of the inspections. The current inventory (see Table 5-2 below) now contains 82 facilities, up from the 77 listed in the JURMP. The City will continue to update the inventory list as new businesses apply for permits or site inspections reveal changes. In addition, any facility that has the potential to release high priority pollutants into the City MS4 will be added to the list of high priority facilities.

Table 5-2 Inventory Of High Priority Commercial Facilities

Address	Street	Business	Type	Watershed
741	Academy Drive	Academy Animal Hospital	Animal Facility	San Dieguito
435	Cedros Avenue South	KMP Plumbing Company Inc.	Commercial/ Outside Storage Area	San Dieguito
659	Lomas Santa Fe	Henry's Farmers Markets	Grocery Store	San Dieguito
124	Lomas Santa Fe	Subway	Restaurant	San Dieguito
905	Lomas Santa Fe Drive	Baskin Robbins	Restaurant	San Dieguito
124	Lomas Santa Fe Drive	Caffe la Bocca	Restaurant	San Dieguito
705	Lomas Santa Fe Drive	Caspian Petroleum DBA LSF Mobil	Gas Station	San Dieguito
124	Lomas Santa Fe Drive	Chief's Burgers and Brew	Restaurant	San Dieguito
663	Lomas Santa Fe	Dixieline Lumber	Retail	San Dieguito

	Drive	Company		
911	Lomas Santa Fe Drive	Einstein Bros Bagels	Restaurant	San Dieguito
689 – D	Lomas Santa Fe Drive	Jamba Juice	Restaurant	San Dieguito
280	Lomas Santa Fe Drive	Kings' Garden	Restaurant	San Dieguito
1550	Lomas Santa Fe Drive	Lomas Santa Fe Country Club	Golf Course	San Dieguito
689	Lomas Santa Fe Drive	Panda Express #1029	Restaurant	San Dieguito
945	Lomas Santa Fe Drive	Pizza Nova Solana Beach LLC	Restaurant	San Dieguito
979	Lomas Santa Fe Drive	Samurai Japanese Restaurant	Restaurant	San Dieguito
124	Lomas Santa Fe Drive	Solana Beach Fish House	Restaurant	San Dieguito
124	Lomas Santa Fe Drive	Solana Donut House	Restaurant	San Dieguito
691	Lomas Santa Fe Drive	Togo's Eatery	Restaurant	San Dieguito
931	Lomas Santa Fe Drive	Vons Companies Inc. #2327, The	Retail	San Dieguito
136	North Cedros Avenue	Bill Smith Automotive	Auto Repair	San Dieguito
146	North Cedros Avenue	CA Auto Tech, Inc. DBA Test-Only Smog	Auto Repair	San Dieguito
128	North Cedros Avenue	D & B Automotive Specialties	Auto Repair	San Dieguito
421	North Highway 101	Clark's Auto Repair and Radiator SVC	Auto Repair	San Dieguito
243	North Highway 101	Java Depot	Restaurant	San Dieguito
435	North Highway 101	Mohawk Car Wash (Parent-CCSB Inc.)	Auto Washing	Carlsbad
369	North Highway 101	Moreland Choppers	Auto Repair	Carlsbad
135	North Highway 101	Pizza Port- Grain to Green	Restaurant	San Dieguito

445	North Highway 101	Roberto's Mexican Food Inc.	Restaurant	Carlsbad
435	North Highway 101	Shine Auto Detailing	Auto Detailer	Carlsbad
355	North Highway 101	Solana Succulents	Nursery	Carlsbad
125	North Highway 101	Station Sushi	Restaurant	San Dieguito
271	North Highway 101	T's Cafe	Restaurant	San Dieguito
221	North Highway 101	Tidewater Tavern Inc.	Restaurant	San Dieguito
225	Plaza Street	Solana Sushi	Restaurant	San Dieguito
235	S Hwy 101	El Camino Rental	Rental Yard	San Dieguito
663	San Rodolfo Drive	Panera Bread Solana Beach #4283	Restaurant	San Dieguito
665	San Rodolfo Drive	Top of the Bagel	Restaurant	San Dieguito
106	Solana Hills Drive	Carls Jr./M and N Foods LLC	Restaurant	San Dieguito
143	South Cedros Avenue	Belly Up Tavern/Wild Note Café	Restaurant	San Dieguito
330	South Cedros Avenue	Cedros Gardens, Inc.	Nursery	San Dieguito
507	South Cedros Avenue	R F McKenna Construction Company	Commercial/ Outside Storage Area	San Dieguito
132	South Cedros Avenue	Zinc Café	Restaurant	San Dieguito
731	South Highway 101	Bangkok Bay	Restaurant	San Dieguito
159	South Highway 101	Beach Grass Café	Restaurant	San Dieguito
437	South Highway 101	California Pizza Kitchen Inc.	Restaurant	San Dieguito
615	South Highway 101	Dynamite Shine	Auto Detailer	San Dieguito
647	South Highway 101	Paroli Italian Bistro	Restaurant	San Dieguito
315	South Highway 101	Nobu Gourmet Japanese Restaurant	Restaurant	San Dieguito
437	South Highway	Pacific Coast Grill	Restaurant	San Dieguito

	101			
437	South Highway 101	Rubios' Fresh Mexican Grill Inc. #13	Restaurant	San Dieguito
437	South Highway 101	Solana Beach Coffee Company	Restaurant	San Dieguito
125	South Highway 101	Waters Fine Foods to Go	Restaurant	San Dieguito
106	South Sierra Avenue	Naked Café	Restaurant	San Dieguito
126	South Solana Hills Drive	Round Table Pizza	Restaurant	San Dieguito
524	Stevens Avenue	Anne's Café and Deli	Restaurant	San Dieguito
524	Stevens Avenue	Bongiorno's New York Pizzeria	Restaurant	San Dieguito
524	Stevens Avenue	Rudy's Taco Shop ad Market	Restaurant	San Dieguito
1580	Sun Valley Road	Lomas Santa Fe Ex. Golf Course 408	Golf Course	San Dieguito
637	Valley Avenue	Daniel Morgan's Automotive	Auto Repair	San Dieguito
650	Valley Avenue	Don Chuy's Restaurant	Restaurant	San Dieguito
607	Valley Avenue	Fidel's Little Mexico Inc.	Restaurant	San Dieguito
621	Valley Avenue	Tony Jacal's Inc.	Restaurant	San Dieguito
512	Via De la Valle	Del Mar Bagel Cafe	Restaurant	San Dieguito
640	Via de la Valle	Fish Market Restaurant	Restaurant	San Dieguito
514	Via de la Valle	Pamplemousse Grille	Restaurant	San Dieguito
550	Via de la Valle	Red Tracton's Restaurant	Restaurant	San Dieguito
660	Via del la Valle	AM/PM/ Mini-Market #704	Gas Station	San Dieguito
717	S Hwy 101	Marriott Courtyard	Hotel	San Dieguito

437	S Hwy 101	Cupcake Love	Restaurant	San Dieguito
145	S Hwy 101	Masuo's Japanese	Restaurant	San Dieguito
224	S Cedros Ave	Soul and Pepper	Restaurant	San Dieguito
240	S Cedros Ave	Twisted Tart	Restaurant	San Dieguito
437	S Hwy 101	Blanca	Restaurant	San Dieguito
621	S Hwy 101	Holiday Inn Express	Hotel	San Dieguito
437	S Hwy 101	Coldstone	Restaurant	San Dieguito
691	Lomas Santa Fe	Starbucks	Restaurant	San Dieguito
937	Lomas Santa Fe	Starbucks	Restaurant	San Dieguito
150	South Acacia	Hideaway Café	Restaurant	San Dieguito
346	S Cedros Ave	Lockwood Café	Restaurant	San Dieguito
141	Lomas Santa Fe	Sam's Place	Restaurant	San Dieguito

The commercial property inventory was utilized to identify potential sources of pollution (high TTWQ), prioritize the businesses and to develop an inspection frequency program, as noted in the City's JURMP.

5.3.2 Pollutant Source Identification

Eight percent (8%) of the City's 2,211 total drainage acres (roughly 177 acres) are zoned for commercial use. Some of the areas within the City zoned for commercial use drain to environmentally sensitive water bodies and 303(d) listed waters (impaired water bodies), as noted in the City's JURMP. Some of the 303(d) listed water bodies have been identified as having *constituents of concern (COC)* or pollutants that are of particular concern to those water bodies. Table 5-3 identifies the 303(d) water bodies and COCs that are impacted by drainage from the City of Solana Beach. There is *no change* to report in the City's identification of potential pollution sources. As reported in last year's Annual Report, based on water quality data analysis of the past few years, Diazinon has been removed from the San Elijo Lagoon COC list.

Table 5-3 303(d) Water Bodies and COCs

303(d) Water Body	Constituent(s) of Concern
San Elijo Lagoon and Ecological Reserve	Coliform, sediment, nutrients
San Dieguito Lagoon (and its tributary, Stevens Creek)	Coliform, TDS
Pacific Ocean	Coliform

Using the inventory list, businesses were classified by types of activities conducted on the property in order to identify potential sources of pollution in accordance with Permit section F.3.c.(2). The Permit specified 25 possible high-priority business categories for each Copermittee. Upon review of the City's business license inventory, the high priority business categories applicable to the City of Solana Beach include automobile servicing and repair; automobile/vehicle washing; retail or wholesale fueling; pest control services; eating and drinking establishments; mobile carpet, drape, or upholstery cleaning; cement mixing or cutting; landscaping; nurseries; and golf courses.

Potential pollutants for each of the ten (10) categories identified above include, but are not limited to the following.

- *Automobile servicing and repair facilities have the potential to generate pollutants such as heavy metals (Cu, Zn, Cr, Ni, Pb), oil, grease, engine and transmission fluids, antifreeze, brake fluids, suspended solids, phosphates, litter, organic debris, fluids, sediments, paint, solvents, paint chips/dust, sand and broken glass.*
- *Automobile/vehicle washing facilities have the potential to generate pollutants such as suspended solid(s), pH, oil, grease, phosphates, heavy metals, detergents, engine and transmission fluids, litter, organic debris, fluids, sediments, paint, solvents, paint chips/dust and sand.*
- *Retail or wholesale fueling facilities (gas stations) have the potential to generate pollutants such as detergents, oil, grease, engine fluids, suspended solids, phosphates, litter, organic debris, fluids and sediments.*
- *Pest control services have the potential to generate pollutants such as harmful chemicals, pesticides, fertilizers, herbicides, nitrogen salts, and phosphorus and in particular, the chemical "Diazinon."*
- *Eating and drinking establishments have the potential to generate pollutants that occur due to improper waste disposal of oil and grease, improper*

application of pesticides, litter along sidewalks and parking lots, and sediments from equipment cleaning.

- *Mobile carpet, drape, or upholstery cleaning businesses have the potential to generate pollutants such as BOD, COD, suspended solids, organic matter, cleaning solutions, animal-related wastes, litter and organic debris along sidewalks and parking lots.*
- *Cement mixing or cutting facilities have the potential to generate pollutants such as suspended solids, oil and grease, heavy metals, hydrocarbons, solvents, and metals*
- *Landscaping and maintenance activities have the potential to generate pollutants such as sediments, oil, grease, organic matter, fertilizers, herbicides, pesticides, nitrogen salts, nitrogen and phosphorus.*
- *Nursery (greenhouse) facilities have the potential to generate pollutants such as sediments, fertilizers, herbicides, pesticides, suspended solids (roof coating), nitrogen salts, phosphorus, oil, grease and organic matter.*
- *Golf courses conduct activities that may produce pollutants associated with landscaping and maintenance activities including litter, BOD, COD, sediment, bacteria/viruses, oil/grease, heavy metals, manure, pesticides, fertilizers and detergents.*

5.3.3 2009 Dry Weather Monitoring Results

Results from the 2009 Dry Weather Monitoring Program (DWMP) were collected and analyzed by the City in September 2009 (but are already outdated at the time of this report). The 2009 program utilized the criteria established by the Permit (and the Copermittee Monitoring subcommittee). The City reviewed the results from the 2009 Dry Weather Monitoring Program looking for the pollutants listed above, and in particular, COCs described in Table 5-3. The results indicated one potential problem area. The bacterial levels at Seascape Sur outfall (which drains to the Pacific Ocean) continued to exceed the action levels established in the Permit and the IDDE investigation continued (see Chapter 12).

The City continues the non-point source investigation (see Chapter 12), and utilized the results to help design its 2010 Dry-Weather Monitoring Program. The results from the 20010 monitoring program will not be available until after this report is submitted to the RWQCB. *As a result of Addendum 2 adopted by the RWQCB in September, 2008, the 2010 Dry-Weather Monitoring results will be submitted in December, 2010.* It's worth noting that the City contracted out the 2010 DWMP services to an outside consultant that specializes in this field. The City is hoping that this will further assist the City in determining the source of the high bacteria at Seascape Sur. The results will be presented in December, 2010.

5.3.4 Threat to Water Quality Prioritization

The inventory of businesses for the City included identifying those that potentially posed a high threat to water quality (TTWQ) as set forth in the Permit and JURMP. As noted above, the City also categorized its businesses by the potential to generate the pollutants described.

The City's JURMP identified 77 stationary commercial sites, of which 67 are high priority Threat To Water Quality (TTWQ) facilities. As reported in this Annual Report, the inventory has been updated as a result of the inspections. *There are five changes to report in the number of commercial businesses within the City, from the JURMP submitted in March 2008.* The re-inventory process that occurred, as a result of the facility inspections conducted during this reporting period, revealed that the number of stationary facilities increased from 77 (as reported in last year's Annual Report) to 82. Table 5-4 (below) summarizes the stationary businesses in the City's inventory by the general description.

It is important to note that many commercial businesses change very frequently, especially restaurant facilities. The City will make inventory adjustments as inspections reveal changes are necessary. This is an ongoing procedure that will continue into further reporting periods.

Table 5-4 High Priority TTWQ Commercial Facilities by Type of Business

Type of Business	Number
Animal Services	4
Automobile servicing and repair	6
Automobile/vehicle washing	3
Retail/Grocery Stores	3
Eating and drinking establishments	59
Golf courses	2
Iron Works	1
Nurseries	2
Retail or wholesale fueling	2
Total	**82**

5.3.5 Business Community Education Campaign

City Staff has implemented an aggressive education campaign for the business community. As stated in previous annual reports, education is conducted during the annual storm water inspections. The City, along with the North County Storm Water Program (the cities of Carlsbad, Encinitas, Escondido, Oceanside, Solana Beach, San Marcos, and Vista) previously developed two commercial BMP

posters that are still being utilized. The first is aimed toward automobile repair shops and the second toward restaurants. These posters are distributed by the City's contractor (ECIS) during inspections. The business owners are required to place the posters in a noticeable location for all employees to see. On subsequent follow-up inspections, City staff or contracted inspectors check to see if they comply.

Additional educational/training tools developed to be distributed to the local businesses are the "Green Wrench Guide" and the "What's Cookin' Guide" developed by the Regional Outreach Workgroup. These guides are also distributed during site inspections as an extra training tool to help these businesses come into compliance. These guides have room designated in the back for employee to sign after they read the material to show educational compliance.

The City believes that distributing these educational tools directly to the businesses during inspections will have the greatest impact. Not only will inspectors have their undivided attention, but the City can also guarantee delivery and track which establishments have received the informational guides. Therefore, when it comes to compliance issues, the City can quickly determine who has and has not been informed of the regulations. These education tools will be discussed further in the Educational Component of this Annual Report.

By the time this inspection program was fully implemented, City Staff and contracted inspectors found that a majority of business owners were "aware" or had some "basic knowledge" of storm water requirements. The City, along with the other Copermittees in the Carlsbad Watershed, developed a knowledge/awareness rating and included it on all inspection forms. This will help better assess the overall knowledge of the business community in relation to not only other businesses in the city, but in the watershed as well. This is discussed more in the Educational Component.

5.3.6 Pollution Prevention Methods

Because of the City's proximity to the Pacific Ocean, the City has been proactive in its approach to reducing urban runoff, not only during this reporting period, but prior to the implementation of the Permit as well. For example, prior to the implementation of the original JURMP, the City had several pollution prevention methods (PPMs) in place for commercial properties, which continues through to the new JURMP during this reporting period and included, but were not limited to:

- Prohibition of all non-storm water discharges to the City's storm water conveyance system (SBMC 13.10.060).
- Measures to reduce pollutants to the maximum extent practicable (MEP) were required of business owners (SBMC §13.10.090).
- Persons owning or operating a parking lot (or impervious surface) were *required* to "clean those structure thoroughly as is necessary to prevent the discharge of pollutants to the City of Solana Beach storm water conveyance system to the maximum extent practicable, but not less than once prior to each wet season" (SBMC 13.10.090).
- The City maintained by municipal code the authority to inspect business properties for compliance with the provisions of Solana Beach Municipal Code, Chapter 13 (SBMC 13.10.110).
- Required maintenance of commercial property (trash cans covered, litter removal, etc.) and appropriate waste disposal.
- Routine articles in the citywide community newsletter, *Shorelines* to educate the community about pollution prevention (see Chapter 9).

5.3.7 New Pollution Prevention Methods

In the City's JURMP, pollution prevention methods were expanded for commercial facilities, depending on the type of activities conducted at each business. Numerous activity-specific BMPs were also developed for each business type identified. Complete tables describing the BMPs in detail are included in the City's JURMP, submitted to the RWQCB in March, 2008. *There are no changes to report with respect to BMPs designated for existing commercial properties.*

Common Commercial Property BMPs

Many of the BMPs provided to commercial property owners/managers were activity-specific to the type of business conducted on-site. However, there are several BMPs common to all commercial properties, which are described below.

Employee Training: The training of employees on proper business practices to prevent or reduce urban runoff is listed as a BMP for all businesses. Knowledge of pollution prevention methods requires instruction from one person to another, particularly as the requirements are new to many employees and given that employees handle the majority of tasks at a commercial business, staff has explained to proprietors the importance of adequate employee training.

Good housekeeping: Pollution prevention BMPs are required of most commercial facilities. Good housekeeping includes the proper disposal of waste materials and proper coverage over waste dispensers, dry sweep outdoor areas, keeping the facility in generally good repair and maintained in good operating condition to prevent deterioration of materials.

A *Spill Response Plan* (SRP) is required of most commercial facilities as noted in the JURMP. An effective SRP should prevent on-site hazardous materials from leaving the private commercial property and entering the City's storm drain conveyance system. Commercial property proprietors are being educated about an SRP and are now required during inspections by City staff.

Minimize Use of Water for Washing / Cleaning: The BMPs associated with a reduction in the use of water for washing and cleaning is suggested for most commercial facilities operating within the City. It has been common practice for many years to use power-washing methods to clean the outside of buildings, windows, and out-door eating areas at restaurants. In addition, it has been common practice by commercial property owners (and their contractors) to hose-down the sidewalks in front of their businesses to collect trash, debris, and landscaping remnants. These types of cleaning procedures use a lot of water and it is likely that the water will run off of the property and into the City streets or storm drain system, bringing with the water a significant amount of pollutants. For that reason, commercial property owners are requested to find new methods of cleaning, reduce the amount of water used, and prevent the runoff from leaving their property.

Various other activity-specific BMPs are required or suggested to commercial property owners and are listed in the City's JURMP.

Other Pollution Prevention Methods Affecting Commercial Properties

Municipal Code and General Plan Amendments

There were no changes to the Municipal Code or General Plan that affect the Industrial and Commercial Section of the Permit.

Brochures

The City worked collaboratively with other North County cities (see Chapter 9, Education Component) to jointly develop brochures in order to provide a consistent message to the community, and in particular, commercial property owners/managers. The brochures were utilized by City Staff to inform and

educate the community, including commercial businesses. Public works crews, Code Enforcement, Planning and Engineering Staff pass out brochures when an educational opportunity presented itself. Staff also visited many businesses and distributed the brochure, "*Only Rain in the Drain"* and spoke to business owners about the need for pollution prevention.

5.3.8 Ensuring Implementation through Commercial Property Inspections

During this reporting period, the City once again decided to contract out the inspection services to ensure that they are being conducted thoroughly and also to further enforce the City's grease management regulations. City Staff resources are stretched extremely thin with all the new storm water and Fats, Oils and Grease (FOG) requirements, so in order to ensure that the proper time and effort was being utilized on these important inspections, the City contracted out the services. In addition, the City wanted to continue enforcing its aggresive grease management regulations to ensure that all required eating establishments had the proper grease management devices installed and were being properly maintained. It is well documented that the number one cause of sewer spills is grease build-up, so the City is taking a pro-active approach to ensure that grease is being properly managed at all eating establishments.

The City hired Environmental Compliance Inspection Services (ECIS) again this reporting period to conduct the inspections in accordance with the new JURMP. According to last year's updated commercial inventory, the City had 74 stationary facilities, of which 64 were identified as a high "Threat To Water Quality" (TTWQ). The inspection frequency of high priority businesses for the third year of Permit implementation remained at 100% (as detailed in the new Permit). Throughout the course of the year, the City added 3 more facilities to the commercial inventory as new businesses opened, bringing the inventory up to 77 total facilities.

The City, through its contractor, visited all 77 stationary facilities, which is above and beyond the 67 inspections required by the Permit. In the course of the inspections, the contractor identified 5 more facilities and added them to the inventory. In total, the City's new inventory is at 82 total commercial establishments with 72 being high priority. The City's contractor inspected all 82 facilities, which is above and beyond the 72 required by the Permit. The commercial inspections addressed all required inspection steps to determine full compliance. The results are described below.

As required by Permit Section J.3.a(3)(d)vi, the City confirms that the commercial inspections addressed all required inspection steps to determine full compliance.

As required by Permit Section J.3.a(3)(d)ii, the City confirms that the commercial BMPs were implemented during all inspections.

5.3.9 Enforcement

As mentioned above, the City hired ECIS to conduct the facility inspections. However, the City is still responsible for the follow-up enforcement actions, if necessary. The inspection protocol consisted of ECIS conducting an initial inspection and then one follow-up if the site was out of compliance for a minor violation (trash dumpster lid open, training logs incomplete, etc.). If there is a major violation, ECIS would contact the City immediately for proper follow-up actions. If the facility was still out of compliance after the second visit, then ECIS would notify the City and City Staff would follow-up from there, taking increased enforcement actions including fines, if necessary. The results are as follows:

First Inspections:

Total Inspections: 82

Facilities in compliance after first inspection: 47

Facilities not in compliance after first inspection: 35

Follow-Up Inspections:

Total Inspections: 35

Facilities in compliance after second inspection: 25

Facilities not in compliance after second inspection: 10

The remaining 10 facilities that were still out of compliance after the follow-up inspection were handed over to the City for additional follow-up. The majority of violations were all relatively minor infractions consisting of dirty trash enclosures, grease bin areas and lack of grease trap/interceptor maintenance logs. The City followed up with meetings with the property owners and managers, and all facilities have since come into compliance. *No citations were issued as a result of the inspections.*

The complete database of commercial and industrial inspections is available upon request. The City maintains the database and will build on it as the new

Permit cycle continues.

5.3.10 Mobile Businesses

The Permit requires regulation of mobile businesses within each jurisdiction, which is a new requirement. The Permit states that each Copermittee shall develop and implement a program to reduce the discharge of pollutants from mobile businesses to the Maximum Extent Practicable (MEP). The mobile business program is being addressed on the regional level, and the City is participating in the development of the program. However, the City has always taken a proactive approach in dealing with mobile businesses, especially mobile car detailers and carpet cleaners. The City has issued several citations in the last few years to mobile businesses that do not have the necessary BMPs in place to prevent pollutants from entering the City's MS4. These violations will be described in the IDDE Chapter of this Report (Chapter 7), which will be submitted in December, 2010.

It should be noted that there are *no mobile businesses* currently in City's inventory. The Planning Department has been notified of these new requirements targeted mobile businesses, so if one applies for a business license, Planning Staff will notify the Environmental Staff. Environmental Staff will take a proactive approach to educating the new business on the storm water regulations.

5.3.11 New Activities and Improvements for FY 10/11

The City is confident that the new inspection process for commercial facilities is a significant improvement for this program. The City anticipates continuing to budget for consultant inspection services to focus on storm water and grease management device inspections. The approved FY 2010/2011 contains $7,000 to continue outsourcing the inspections. In addition, the City will continue to update the commercial facility inventory as new business licenses and inspections reveal changes.

A significant new requirement of the Permit requires the City to develop a mobile business program. As mentioned above, the new Permit requires all Copermittees to develop and implement a program to reduce discharges of pollutants from mobile businesses to the MEP. Since this affects all Copermittees, the region decided to address this on a regional scale. This has become a primary focus and the subject of its own subcommittee, of which the City is involved with. The City will continue to work with the region to develop

this program and implement it during the next reporting period.

The City will also look to improve educational materials for commercial facilities, including mobile businesses. The City is committed to working with the other North County Cities (as well as the Regional Outreach Workgroup) to collectively put together educational materials with a consistent message. Additionally, the City will work with the respective Watershed Groups to alter inspection forms or processes if a consensus is met within the group. An example of the benefit of this collaboration was the addition by the member cities in the Carlsbad Watershed Group of two assessment questions at the end of the inspection to gauge the knowledge and/or behaviors of the facility owner/manager. This was included to gain a better understanding of the level of knowledge of the responsible employees and see if their behavior changes over time. Hopefully, this will give the Copermittees a better assessment tool to analyze program strengths and weaknesses.

Another significant improvement to the program that continued during this reporting period was the addition of a higher level of grease management device inspections. As mentioned in last year's Annual Report, the City decided to contract out inspection services for commercial facilities with the intent to include grease management device inspections as well. This was the second year of the increased grease management inspections, which included whether or not the grease device was the correct size and included the correct connections. The initial inspection was simply to gauge if the necessary commercial facilities had any type of device installed, but during this reporting period, the City once again inspected to ensure the correct type and size was installed. This is extremely important as simply having a device is not sufficient is it was too small or did not include all the proper connections. The City now has two solid years of inspection data and has a great inventory of the current grease management devices throughout the community. This is just another example of the City's proactive approach in preventing sewer spills.

5.3.12 Summary of Commercial Section

The City has successfully updated its JURMP and commercial facility inventory in compliance with the Permit requirements. As a result, the City has identified commercial facilities that pose a high threat to water quality and implemented the new inspection frequencies per its new JURMP. The City has also developed an effective enforcement process and notified all high-priority businesses of required BMPs. For the most part, the businesses in this community have willingly

adapted their practices to meet the storm water regulations of the Permit.

The City has successfully updated its JURMP to reflect the new requirements of Permit Order No. 2007-0001. As such, the City has successfully developed a program to comply with all aspects of the new JURMP, and is committed to continually improve on the program in the coming years.

The City's proactive approach of patrolling the City daily and stopping at sites where potential violations may occur before there are discharges has greatly reduced the amount of NOVs and citations issued. The City has discovered that it is much more efficient and worthwhile to put forth the effort to stop a potential violation before it occurs rather than wait and deal with the consequences. So far, this proactive approach has been very successful, as most businesses appreciate City Staff working with them, instead of the normal practice of enforcement.

The City has successfully inspected 100% of its commercial businesses and anticipates continuing this procedure for the life of the Permit. The inventories will continue to be updated as new businesses open up and old ones close down, as described in the report above. This is a continuous process in which all departments at the City play a key role, and communication is vital. The City has successfully implemented measures to comply with all of the requirements in the Industrial/Commercial Component of the Permit.

CHAPTER 6
Residential Component

CHAPTER 6: RESIDENTIAL COMPONENT

6.1 Introduction

In accordance with Permit Section D.3.c, this section of the report describes the City's efforts to prevent or reduce residential discharges of pollutants into the City's MS4 to the MEP and to prevent residential discharges from the MS4 from causing or contributing to a violation of water quality standards.

In each Annual Report to the RWQCB, this section will include any proposed modifications to the City's JURMP (Section 8.0, Residential Component) including prioritization of residential areas and pollutant source identification. Results from the City's efforts to implement BMPs will also be included. A summary of activities conducted post-reporting period may be included if the activity is deemed essential to understanding the City's efforts at reducing urban runoff or permit compliance.

The City conducted numerous community education outreach activities, distributed flyers and door-hangers and published articles in the City's newsletter. The City continued implementation of the "Green Flash" environmental portal on its website and operated a 24-hour hotline for the community to be able to report any suspected violations or contact City Staff. In addition, the City conducted its Household Hazardous Waste (HHW) collection and recycling program, which includes door-to-door services. Finally, the City hosted many community events and distributed storm water information to residents at the City booth.

6.2 Pollution Prevention Methods

Polluted urban runoff in residential areas occur from activities associated with the following actions: automobile use, maintenance, cleaning, and repair; home and garden care (pesticides, herbicides and fertilizers); disposal of trash, pet waste, and household hazardous waste; outdoor washing activities; landscaping and home maintenance. It is imperative to prevent the pollutants that can be generated by these activities (bacteria, detergents, heavy metals, grease, oil, herbicides and pesticides) from entering the City's MS4 to the maximum extent practical.

6.3 BMP Implementation

The City continued several pollution prevention methods that reduce, prevent or mitigate the harmful pollutants in urban residential runoff. The City continued its

HHW collection program, operated a 24-hour hotline for reporting violations, sponsored community events and developed flyers, brochures, newsletter and website articles. In addition, the Copermittees continued to develop regional programs to address the residential requirements of the new Permit.

6.3.1 Hazardous Waste and Used Oil Collection and Recycling

Under the 1989 California Integrated Waste Management Act (AB939), jurisdictions are required to provide Household Hazardous Waste (HHW) collection programs to residents in order to limit the volume of HHW (used oil, paint, household cleaners, pesticides, car batteries, automobile waste, etc) that might otherwise end up in a landfill, or worse, illegally dumped. For San Diego County, the HHW program had been funded by a tipping fee until 1997, when the County of San Diego sold the landfill system to private companies.

During the FY 09/10, the City continued its partnership and the reciprocal use agreements with the cities of Vista, Poway and Escondido to provide permanent facility HHW drop-off service to City residents at a cost of $55 per vehicle. To encourage participation, the entire cost is picked up by the City.

During this reporting period, the permanent facilities were utilized by 73 participants. The total weight of the hazardous materials brought to the permanent facilities was 10,070 pounds. Additionally, the City operates a door-to-door program where, for a small co-payment of $10 per visit, a company will come directly to the resident's house to pick up the Household Hazardous Waste so that residents do not have to drive to Poway, Vista or Escondido. The door-to-door home pickup program was utilized by 187 residents. The total weight of the hazardous materials collected through the home pickup program was 28,653 pounds. The total participation in the HHW program was 260 residents and the total weight of hazardous materials was 38,723 pounds. Included in the door-to-door program is a service offered to senior citizens and homebound residents that provided free of charge, with the City paying for the service. These programs are offered to encourage the proper disposal of hazardous wastes to prevent it from entering and polluting our sensitive waterways. The program also includes the disposal of e-wastes, including TVs, computers, VCRs, fluorescent bulbs, batteries, etc.

For a complete breakdown of the types and weight of HHW disposed by the residents of Solana Beach, please see the following table:

Type	Home Pick-Up Program	Permanent Facility Program
Flammable & Poison	9,282	2,569
Acid	294	72
Base	136	75
Oxidizer	27	44
PCB-Containing	0	2
Reclaimable	12,312	2,953
Asbestos	374	74
Universal Waste	1,183	422
Electronic Waste	3,948	3,091
Aerosol Containers	987	8
Other HHW	110	760
Total (lbs)	28,653	10,070

The City keeps records of how many people utilized the program throughout the FY 09/10 and a questionnaire is provided to the participants at the time of disposal to acquire useful information such as how they heard of the program and what types of wastes were disposed. Many respondents listed local programs such as the City's newsletter "*Shorelines*", the City's website and educational brochures as the source of their knowledge of this program. Other sources include the two local trash haulers (EDCO and Coast Waste), Solana Center for Environmental Innovation, the internet, and basic word of mouth. Obviously, this bodes well for the educational work of City Staff and is a good indication that the City's educational program is effective at getting the word out to the community about environmental concerns, water quality, and opportunities to participate as the program continues to grow. Additionally, it shows the beneficial cooperation efforts between the City and its contractors.

The City is a member of the Regional Solid Waste Association (RSWA). As a member, the City participates in a multi-city agreement with EDCO Waste and Recycling Services, Inc. (EDCO). As reported earlier, the agreement resulted in a very successful program for elderly and homebound City residents to dispose of HHW at their door, *at no charge to the residents*. This provides a solution for the two largest obstacles for the elderly and homebound residents, convenience and cost, by providing home pick-up service at free of charge. This has been an

extremely effective and popular program throughout the entire community.

This agreement is necessary because the City does not have the capacity to operate its own HHW facility within its jurisdictional boundaries. Without this RSWA agreement, the residents would have very limited options in dealing with the proper disposal of HHW. This would potentially lead to the improper disposal of HHW, which would threaten the local waterways and sensitive environment. However, due to the foresight of the City government, the formation and participation in groups such as RSWA lead to increased opportunities for the community to protect the local environment. It also allows the City to subsidize the costs of disposal to assist the residents in properly disposing their HHW. For a small city like Solana Beach, becoming members of larger organizations is imperative for keeping costs down and increasing negotiation power. These programs would not be self sufficient if Solana Beach was not part of a larger organization, as the City and community receive the benefits of "strength in numbers." This has helped keep the costs for such important programs low and participation high.

The City also promotes local HHW collection events by advertising the events on the City's website and sending out Eblast email alerts to registered community members. These events typically occur at the Solana Center located in Encinitas, but the City values proper disposal of HHW, so these events located outside of the City are still publicized by the City. This is just another convenient way for residents to dispose of their HHW.

Recycling

As noted in the Introduction of this report, the City is a proactive agency working to protect and enhance the local environment. The City, with assistance from the non-profit environmental group Solana Center (formerly known as Solana Recyclers), was the first city in the county to initiate a curbside recycling program.

Assembly Bill 939 (AB 939) requires cities to divert at least 50% of their total solid waste away from landfills, and the best way to accomplish this is through recycling. As reported earlier in this Report, the City's target disposal rate of pounds per person per day was 8.9 and the actual recorded was 5.2. This is significantly below the AB 939 requirements and shows that the City's programs are working and the awareness of the residents is very high, as many of the cities in the region failed to reach their target. The process of writing the 2009 AB939 report is underway, but not completed before this report was submitted.

These numbers will be included in next year's report.

6.3.2 Annual Bulky Item Clean-up Day and Coastal Clean-Up Day

Each October, the City hosts an Annual Bulky Item Clean-up day. The City's waste hauler provides roll-off containers for the collection of large appliances, yard waste, excess trash and scrap metal. Residents only need to bring their large bulky items and excess trash to La Colonia Community Center to drop off anything that they have, to save them a trip to the landfill, and it's *free of charge*. Additionally, Solana Beach residents can call the City's trash hauler to set up an appointment for *free curbside pick-up* and disposal of up to three bulky items up to three weeks prior to the event. It is well documented that the easier and more efficient it is for people to recycle or dispose of large items the more often they will do it. By offering this convenient, local and free of charge event, the less likely residents will dispose of their large items illegally, and keeping them out of our local waterways. The Bulky Item Clean-up Day held in October 2008 resulted in 20.24 tons of trash and debris (down from 26.7 tons last reporting year) collected and properly disposed off, preventing it from ending up in the City's MS4.

Each September, the City of Solana Beach participates in the annual Coastal Clean-Up Day sponsored by the California Coastal Commission and I Love A Clean San Diego. The City hosted two sites again this year, one at Fletcher Cove and one in the San Elijo Lagoon, where residents came and spent the morning beautifying the local community. This is an extremely popular and successful event that usually draws over 200 community volunteers, and removes hundreds of pounds of litter and debris from the local lagoons and beaches.

6.3.3 24-hour Hotline

To assist residents in obtaining information, reporting suspected storm water violations or to report illegal dumping, the City operates a 24-hour "storm water hotline" during this reporting period. The hotline (858-720-4424) is available 24 hours a day, seven days a week, 365 days a year. The hotline is linked directly to the voice mail of the City's Environmental Programs Manager to increase efficiency and ensure prompt responses. This way, calls can be immediately fielded and handled in the appropriate manner.

6.3.4 Pet Waste Bag Dispensers

The City installed and maintains Pet Waste Bag Dispensers to reduce the

potential of pollution stemming from residents (and visitors) not collecting waste from their pets while walking. This was a measure added to hopefully help the high levels of fecal coliform detected at the Seascape Outfall revealed during wet and dry weather monitoring. The City has posted dispensers and signs to encourage their use. The program appears to be working very well because, during this reporting period, approximately 72,000 pet waste bags (72,000 used in FY 08/09, 67,500 in FY 07/08, 37,800 in FY 06/07, 30,000 in FY 05/06 and 26,400 in FY 04/05) were utilized by the community.

6.3.5 Education and Outreach

The City's entire education and outreach program is provided in Chapter 8 of this report. Activities associated with the educating of residents are addressed in this section, which may also be repeated in Chapter 8.

Shorelines articles:

The *Shorelines* is the City's Newsletter and Recreation Guide for community information. The newsletter is now distributed four times a year (Spring, Summer, Fall and Winter) to each resident and business within the City (up from twice annually in the past). It is one of the best methods to get information to the public about a variety of issues, the environment being a key component. The *Shorelines* newsletter always contains environmental articles and the community has come to rely on this publication as a means of keeping up with City government. This has proven to be an ideal community educational effort.

During this reporting period, the City transitioned from printing the *Shorelines* on paper to going electronic. This has resulted in a significant reduction of paper waste, and saves energy throughout the process. The City (and community) has also seen a benefit in the quality of the output, as articles can be uploaded at any time and they can become much more interactive. Hyperlinks to relevant online sources are now embedded into the articles, which have proven to be very beneficial. The transition to an electronic format has been a tremendous success and the quality and content of the newsletter is rapidly improving.

In the Summer 2009 issue, the City published the following articles relating to environmental education and storm water activities:

- Things to Remember Before Remodeling/Construction

- Storm Water Hotline
- Green Building is Here!
- Look What's Happening at the San Elijo Lagoon Conservancy
- How to Dispose of Household Hazardous Waste Safely and Easily
- Solana Center for Environmental Innovation – 25 Years of Positive Change
- Plastic Bag Recycling Program

In the Fall 2009 issue, the City published the following environmental education and storm water activities:

- Vehicle Washing Regulations – Storm Water Issues
- Construction Rainy Season Reminder – Storm Water BMPs
- Solana Beach Annual Bulky Item Clean-Up Day
- Annual Coastal Clean-Up Day
- City of Solana Beach's First Annual "Keep Solana Beach Beautiful Day"
- The City of Solana Beach's Commitment to Sustainability Update
- FREE Watershed Presentations
- Plastic Bag Recycling Program Update

In the Winter 2009/2010 issue, the City published the following articles relating to environmental education and storm water activities:

- Storm Water (NPDES) Rainy Season Construction Reminders
- Household Hazardous Waste Program Description
- FREE Watershed Presentations

- Holiday Tree Recycling/Collection Program

- The City of Solana Beach's First Ever Greenhouse Gas Emissions Baseline Inventory

The City has recently gone "green" and now only produces the *Shorelines* newsletter electronically. It is available on the City's website, and has become much more interactive and relevant (provides up-to-the-minute information that can be rapidly changed). For a copy of the articles listed above, please contact the City and Staff can provide a paper copy to review.

Brochures and Door hangers

The City collaborated with neighboring Copermittees (the cities of Del Mar, Encinitas, Oceanside, Vista, San Marcos, Escondido and Carlsbad) to develop several educational brochures. One particular brochure is referred to as the "door-hanger." The door-hanger is an excellent tool to inform groups or individual residents about pollutants that were found in their area, but may or may not have been contributed by them specifically. The door-hanger has a place for Staff to leave their business card, indicate the types of pollution found (from landscaping to pet waste) and lists various specific BMPs for eliminating street and gutter debris in their area. Staff hopes that by placing the brochures around the entire neighborhood, residents will report to the City where the discharge came from or alter their behavior to prevent the discharge from occurring again.

In addition, the City collaborated with the other North County cities and created a brochure "*Only Rain in the Drain*," which is distributed at local community events and to visitors at City Hall, the Fire Department and Community Center. The brochure reviews Best Management Practices for residents and the need to prevent or mitigate pollution to the best extent practical. The brochure also provides a consistent message because all cities in the North County use it.

Staff distributed the door hangers and brochures to residents and business owners throughout the community. These educational materials have been used by Public Works Staff, Code Enforcement Officers, and others and have been found to be an informative and effective tool. This includes those given out to neighborhoods during IC/ID and source tracking investigations, those given out individually during routine rounds around the City and any community fairs (Fiesta Del Sol, Green Fair, Movie Night, etc) or regional workshops/events (about 2 a week on average for all activities, totaling approximately 104

distributed).

School Presentations

The Solana Center conducts school presentations for the City to local schools within the City's jurisdiction. As part of both trash haulers' contracts (EDCO and Waste Management) with the City, they are required to provide funds for public outreach and education. Both haulers have chosen to contract out this work to Solana Center. Therefore, Solana Center provides school presentations regarding storm water issues to the local schools. These presentations include discussions about the importance of preventing pollution from entering the streets, gutters and storm drains. The Enviroscape model is also used during these presentations.

Additionally, the City's Park and Recreation staff conducts a summer "ecology camp" for local children to educate them on various environmental issues, including storm water and recycling. The children go on field trips and have classroom discussions. It is a very interactive classroom setting where the children are encouraged to participate and really engage in the various activities. The ecology camp is an annual program that will be utilized to educate the children in all environmental issues.

The City's Marine Safety Department also conducts school presentations that focus on ocean awareness/safety as well as being environmentally aware and responsible. The presentations focus on water quality and the benefits of protecting this valuable asset.

These are reported on in further detail in Chapter 8, Education Component.

Tile Stenciling

All storm drain catch basins in the City currently have tile markers installed. The construction standard described in the City's JURMP, with respect to the requirement that all curb inlets have a tile marker permanently affixed on the face side, continues to be enforced. All new development/construction projects are required to install tile markers on all new curb inlets. City Staff also documents broken or missing tiles when detected in the field and report back to the Public Works Operations Manager to install.

Website

As mentioned previously in this Report, the City recently unveiled a significant

upgrade to the environmental section of its website. Previously, the environmental programs were lumped into the Engineering Department page, which was somewhat difficult to locate. Now, the City has a separate page that has its own icon on the homepage. This shows the type of commitment that the City, and the community, places on the environment. The City has received many compliments regarding the website, and was even recognized by the League of Woman Voter's, North Coast San Diego County for the "Green Flash" section.

6.4 Threat to Water Quality Prioritization

During this reporting period, the City re-evaluated the drainage areas to identify those areas that potentially posed a high threat to water quality as set forth in the Permit section D.3.c(1). The areas are defined in Section 8.2.1 of the City's new JURMP.

There are *no changes* to report in the City's prioritization of high-priority residential areas from those submitted to the RWQCB in the City's new JURMP (submitted March, 2008).

6.5 Implementation of BMPs

As noted in Section 6.1 (Pollution Prevention), the City has implemented various methods to prevent pollution to the Maximum Extent Practical (MEP) standard from entering the City's MS4. The City indicated in its revised JURMP the designation of several BMPs for the High Priority Residential Areas and Activities (see JURMP, Appendix B).

One of the most significant differences between the City and other local agencies, is that runoff from residential automobile washing *is strictly enforced* by Solana Beach Code Enforcement Officials. City Staff is often dispatched to reports of people washing their cars, and City procedures allow for several warnings before a citation is given, except in the case of mobile car-washing businesses. In that instance, mobile car detailers are informed to cease their activity and immediately clean up the resulting discharge. Mobile detailers are cited for failure to comply if they refuse to discontinue or remedy the discharge. City Staff records all violators and if they encounter them violating the Permit again within the City, they are immediately given an administration citation and fine.

The City also actively enforces minimum BMPs for the following activities:

- Motor Vehicle or Boat Repair and Maintenance

- Motor Vehicle Parking
- Home and Garden Care Activities and Product Use
- Home Care and Maintenance
- Manure and Pet Waste Management
- Private Sewer Laterals and On-Site Wastewater Systems

If City staff witnesses a violation of any of the provisions above, the Administrative Fine Process will be initiated until full compliance is achieved.

6.6 Enforcement Actions

Violations of the storm water Permit and any necessary follow-up actions taken by the City are described in Chapter 7.0, Illicit Discharge Detection and Elimination (IC/ID) Component, which will be submitted in December, 2010. Since violations in the residential sector often times are discovered during an IDDE investigation, it is appropriate place to discuss the actions.

6.7 New Activities and Improvement for FY 10/11

The City is actively developing and implementing the activities described in the Residential Component of the City's new JURMP. The focus will continue to be education through the new Green Flash website, brochures, flyers, public announcements, community fairs and one-on-one contact.

The new Permit adopted in January 2007 contains increased requirements for the residential sector. This is one key area that the Permit focuses on, so new programs will have to be developed by the City to address these requirements. There is also a focus on watershed and regional programs to address the residential sector, so the City anticipates working with the other Copermittees to develop these programs cooperatively to convey a consistent message. The City will be working to continue developing and implementing these programs for FY 10/11. These programs will be discussed in more detail in the Unified Urban Runoff Mitigation Program

6.9 Summary

The City has been successful at implementing the Residential Component of the JURMP including among other things:

- Provision of public pet waste bag dispensers (approximately 72,000 bags were utilized by the community during this year).
- Collaborating with neighboring jurisdictions (CWURMP and SDWURMP) and the regional Copermittees to develop several informational items, which have been distributed at local events, to City Hall visitors, and throughout the community.
- Collaborating with all Copermittees to develop regional educational programs as required by Permit Order No. 2007-0001.
- Using and upgrading the City's website to post informative information about the City's storm water programs.
- Operating a 24-hour, 7 day a week storm water hotline that residents can report any storm water violations.
- Operating a community-wide used oil and hazardous waste collection program that offers door-to-door service for all residents. This program has been a huge success as 260 residents participated and properly disposed of 38,723 pounds of hazardous waste that might have otherwise ended up polluting the local environment.
- Conducted the Annual Bulky Item Pick-Up Day which resulted in 20.24 tons of waste collected and prevented from entering the City's MS4.
- Providing opportunities for local school presentations regarding storm water issues.

CHAPTER 7

Illicit Discharge Detection and Elimination Component

CHAPTER 7: ILLICIT DISCHARGE DETECTION AND ELIMINATION COMPONENT

This is a placeholder for Chapter 7, which as a result of Addendum No. 2 adopted by the Regional Water Quality Control Board on September 10, 2008, extended the reporting component of this Chapter to December 15, 2010.

CHAPTER 8
Education Component

CHAPTER 8: EDUCATION COMPONENT

8.1 Introduction

In accordance with Permit Section D.5, this section of the report describes the City's educational program that is intended to use all media as appropriate to measurably increase the knowledge of the target communities regarding MS4s, impacts of urban runoff on receiving waters, and potential BMP solutions for the target audience and to measurably change the behavior of target communities and thereby reduce pollutant releases to the MS4 and the environment.

In each Annual Report to the RWQCB, this section will include a description of the City's efforts during the reporting period and possibly post-reporting period if the activity is deemed essential to understanding the City's efforts at reducing urban runoff or Permit compliance. In addition, this section of the Report will include the City's planned educational efforts for the following fiscal year.

During this reporting period, the City continued implementation of the comprehensive Education Component of the JURMP. The activities were expected to increase knowledge among the residents, business owners, and those who do business (such as contractors) within the City. The City developed the program based on the requirements of the Permit and continued implementation during this reporting period.

The City continued implementing programs for the new requirements of the Permit. These programs are being developed on a watershed and regional level, and the City is an active participant in these workgroups. A major focus of the new Permit is on developing a regional education program, with the idea of forming a "brand" for the region where people can identify with the program as a whole. By developing and implementing a regional program, the messages will be consistent and easier to identify with. This will be further explained in the Regional URMP submitted by the County of San Diego.

During this reporting period, the cities of Carlsbad, Del Mar, Oceanside, Escondido, Vista, San Marcos, Encinitas and Solana Beach continued to develop strategies and programs to provide consistent messages to the communities of San Diego North County. While this watershed group will continue developing educational materials and activities, it will also work with the regional group as mentioned above. This group will ensure that the Copermittees represented will

participate with the “regional” message and program as required by the Permit.

As a collaborative, the group is able to obtain lower cost for educational tools (such as brochures, flyers, handouts, small tokens [pens, keys, etc.), which provides a financial benefit to the agencies and thus, the community.

The group has been able to assist each other in developing a consistent message incorporating the interests and concerns of each agency. When brochures and handouts have been created, flexibility among the agencies was required.

The collective decision-making process has also generated cooperative working relationships among the agencies, which was extremely beneficial when the development of the Watershed Urban Runoff Management Program(s) began and in working together to complete various storm-water-related tasks. The community also benefits from the consistent “one message” approach rather than six or seven different rules and regulations.

8.2 Pollution Prevention through Education – Jurisdictional Activities

The City’s storm water program is comprehensive. Not only are there many components to administer jurisdictionally, there are many different programs going on simultaneously throughout the County. The City participates in jurisdictional, watershed and regional activities. Each of these has separate and distinct educational components; however the challenge is to ensure that the same general message is being spread throughout the County, with individual messages being developed by the Watershed groups and Jurisdictions based on the Constituents of Concern (COCs) for each watershed. The watershed activities have been recently defined and are in the early stages of implementation; since this is a jurisdictional report, there will not be much discussion about those in this Annual Report (For more detailed information on WURMP related activities, please see the WURMP Annual Reports for Carlsbad and San Dieguito). The regional activities have been primarily described in the Copermittee *Unified Urban Runoff Management Program Annual Report for Fiscal Year 2009-10,* which has been submitted by the County and incorporated herein by reference. However, some of the activities will be summarized in this section of the report (see Regional Activities).

8.2.1 Staff Training

One of the most important aspects of the City's educational program is to educate its Staff members. This turns out to be a relatively easy task for this City in that there are only about 70 full time Staff members. All Staff members are required to attend an all-hands citywide Staff meeting each month. Staff determined that this would be a good opportunity for training, and periodically conducts trainings at these meetings.

However, the Staff trainings were modified slightly during this reporting period. Staff determined that it would be a greater benefit to bring in an outside consultant to perform the Staff trainings. Staff hired a consultant that specializes in storm water training to get the highest possible training geared towards each department. Staff determined that with all the new Permit requirements that were coming into the implementation period, such as the HMP, LID and new SUSMP, the best thing would be to bring in a specialized consultant. Not only is the consultant conducting specialized trainings, but the consultant is also meeting with various Staff members to review their current documents and make updates where appropriate.

Here is a brief description of the specialized trainings that occurred during this reporting period:

On June 22nd, 2010, the City's Land Development Staff was trained on storm water issues related to their work responsibilities. The training included the following information:

1) Basic laws, regulations and permits associated with the Storm Water Program
2) Impact of Land Development on water quality (Hydromodification and pollutants)
3) Discussion on Receiving Waters
4) Watersheds
5) City's Land Development processes related to the Storm Water Program
6) Low Impact Development (LID)
7) Source Control BMPs
8) Treatment Control BMPs

Based upon feedback from Staff during the training session, the City has continued to further refine its Land Development processes related to the Storm Water Program. Specifically, the City is revising its intake and processing forms and checklists to ensure that all applicants continue to fulfill the City's requirements with respect to LID, source control and treatment control BMPs.

The City plans to fully implement these forms and checklists in the 2nd quarter of FY 2010/2011.

On June 24th, 2010, the City's Public Works Department was trained on storm water issues related to their work responsibilities. It is important to note that the Director of Public Works/City Engineer was in attendance, further supporting Staff and the importance of the Storm Water Program. Training included the following information:

1) Basic laws, regulations and permits associated with the Storm Water Program
2) Introduction to Urban Runoff
3) Separation of MS4 and Sanitary Sewer Systems
4) Watersheds
5) MS4 and Receiving Waters
6) Pollutants in Waterways
7) City's Storm Water Program
8) General BMPs
9) Specific BMPs related to Public Works services

The City believes that all current Staff is adequately aware of the storm water issues, and all new Staff will be trained as appropriate upon arrival. However, due to the constantly evolving storm water field, the City will continue the periodic educational trainings at future City all-hands Staff meetings and department specific trainings as appropriate.

8.2.2 Annual Beach Cleanup Days

The City of Solana Beach, in cooperation with I Love a Clean San Diego County, Inc. coordinates an annual "Coastal Cleanup Day". These events are volunteer beach and lagoon clean ups. The City had another successful event hosting two sites within the City, one at Fletcher Cove Park and the other in the San Elijo Lagoon.

8.2.3 Storm Drain Tile Marker Installation

The City inventoried all of its storm drains (inlets and catch basins) and has the locations in GIS format. The inventory list includes addresses, cross streets and a GIS bit-map. Stenciled tiles are affixed to each storm drain inlet or catch basin location, which reads, *"No Dumping! This drains to the ocean."* The City now requires all new or re-development projects that install a storm drain curb inlet or catch basin to include the stenciled tile. An extra supply of tile markers is kept at

the City's Public Works Yard for all City projects as well as for private contractors to install on their projects to provide a consistent message throughout the City.

8.2.4 Local Community Events

The City of Solana Beach hosts an annual block party called Fiesta de Sol. Each year at the block party the City has a booth promoting to the participants no dumping or littering and to keep our beaches clean. The City also coordinates with Solana Center with their booth promoting proper disposal of HHW and recycling (oil included) in the City. The City passes out "*Only Rain in the Drain*" brochures, and displays the watershed poster, "We All Live in a Watershed…" Staff discusses with residents the importance of protecting the water resources and educated them on the new storm water regulations. This reporting year's Fiesta Del Sol occurred on June 5 and 6, 2010. There were approximately 60,000 visitors during this year's event, and City Staff distributed storm water brochures and informational flyers to those who visited the City's booth. In addition, the Fiesta Del Sol included a "Green Alley" which included vendors promoting environmental sustainability. This was one of the busiest areas at the Fair, and the organizers plan on making this a permanent fixture in future events. This further demonstrates the City;s commitment to sustainability and the communities demand and desire to be more environmentally sustainable.

The City's Park and Recreation Commission also put on the fifth annual Beach Blanket Movie Night on 8/22/2009 (Appendix R). This was the fifth year this community event was held and was once again a huge success. The City worked closely with the event organizers and provided recycling containers, environmental educational material pertaining to storm water issues, and used oil recycling information. The City also shared a booth with Solana Center to provide environmental education to the attendees, utilizing the Enviroscape model. It is important to note that this was the only booth allowed by the Parks and Recreation Commission because they want to promote a relaxed, friendly environment. However, because the environment is such a popular topic in Solana Beach, they allowed City Staff to have a booth to promote the environmental programs. The event was very well attended and a huge success, and will continue to occur annually. This is a great way to promote environmental awareness at a free event to the community.

The City also continued to distribute the immensely popular and effective doggie-bag dispensers that attach onto the pet leash. These dispensers had the City logo and the message, "The City of Solana Beach Reminds You To Please Pick

Up After Your Pets." The City wanted to again emphasize the importance of eliminating pet waste from the MS4, as it can be a major contributor of harmful bacteria. These dispensers were very well received and the City plans on distributing them at every community event.

8.2.5 School Programs

The Solana Center is a local organization that writes articles for the City Newsletter (*Shorelines*) and presents educational programs in the City schools regarding storm drain pollution using the watershed model (Enviroscape) and fun handouts and items for the kids. Solana Center is paid through the City's solid waste franchise agreements, as well as a HHW grant, to provide educational opportunities to the community. City Staff is in regular contact with the Solana Center and is confident that their program(s) are educational and informative for the children. The presentations are provided free to the local schools, and the information provided is invaluable.

The following table shows what school/community education has taken place during this reporting period:

School / Adult Community Education

Date of Event(s)	Event Title	Estimated Audience	Specific Audience	Location	Jurisdiction
June 22-26, 2009	"Environmentally Friendly"	25	6-12 year olds	Fletcher Cove Community Center (Field Trips Included)	Solana Beach
July 13-17, 2009	"Time Travel"	25	6-12 year olds	Fletcher Cove Community Center (Field Trips Included)	Solana Beach
August 3-7, 2009	"It's a Zoo Out There…"	20	6-12 year olds	Fletcher Cove Community Center (Field Trips Included)	Solana Beach
August 10-14, 2009	"Water Adventures"	25	6-12 year olds	Fletcher Cove Community Center (Field Trips Included)	Solana Beach

8.2.6 Marine Safety Department Educational Presentations

The City of Solana Beach Marine Safety Department also conducts presentations at local schools. The lifeguards maintain an outreach program to the local schools to educate the students on ocean safety and awareness as well as

environmental education. This is a natural fit, seeing how the lifeguards provide a safe environment for the community to enjoy the valuable coastal resource, and they want to ensure that the community becomes environmental stewards to help protect this resource. The presentations focused on water quality, trash and litter control and the ecosystem as a whole. These presentations have been very well received by the schools and the lifeguards plan to continue them into the future.

8.2.7 Kids Korps Educational Presentations

During this reporting period, the City continues its valuable relationship with the local non-profit youth volunteer organization called Kids Korps. Kids Korps engages young people, age 5 through 18, in community service with the mission to instill in America's youth the spirit of giving while providing valuable education in leadership and responsibility. The City and Kids Korps have partnered to conduct park cleanups and educational presentations. The City of Solana Beach sponsors disadvantaged, underserved local children for a week during the summer where they can attend the Kids Korps camp for free, and Staff takes this opportunity educate the children on storm water pollution. The Staff presentation was so well received that Kids Korps invited back City Staff to present at two different camps, reaching over 60 children. During this reporting period, Staff contracted with Solana Center to provide the presentations, using their Enviroscape model and interactive puppet show. This activity will continue in the upcoming years with the goal to expand the cooperation with increased educational opportunities and cleanup events.

8.2.8 Targeted Education for Underserved Community

The City has a comprehensive and successful program established to reach out to the underserved community in Solana Beach. City Staff takes these opportunities to educate this sector of the community on many items, including the storm water and pollution prevention programs. The various programs are described in more detail below.

The City has a successful Junior Lifeguard Program that teaches young children about safe ocean practices, lifeguard techniques and environmental stewardship. Children come from all around the City to participate in this summer program, and space is limited. However, through a unique partnership between the City and a private company called ReRip, about ten spaces in the program are reserved for the underserved community that may not otherwise be able to afford

it. The City and ReRip cosponsor an annual environmental event (the Future of Surfing Event) in which a raffle fundraiser is conducted and the proceeds go toward giving ten children a full ride scholarship to the Junior Lifeguard Program. These children participate in all the activities and learn all about pollution prevention and storm water regulations. This is a unique partnership that the City is extremely proud of, and the community has rallied around it.

Another successful program that benefits the underserved community is the City's Summer Day Camp program. The City offers full and half-scholarships to the underserved community that would not be able to afford to send their kids to the camps for the full price. These camps have environmental themes, including pollution prevention and storm water education incorporated into the curriculum. So this has been a successful outreach attempt to the underserved community.

As mentioned above, the City's relationship with Kids Korps is another opportunity to reach the underserved community. The City, through the City Council allocated Community Grant Program, sponsors one week of Kids Korps summer camp for underserved children in the area, and the program has been a huge success. City Staff and the Solana Center give presentations and educate the children on storm water pollution prevention. The City anticipates continuing this successful relationship in the years to come.

8.2.9 Water Conservation

The City does not provide drinking water to the community of Solana Beach. That service is provided by a private company, the Santa Fe Irrigation District (SFID). The City and SFID have a great working relationship which has benefitted the community of Solana Beach in many ways.

Due to ongoing drought conditions and increased environmental regulations, water conservation has been a major focus during this reporting period. Although drinking water is a completely separate entity than storm water, they are linked in many important ways. Primarily, over-irrigation of potable water is often the transport mechanism for many pollutants during dry weather. Over-irrigation carries pollutants such as pesticides, herbicides, fertilizers, bacteria, trash, oil and grease and many other pollutants into the MS4 system. Water conservation activities can reduce the transport mechanisms thereby reducing the amount of pollutants that make it into the City's MS4 system. The City recognizes that promoting water conservation not only helps during times of drought conditions, but also helps combat storm water pollution.

The City and SFID have a regularly scheduled monthly meeting to discuss all things water related. These meetings have turned into valuable information sharing sessions where Staff from both agencies can discuss upcoming projects and report observations from the field. The City and SFID have joined together on many educational seminars and workshops for the community, both residential and commercial. The following is a list of water conservation related presentations and workshops that occurred during this reporting period.

California Friendly Landscape Classes:

Date of Event(s)	Event Title	Estimated Audience	Specific Audience	Location
8-15-2009	Have a Green Thumb and a Water Smart Landscape	68	Residents	Rancho Santa Fe Garden Club
9-14-2009	Designing with Water Smart Plants	61	Residents	Rancho Santa Fe Garden Club
10-7-2009	Surviving California Drought "Water Expo"	55	Residents	Rancho Santa Fe Garden Club
1-25-2010	Irrigation Basics and Maintenance	22	Landscape Professionals	Fletcher Cove Community Center
2-1-2010	Irrigation Valve Troubleshooting	31	Landscape Professionals	Fletcher Cove Community Center
2-8-2010	Water Schedules and Controller Programming	31	Landscape Professionals	Fletcher Cove Community Center
2-15-2010	Horticulture Practices	29	Landscape Professionals	Fletcher Cove Community Center
3-13-2010	California Gardening for the Water Wise Gardener	83	Residents	Quail Gardens
4-24-2010	Garden Tour and exhibit	125	Residents	Rancho Santa Fe Garden Club

8.2.10 Educational Brochures

The City has participated with the North County Educational Group to develop

many effective educational materials. The handouts and brochures are included in the Carlsbad WURMP Annual Report.

"*Only Rain in the Drain*!" describes the importance of protecting the valuable water resources and the problems that can be caused by storm water pollution. It also provides a list of BMPs to help prevent pollution. The brochure also provides valuable resource numbers: *a direct number for each jurisdiction* is provided, as well as the County's Storm water hotline. The City's Public Works Crew and Code Enforcement Officers deliver these every day to the community when small violations are observed. Since these Staff members are out in the community every day, this has proven to be an effective means of public education. Larger infractions are reported to the Engineering Department or Code Enforcement Department for follow-up.

The door-hanger *"Help!"* provides a method for Staff members to indicate to residents that pollutants were found in their neighborhood. The brochure is in English and Spanish, which is helpful to all residents. It is typically hung on a resident's door, provides a place for business cards and under the cards, (should they become misplaced) the brochure lists a contact number for each jurisdiction. The back of the brochure provides BMPs for vehicle maintenance, car washing, hazardous materials handling, recycling, litter, and sidewalk/driveway debris.

To assist the public in directing their calls for complaints and service, the City operated a 24-hour storm water hotline telephone recording (858) 720-4424. The number is connected directly to the Environmental Program Manager's voice mail (so it can still remain anonymous, if necessary), so that violations can be investigated immediately and the proper action taken *while the violation is occurring*. The City informs the public about the hotline number at City Council meetings, on flyers and handouts, and on business cards and on brochures.

8.2.11 City Newsletter (Shorelines)

Chapter 6 contains all the information regarding the *Shorelines* newsletter and gives a brief description of the articles included during this reporting period. The articles are available upon request.

8.2.12 Website

The recent upgrade of the environmental portion of the City's website has been explained previously in this Report. The new "Green Flash" has been extremely helpful in getting the word out in an effective and easy to find location. This has

been a huge success, as the website is updated constantly with new and pertinent information. The City also has an "eBlast" system that notifies interested citizens on special news and events via email, which has proven to be extremely beneficial and successful in getting out news on all City happenings, including environmental.

8.2.13 Business Community

The City has initiated several methods to educate the business community about storm water pollution prevention.

The City hires a specialized consultant (ECIS) to conduct annual commercial compliance inspections (see Commercial Component). Through the inspections, ECIS educates the business owners about the requirements of the Permit and the City's various storm water programs. Given the City's close proximity to the Pacific Ocean and sensitive lagoons to the north and south, inspectors are able to show a direct link between commercial activities and impact on water quality. Next, after the initial and follow-up inspections are conducted by the consultant, City Staff conducts follow-up enforcement inspections on those businesses still determined to be out of compliance, to ensure that the businesses are using the proper Best Management Practices to protect the City's waterways. These follow-up inspections are often conducted through scheduled meetings with the property owner and/or manager, to ensure the decision makers are present and can be held accountable. Often times, the initial inspections were conducted without prior warning, and various staff members at the facility are held responsible. Just to ensure that the right people are informed of the infractions/violations, follow-up inspections are pre-scheduled.

During this reporting period, *all* businesses that were inspected were deemed in compliance without any citations issued. As reported earlier, not all businesses were in compliance during the first inspection. Some businesses had minor issues (trash lids not closed, grease barrels not covered, etc.), however, the enforcement follow-up inspections revealed that the minor infractions had been corrected and no fines were issued.

8.2.14 Special Events Permit

As reported in previous Annual Reports, the City adopted a Special Events Permit that is required for group events (Triathlons, Block Parties, Birthday Parties, etc.) of over 25 people on public property. A storm water section is included in the Permit, with requirements regarding the event and adhering to all

storm water regulations. This has proven to be a great educational tool, as most applicants tend to ask questions about this. It is a great tool to educate the public about storm water regulations. For an example of the Special Events Permit Conditions of Approval, see Appendix S.

8.3 Pollution Prevention through Education – Regional Activities

The regional activities of the Copermittees of Order 2007-0001 are, for the most part, described in the Regional Unified Annual Report. However, for purposes of completeness, some of the activities that the City has participated in are described in this section of the Report. As mentioned above, the new Permit added significant requirements for regional education, some of which is described below. The City has been in cooperation with the other Copermittees in developing a regional educational program. Implementation of some of these programs did occur during FY 2009/2010 and will be reported on in the Regional Unified Annual Report. The City is actively working with the Regional Copermittee Education group to develop additional programs for implementation during FY 2010/2011.

8.3.1 Regional Monitoring

The City participated with the Copermittees in conducting a region-wide wet-weather monitoring program. Although no mass loading stations were located within the City, one of the testing sites (San Dieguito Lagoon) is a receiving water body from the City's drainage.

The 2009/10 program is described in detail in the Regional Unified Annual Report and in the report issued by the consultant, MEC Analytical. MEC's report will be submitted with the Unified Annual Report, and any data collected will be reported and discussed in that report.

8.3.2 Model Programs

One of the most important regional educational components is the ability the Copermittees have developed to help educate each other. This has been accomplished through routine meetings, sharing of project assignments, and most significantly, the development of model guidelines for the new JURMPs, SUSMPs, and WURMP(s). Not only have the model guidelines produced a fairly consistent message to educate the community, the model guidelines have established collaborative working relationships among municipal, county, and

state agencies, which is remarkable. In addition, this cooperation has allowed for relatively consistent program components and requirements, which especially helps the business and construction community. So, if they are doing business in various cities, they will not have to completely alter their practices to comply with the respective jurisdictions. This is especially relevant in the LID, SUSMP and general BMP programs.

8.3.3 Linking to Regional Resources

The City posts links on its website to the regional Web sites (Project Clean Water and Think Blue). In addition, the City posts information on reporting storm water violations to the City as well as County's Regional Storm water Hotline on various educational materials. Linking the community together provides continuity, extension of resources, and economies of scale for the community and the agencies, and contributes to a greater understanding that we are all interconnected and can help positively impact water quality. It's important to educate the community that water quality programs should not and do not stop at jurisdictional (or watershed) boundaries.

Through the www.projectcleanwater.org website, San Diego County has been able to link many community members to various storm water/urban-runoff-related programs of interest. In addition, the website contains information (dates, times, agendas) on meeting's that are open to the public and links to download important documents and reports.

8.4 Pollution Prevention through Education – Watershed Activities

In accordance with the Permit, each municipality is required to participate in the development and implementation of a Watershed Urban Runoff Management Program (WURMP) for each hydrological unit in which the City's jurisdictional boundaries lie. The northern portion (~10%) of the City resides within the Carlsbad Hydrological Unit and the rest of the City resides within the San Dieguito River Hydrological Unit. As such, the City is required to participate in the development and implementation of two WURMPs addressing the runoff concerns of each watershed.

During this reporting period, the City actively participated in the development and implementation of the Carlsbad and San Dieguito WURMPs, in compliance with Permit Order No. 2007-0001. The WURMP Annual Reports will be submitted in January 2011, and will detail all the activities and programs being implemented

by the respective Copermittees to address watershed issues.

In short, each WURMP contains the following 1) a time schedule for developing a comprehensive map of the entire Watershed including all land uses, the storm drain systems, and inventories of all commercial, construction, industrial, municipal and residential areas, 2) a plan to ascertain the types of pollutants that exist in the water bodies throughout the watershed and a prioritization schedule to eliminate the pollutants; 3) a program to educate the entire community about issues related to urban runoff; 4) methods to provide the community opportunities to participate in the program; 5) plans to collaborate with Copermittee agencies to strategize, review and analyze information; and 6) an effective program effectiveness strategy and methods to conduct annual evaluations. A significant addition to the responsibilities of all WURMPs is the requirement to actively implement two (2) activities each year aimed at sources to reduce high priority pollutant loading into local waterways. This will be described in greater detail in the WURMP Annual Reports (submitted in January), but mention of it here in the JURMP is appropriate.

The City has been actively involved in the implementation of both WURMPs, and has brought materials developed in each WURMP to the community (business and residents) of Solana Beach. The Carlsbad and San Dieguito WURMP workgroups have been extremely effective in implementing the requirements of the Permit. For more information on the particular activities in each WURMP, please refer to the City's individual WURMPs Annual Reports that will be submitted in January 2011.

Both of the WURMPs the City is involved with have contracted with the same consultant to assist in the development and implementation of the program requirements. This has also helped to bring consistency and continuity to the residents of Solana Beach. Although there are slight differences in the watersheds, such as the land uses and COCs, the City is able to make the implementation of the general programs more effective by having the same consultant.

8.5 New Activities and Improvements for FY 10/11

The City will continue to educate the community through participation in the Carlsbad WURMP, the San Dieguito WURMP group, the Regional Education Group, the City's new Green Flash environmental web portal, brochures, flyers, the *Shorelines*, and community/regional events. The City will also use the results

from its DWMP to inform residents in areas that the data showed elevated levels of constituents of concern or pollutants that degrade the quality of water. The City plans to develop additional educational brochures (collectively with the region) that will be industry specific. As a result of the 13267 Directive Letter, the Copermittees have changed their approach to watershed issues and plan on taking a more direct approach in implementing activities that address specific pollutants of concern and their respective sources within the watershed. Following the direction of the RWQCB, the watersheds have changed their approach to integrate more pollutant based activities in an attempt to reduce COCs in the watershed and improve water quality. This appears to be the direction the RWQCB wants to go and the Copermittees are eager to work with the RWQCB to improve the water quality throughout the region.

The City also incorporates education to school children through its relationships with the Solana Center and the Kids Korps non-profit organizations. As mentioned above, the City indirectly contracts out the Solana Center to give *free* classroom presentations to local schools. These presentations are paid for through the City's waste hauler contracts. City Staff will be more proactive in its efforts to get more presentations in the schools during FY 2010/2011. It has been an ongoing struggle to get into the schools with the demanding curriculum of the Solana Beach School District. However, City Staff has begun to meet regularly with the local School Districts on many issues, and Staff has made it a priority to get environmental issues included along with the standard discussions such as traffic safety, neighborhood sensitivity and children safety. These meetings have occurred on a quarterly basis and will continue to do so in the future. It is the City's intent to use this platform to get more storm water education into the schools.

8.6 Summary

The City has been successful at implementing a jurisdictional and watershed based educational program. With the adoption of the new Permit, a renewed focus has been placed on a large scale regional education program, in which the City has been actively involved with during this reporting period. A new regional education working group has been established by the Copermittees to develop a consistent, region-wide program, and the City of Solana Beach has been actively involved. This first step has already been accomplished, with the region adopting the "Think Blue" program developed by the City of San Diego. This gives the region a known brand of which to build a successful educational program. The details of this regional program will be described in detail in the Regional Unified

Annual Report.

On a jurisdictional level, the City is confident that with its strong messages, meaningful content and integrated programs, the community has become more knowledgeable about pollution prevention methods.

As mentioned above, the City plans to utilize the educational materials developed by the watershed and regional groups, as it has been agreed upon that a consistent message should be implemented whenever possible. However, much like the differences in the watersheds throughout San Diego County, there are slight differences in how individual cities implement and enforce certain components of the Permit. Therefore, it will always be necessary to develop some jurisdictionally specific educational materials for the benefit of the community. The types of jurisdictional educational information/activities are described throughout this Report, but a few examples include:

- BMP specific guidelines for unique construction projects, such as the Underground Utility Program (undergrounding power poles) and the Trench Resurfacing Program.

- The “Construction Site Supervision in Solana Beach: Code Requirements and Good Neighbor Practices”

- Construction and Demolition (C&D) Debris Recycling Guide

- Classroom Presentations

- Summer Camp Presentations

- Marine Safety Presentations

- Water Conservation, Landscape Workshops

- Unique partnerships with public and private entities such as Solana Center, Kids Korps and ReRip to provide educational opportunities for the underserved population

CHAPTER 9
Public Participation Component

CHAPTER 9: PUBLIC PARTICIPATION COMPONENT

9.1 Introduction

In accordance with Permit Section D.6, this section of the report describes the City's efforts to develop mechanisms for public participation in the implementation of the JURMP and obtain the committed participation from the community. Public participation comes in two forms; participation in implementing the program and the necessary public feedback for improving the program.

In each Annual Report to the RWQCB, this section will include modifications to the City's plans to provide opportunities in which the public can participate. In addition, this section of the Annual Report will describe the City's efforts to encourage public participation during the reporting period. Also, a summary of activities conducted post-reporting period may be included if the activity is deemed essential to understanding the City's efforts at reducing urban runoff or Permit compliance.

Prior to the implementation of the original JURMP (February 2002), the City did not have a specific "public participation program." However, many members of the community have taken an active role in environmental issues over the years, which is most likely due to the City's proximity to the ocean and lagoons. As a result, the City was the first city in San Diego County to have curbside recycling and a smoking ban at the beaches and parks. The City has also been proactive in its approach to urban runoff and pollutant mitigation and reduction, by implementing a strict Municipal Code regarding Storm Water Management (adopted in 1993) and Grading and Excavation regulations to prevent erosion during construction.

As a result of Order 2001-01 (Permit), the City was required to design a specific program to ensure that the public had ample opportunities to learn about controlling urban runoff and assist the City in "spreading-the-word." The new Permit Order No. 2007-0001 further emphasizes the necessity of a strong public participation program.

The Public Participation Component is closely related to the Educational Component. However, while the educational program describes activities the City engaged in to educate the public, public participation will describe activities the

public engaged in (or were provided an opportunity to do so).

During this reporting period, the City began the implementation of the comprehensive Public Participation Component for the new JURMP (Section 11). The programs included activities that complemented the educational program with a goal of providing opportunities to ensure that residents, business owners, and those who do business (such as contractors) within the City, have an opportunity to learn about the negative impacts of urban runoff, understand the City's regulations relating to protecting the environment, and participate in the development of storm water program involving the community. The City developed the program based on the requirements of the Permit(s) and continued implementation during this reporting period.

9.1.1 Chapter Content

It is important that the reader understand that much of the public participation program is integrated into other program components and as such, much of the information within this chapter has been presented elsewhere in this report. However, to provide consistency in reporting, to ensure Permit compliance, and to present stand-alone chapters in this report, this section will include all opportunities for public participation, even if those same events were described in other chapters. However, for purposes of reducing redundancy, some events may be summarized in this chapter with a reference to other chapters for details.

9.2 Community Events

The following list gives a brief description of each community event that Staff coordinated and provided storm water education to the community.

9.2.1 Fiesta Del Sol

The City of Solana Beach hosts an annual block party called Fiesta de Sol. Each year at the block party the City has a booth promoting no dumping or littering and keeping our beaches clean. The event was held on June 5 and 6, 2010 (Appendix E). The City also passes out "*Only Rain in the Drain*" brochures and talks with residents about the importance of protecting the water resources. Solana Center also hosts a booth through the City of Solana Beach and promotes environmental stewardship, including used oil recycling and HHW information. Approximately 60,000 people attended the event this year and City staff handed out storm water educational brochures and doggie-bag dispensers

to those that visited the City booth.

The City's Clean and Green Team, consisting of environmentally conscientious members of the community, also shared the booth with City Staff. They distributed information regarding climate change, energy conservation and water quality. Since this is such a hot topic this year, it got many more people to go to the City booth this year. City Staff took this opportunity to educate more people regarding the storm water regulations. This was an extremely successful event this year.

As mentioned in the previous chapter, the event this year included a new area called the "Green Alley." This area was dedicated to all things sustainable, and included vendors and games focused on environmental sustainability. This was by far the most popular area, and the event organizers plan to include it in future years. The event organizers even planned to have the live music powered entirely by solar power. Unfortunately, it was an extremely overcast weekend so the bands power had to be augmented by biodiesel.

9.2.2 Beach Clean Up Opportunities

During this reporting period, Coastkeepers and the nonprofit group I Love A Clean San Diego (ILACSD) hosted the 25th Annual California Coastal Cleanup Day on September 19, 2009. The City hosts two locations, one at Fletcher Cove to clean the beach, and another at San Elijo Lagoon to clean up the lagoon. This provided opportunities for the public to come out and help keep the lagoons and beaches clean, while also educating them on cigarette butt pollution and water quality concerns. The results of this event are included earlier in this Report.

9.2.3 Adopt-A-Beach Program

The City works collaboratively with I Love A Clean San Diego in the Adopt-A-Beach Program. The Program consisted of local businesses and/or community groups sponsoring a beach and agreeing to clean up the beach at least 3 times a year (1 time for schools). The City thought this was a great idea and extremely beneficial to the community, so approved our beaches being included in the program. Four (4) beaches (Tide Beach Park, Fletcher Cove, Del Mar Shores and Seascape Sur are all "adopted" and are cleaned at least three times a year. The signs are updated each year with new "adoptees" and City Staff installs the new placards on the signs. This has been a very positive experience, as the City's beaches are each cleaned three times a year, resulting in at least 12

beach cleanups per year, in addition to the annual Beach Clean-Up Day.

9.2.4 Beach Blanket Movie Night

As mentioned in the previous Chapter, the City's Parks and Recreation Commission puts on a free community event called the Beach Blanket Movie Night. This event consists of placing a large movie screen at Fletcher Cove Park and showing environmentally themed movies for the community to enjoy. City Staff took this opportunity to distribute storm water educational materials, promote recycling efforts and distribute doggie-bag dispensers to members of the community. Additionally, Solana Center attends and has educational material for the community as well, including the Enviroscape model. This has turned into one of the most successful community events and is based around environmental themes. The City's "environmental booth" is the only booth allowed at this event, as the organizers recognize the importance of educating the community on environmental awareness. This is a great opportunity for the City to promote its programs as it has the community's undivided attention. This year's event was held on August 22, 2009.

9.2.5 San Elijo Lagoon Day

San Elijo Lagoon Day is an event sponsored by the City, the San Elijo Lagoon Conservancy (SELC) and the County of San Diego Department of Parks and Recreation and it's a full day of educational activities where residents can learn about the ecological reserve and how to protect the local environment. This year's event was held at the SELC's new LEED certified Nature Center and the City and the Clean and Green Committee shared a booth to educate the visitors on the City's environmental initiatives. It was a very well attended event that is scheduled to be held on an annual basis. This year's event was held on May 15, 2010.

9.2.6 Paws in the Park

"Paws in the Park" is an annual event put on by the City at the La Colonia Community Park. This community event is very well attended and the City has a booth to showcase the City's environmental programs. At this year's event, held March 14th, 2010, City Staff took advantage of the pet event to promote the importance of picking up after your pet and distributed customized "Bags on Board" doggie-bag dispensers. These items are a huge success because the event targets the pet community, those most likely to have the potential to

release bacteria into the environment. The dispensers had the City logo on it and the slogan, “The City of Solana Beach Reminds You To Please Pick Up After Your Pet.” In addition, the City distributed specialized educational information regarding pet waste and the harmful effects it can have on the environment. This is an annual event and the City will continue its environmental education campaign every year.

9.2.7 Green Fair

The City held its 2nd Annual Green Fair on March 14th, 2010 at Fletcher Cove Park. The City, along with the community volunteer group the Clean and Green Team, hosted the second ever Green Fair that consists of vendors, food, music and demonstrations. The vendors are all local sustainability businesses and the demonstrations consisted of a bicycle safety course conducted by the Sheriff’s Department and an alternative vehicle showcase to demonstrate alternative modes of transportation to the community. The event has grown rapidly and had over 30 booths, with approximately 500 people coming throughout the day. It was a widely successful event, and the City will continue to host a Green Fair every March.

In addition to the Green Fair, the City has officially declared March as “Sustainability Month.” The City hosts activities throughout the month, many of which incorporate storm water issues because water quality is a major concern for the community. The City hosted four lectures, one each Tuesday night in the Council Chambers, all free of charge and with different environmental themes. The Sustainability Month has been so successful with the community, the City plans to make it a tradition. This shows the level of environmental support held throughout the community.

9.2.8 “Keep Solana Beach Beautiful Day”

In last year’s Annual Report, the City identified a potential new event that Staff was looking into developing called the “Keep Solana Beach Beautiful Day.” The event was going to piggy-back on the largely success Annual Coastal Cleanup Day and would include various other cleanup locations throughout town. Since the Annual Coastal Cleanup Day only focused on the beaches and lagoons, Staff felt that it would be beneficial to establish other locations that have had a history of litter problems. During this reporting period, Staff did accomplish its goal of developing and implementing a “Keep Solana Beach Beautiful Day” on September 19, 2009.

The great thing about this new event is that it was success largely because of the support of the community. The community volunteer group the Clean and Green Team adopted all five locations and volunteered to be the “site captains” and lead the community volunteers at each site. Staff provided the supplies and the publicity and the volunteers organized themselves. It was a hugely successful event and the community was active and supportive. This was a tremendous demonstration of public participation and cooperation between the community and the City. For a copy of the flyer, see Appendix D.

9.3 City Council Meetings

The Solana Beach City Council meetings are televised, which provides an excellent opportunity for the public to participate in local government. In addition, the City’s Agenda is published online (available on its website), which provides the public an opportunity to readily access the upcoming Council reports.

Another highly successful educational opportunity is the implementation of scrolling messages during televised City Council Meetings. Staff has taken advantage of this new tool to place storm water messages and notifications for upcoming presentations, events, etc. This has proved very valuable and will continue to be utilized by City staff when appropriate.

9.4 Copermittee Meetings

Most Copermittee meetings are open to the public and provide an opportunity to participate in the process of developing the regional and local programs. All Copermittee meeting dates are available on the Project Clean Water Web site (projectcleanwater.org) and the City’s website also links to the regional sites.

9.5 Collaborative Community Partnerships

The City has developed collaborative partnerships with various local organizations, which provide the public an opportunity to participate in improving water quality and/or the City’s storm water program.

The City works closely with the Solana Center, which provides instruction to local school children on the harmful effects of pollution, the positive impacts of pollution prevention and the need to keep pollution out of the City’s storm drains. Solana Center is contracted by the City’s waste haulers through their exclusive

Franchise Agreements. Solana Center also provides the following services for the City:

Referral Phone Calls: Solana Center staff provides recycling telephone referral services for residents on the cities of Encinitas, Del Mar and Solana Beach. Solana Center staff spent time educating the community about CRV updates, composting information, and how they easily incorporate recycling activities into their daily lifestyle. Community phone inquiries included:

- The locations of local recycling centers and hours of operation.
- Redemption values of materials.
- Basic information of what materials can be or cannot be recycled in curbside recycling programs.
- General recycling information for commercial businesses.
- Services on commercial recycling carts.
- RotLine – Answering community questions regarding composting and vermicomposting.

Less Toxic Yard and Garden Workshops:
Solana Center staff conducts presentations throughout the community on alternative gardening tips that reduce the use of pesticides and herbicides. These workshops also promote the benefits of composting, further reducing the amount of trash generated and shipped to landfills as well as reducing the need for harmful chemicals/fertilizers.

Community Outreach Events

Event Dates	Name of Event(s)	Attendance at Event(s)	Description and Summary of Event(s)
June 5 and 6, 2010	Fiesta Del Sol	60,000	Annual event for the City of Solana Beach. Recycling services were coordinated in conjunction with Waste Management and EDCO Disposal Inc. Solana Center also provided education on used oil recycling, HHW and watershed presentations,
August 22, 2009	Beach Blanket Movie Night	1,000	Annual event put on by the City's Parks and Recreation Commission to provide a free night of environmentally themed movies. Educational materials were distributed at event.

March 14, 2010	Paws in the Park	500	Annual event put on by the City's Parks and Recreation Commission for pet education and games. Educational materials were distributed at event.
March 26, 2010	Green Fair	500	Annual event put on by the City consisting of local sustainability vendors. The City provides music, food, bike demonstrations, alternative vehicle showcases and highlights the City sustainability programs.
September 19, 2009	Coastal Cleanup Event	300	City hosted two locations where the community could help clean up the San Elijo Lagoon and the beaches. City also distributed storm water educational brochures at the sign up table.

California Friendly Landscape Classes:

Date of Event(s)	Event Title	Estimated Audience	Specific Audience	Location
August 15, 2009	Have a Green Thumb and a Water Smart Landscape	68	Residents	Rancho Santa Fe Garden Club
September 14, 2009	Designing with Water Smart Plants	61	Residents	Rancho Santa Fe Garden Club
October 7, 2009	Surviving California Drought "Water Expo"	55	Residents	Rancho Santa Fe Garden Club
January 25, 2010	Irrigation Basics and Maintenance	22	Landscape Professionals	Fletcher Cove Community Center
February 1, 2010	Irrigation Valve Troubleshooting	31	Landscape Professionals	Fletcher Cove Community Center
February 8, 2010	Water Schedules and Controller Programming	31	Landscape Professionals	Fletcher Cove Community Center
February 15, 2010	Horticulture Practices	29	Landscape Professionals	Fletcher Cove Community Center
March 13, 2010	California Gardening for the Water Wise Gardener	83	Residents	Quail Gardens
April 24, 2010	Garden Tour and exhibit	125	Residents	Rancho Santa Fe Garden Club

The above workshops are conducted by the City's private water company Santa Fe Irrigation District (SFID) in conjunction with the City. The City provides the space to conduct the workshops and promotes the workshops, including directly to the landscaping contractors known throughout the community. All classes are taught in English and Spanish, and the classes taught in Rancho Santa Fe are promoted to Solana Beach residents/businesses as well. The City requires the municipal landscaping contract company to attend the workshops for educational purposes. This shows another great collaborative success between the City and its private water company. There is a great relationship between the two entities which extends beyond these workshops. The City and SFID work together to combat residential over-watering and ensure daily tasks and repair work are conducted in compliance with the Permit. In addition, pre-construction meetings for CIP projects include SFID and storm water issues are discussed. The City and SFID are committed to working together and maintaining this great working relationship since most of the work conducted by SFID (trenching, pipe laying, water testing) are all done within the City limits.

Shorelines Newsletter:

The Solana Center writes regular articles for the City of Solana Beach on a wide range of topics, including E-waste, recycling, composting and buying recycled products. The topic is coordinated between the City's Environmental Programs Manager and the Executive Director of the Solana Center. The articles are included in the Appendices and described in more detail in other sections of this Report.

9.5.1 Solana Beach Clean and Green Community Committee

As mentioned in last year's Annual Report, the City brought together active and willing community volunteers to form the Solana Beach Clean and Green Team (Team). This Team was formed to discuss pertinent local environmental issues and develop programs to bring to City Council for implementation. City Staff meets monthly with the group to discuss the City's environmental programs and to brainstorm activities that would benefit the community as a whole. The group has evolved from a few interested residents to a steady group of about 20 members from the residential and business sector of the community. The group has assisted in the development of the following programs:

- Construction and Demolition Debris Recycling Ordinance

- Plastic Bag Advertising Ban Ordinance
- Plastic Bag Recycling program
- "Green Flash" Website
- Green Building Incentive Program
- Greenhouse Gas Baseline Emissions Inventory

The group is currently working on the following items:

- Green Business Program Over-Irrigation Reduction Program
- Solar Financing District
- Climate Action Plan
- Opposition to Prop 23
- Making the City a Bike-Friendly Community

The Team is also heavily involved in the water quality activities of the City and the NPDES program. The Team attends all community events and disseminates educational materials. This group has been extremely valuable and provides a direct link to the community, both residential and commercial. It allows all community members the opportunity to participate in City government.

9.6 Other Opportunities

9.6.1 City Storm water Hotline

The City operates a storm water hotline, (858-720-4424) which is dependent on public participation to report suspected violations of IC/IDs and to inquire about workshop information or other storm water-related needs. The hotline provides 24/7/365 access to the public so that they can report potential violations and/or call for information as soon as they are thinking about it, rather than having to wait for normal business hours. The hotline is sent directly to the Environmental Program Manager's voice mail (it can still be anonymous) to ensure quicker and more efficient response to the public inquiries, as well as providing an outlet for

the public to discuss issues directly with City Staff.

9.6.2 Website

As reported previously in this Report, the City developed a more comprehensive environmental web portal on the City's website. The new page is titled "Green Flash" and encompasses all of the City's environmental sustainability programs. Water quality and the City's NPDES programs are prominent and have been expanded as a result of this new web portal. This shows the City's proactive approach to engaging the public and keeping them educated on the new environmental programs throughout the City as well as providing links to relevant web pages.

9.6.3 Local Media

As described in detail in Chapter 8 (please refer to that chapter for more information), the City utilized the local media to inform and educate the public. Although this is not a public-participation activity, the information provided in the articles describes the ways in which the public can get involved, if they so choose. The City has a great working relationship with the local newspapers (Solana Beach Sun and Coast News) and has many articles published with environmental themes, including storm water related issues.

The City also published several articles in the *Shorelines* Newsletter (also described in Chapter 9) inviting the public to get involved, providing details on how they can participate in protecting the region's water resources.

The City also has a contracted media relations consultant with ties to the major media outlets. This consultant is brought in on the City's major events to help promote the events and activities to a much larger audience. This is not done for every event in the community; however it is important to note that this service is available when appropriate.

9.7 New Activities and Improvements for FY 10/11

The City will continue to implement the elements of the public participation component as described in the City's JURMP. The focus will be on expanding the collaborative partnerships to include more frequent opportunities for public involvement (clean up days, events, etc.). Staff will continue to look for more opportunities to work with neighboring cities to host pollution prevention

community events through its watershed programs (ex., large-scale HHW event). Additionally, the City is working with the other Copermittees to potentially conduct additional large scale community educational events.

With the adoption of the new Permit, there is an added emphasis on developing a Regional Educational Program. This has been a main focus for the Copermittees during this reporting period. Copermittees are expected to implement a comprehensive regional program that will provide a consistent message to the entire region. As most of the new programs are geared towards improved watershed programs, this is one key area that was identified as a Regional program. Copermittees have already begun developing activities through the Regional workgroup, such as the mobile business education campaign. These programs will continue to be developed and implemented throughout the five year cycle of the new Permit. For more details on the activities the Copermittees have implemented during FY 09/10, please see the Regional Unified Annual Report.

9.8 Summary

The City has been successful at implementing numerous methods to encourage public participation. The City makes every effort to encourage the public to participate in improving water quality, recognizing that it's up to all of us.

Key opportunities for public participation included the following:

- Regional Copermittee Outreach Events
- Fiesta Del Sol
- Coastal Clean Up Day
- Keep Solana Beach Beautiful Day
- Regional Workshops
- City Council Meetings
- Copermittee meetings
- Collaborative community partnerships (SFID, Solana Center, Kids Korps)
- Contacts through the City's Storm water hotline, City website
- Beach Blanket Movie Night
- San Diego County Fair
- San Elijo Lagoon Day
- Paws In The Park Community Event
- Formation of the Clean and Green Community Committee
- Annual Green Fair

CHAPTER 10
Fiscal Analysis Component

CHAPTER 10: FISCAL ANALYSIS

10.1 Introduction

In accordance with Permit Section J.1(k), this section of the report describes the resources that the City utilizes to finance the various components of the storm water program. Effective programs require adequate funding to implement planned activities. The fiscal analysis will evaluate the expenditures necessary to accomplish the activities of the City's program.

The Standardized Fiscal Analysis Method and Format (Fiscal Analysis Method) was collaboratively developed and adopted by the Copermittees in January 2009 in accordance with sections G, J.1.a(3)(k) and J.1.c(1)(d) of NPDES Order No. R9-2007-0001. The Fiscal Analysis Method document was submitted to the San Diego RWQCB by January 31, 2009, as Attachment 1 of the Regional Urban Runoff Management Plan (RURMP) Annual Report for 2008-2009. As a result, the City of Solana Beach is utilizing the format and guidelines described in the Fiscal Analysis Method for this reporting period.

10.2 General Budget Information

The City's Budget for FY 09/10 was presented to the Solana Beach City Council and approved at a public hearing held on June 24, 2009. There were no significant additions to the budget for FY 09/10. However, due to many of the economic issues facing governmental organizations, Departments were requested to prepare budgets with at least a 5% decrease in their materials, supplies, and service categories.

The City's NPDES program is primarily implemented by the Public Works Department's Environmental Services. Environmental Services is responsible for the coordination of all storm water related tasks. Therefore, the majority of the reported projected expenditures included in this section are part of the Environmental Services Program's FY 09/10 budget, which is approximately 8% of the total FY 09/10 Public Works Department budget.

10.3 Fiscal Analysis Methods

The City of Solana Beach utilized the format and guidelines included in the Fiscal Analysis Method for reporting purposes; however, there were a few adjustments made due to how the City of Solana Beach tracks expenditures. These adjustments are described in the relevant sections below.

10.4 Fiscal Analysis Results

The City's FY 09/10 jurisdictional (JURMP), watershed, (WURMP), and regional (RURMP) projected expenditures for the implementation of the Municipal Permit requirements are summarized in the table below.

FY 09/10 Projected Expenditures	
Jurisdictional Component	
Administration	96,552
Development Planning	15,075
Construction	32,635
Municipal	132,920
Industrial and Commercial	22,000
Residential, Education, and Public Participation	47,000
IDDE	64,000
Jurisdictional Total	**410,182**
Watershed Component	
Carlsbad Watershed	19,440
San Dieguito Watershed	19,440
Watershed Total	**38,880**
Regional Component	
Total Copermittee Cost Share for the City of Solana Beach (including regional and special investigations monitoring costs)	22,698
Additional Regional Costs	11,440
Regional Total	**34,138**
Total Costs	**$483,200**

10.4.1 JURMP Expenditures

The City utilized the expenditure categories detailed in the Fiscal Analysis Method for jurisdictional reporting. However, due to the implementation overlap of some of the City's municipal permit components; it is difficult to separate out individual component costs. As a result, the expenditures for residential, education, and public participation are reported as one expenditure category. Additionally, since the City does not explicitly track expenditures by municipal permit component for its budgeting purposes, in many cases estimated

percentages were utilized to allocate expenditures into the appropriate municipal permit component categories.

A total of $410,182 was projected to be expended in FY 09/10 for the implementation of JURMP activities. An overview of the expenditures reflected in JURMP activity components is described below.

10.4.1.1 Administration

Activities identified in this component represent labor and non-labor expenditures for materials, supplies, equipment, or tools that are not otherwise incorporated into other expenditure categories, general administrative functions (e.g., program planning, budgeting, staff supervision), and program assessment and reporting.

10.4.1.2 Development Planning

Activities identified in this component represent labor and non-labor expenditures related to issuance or oversight of permits or of plans (e.g., permit counter support, plan checks, permit or application processing), project planning and engineering (e.g. project design specifications, capital improvement projects).

10.4.1.3 Construction

Activities identified in this component represent labor and non-labor expenditures related to construction site inspections and enforcement.

10.4.1.4 Municipal

Activities identified in this component represent labor and non-labor expenditures related to maintenance inspections of streets, roads, catch basins and inlets, open channels, and the MS4, municipal facility inspections, street and parking lot sweeping, catch basins and inlets, open channels, and MS4 cleaning, and municipal BMP implementation. Additionally, this category includes the expenditures for non-emergency fire-fighting flows, if applicable.

10.4.1.5 Industrial and Commercial

Activities identified in this component represent labor and non-labor expenditures related to evaluation and enforcement of program requirements at industrial and commercial sites or sources (e.g. routine inspections and complaint investigations).

10.4.1.6 Residential, Education, and Public Participation

Activities identified in these components represent labor and non-labor expenditures related to investigation and enforcement of residential areas or activities, staffing outreach events, development and production of outreach materials, and any expenditures associated with waste collection and recycling (e.g. HHW, used oil).

10.4.1.7 Illicit Discharge Detection and Elimination

Activities identified in this component represent labor and non-labor expenditures related to the identification and elimination of illicit discharges or connections, enforcing the City's storm water ordinance, and any expenditures related to monitoring programs (e.g. Dry weather monitoring, coastal storm drain monitoring, special investigations, field or sampling equipment, materials and supplies).

10.4.2 WURMP Expenditures

The City utilized the expenditure categories (administration, watershed activities, cost share contribution, and other) detailed in the Fiscal Analysis Method for watershed reporting. The watershed expenditures included in this report only capture City of Solana Beach expenditures and do not account for any expenditure disbursed by other Copermittees included in the watershed(s).

A total of $38,880 was projected to be expended in FY 09/10 for the implementation of WURMP activities. The amount also includes costs for the implementation of applicable TMDLs (Revised Project I – Twenty Beaches and Creeks in San Diego Region development and San Elijo Lagoon TMDL investigation).

10.4.3 RURMP Expenditures

The City utilized the expenditure categories (administration, cost share contribution, regional activities, and other) detailed in the Fiscal Analysis Method for regional reporting. The regional expenditures included in this report only capture City of Solana Beach expenditures and do not account for any expenditure disbursed by other Copermittees in the region.

A total of $34,138 was projected to be expended in FY 09/10 for the implementation of RURMP activities.

10.5 Funding Sources

The City primarily finances its Storm Water Management Department via revenues from an NPDES solid waste fee that was initiated in 2004. The City went through a long, arduous process to establish a long-term funding source to ensure the program would be sufficiently financed from 2004 through 2007. The City was sued by the Howard Jarvis Taxpayer's Association (HJTA), and the fee was put to a vote of the community. In September 2007, property owners in Solana Beach voted in favor of the fee which ultimately results in the City having a funding source to maintain, enhance, and ensure the long-term future of the NPDES program at the City. For more information on the City's NPDES Solid Waste Fee, please see the City's website at http://www.cityofsolanabeach.org.

The City's voter approved Solid Waste Fee does not cover 100% of the Storm Water Program expenditures. The City also utilizes the General Fund to assist in supporting some elements of the City's NPDES program. The General Fund is supported by major revenue sources that include property tax, the local portion of the sales tax and use tax, transient occupancy tax.

CHAPTER 11
Effectiveness Assessment Component

CHAPTER 11: EFFECTIVENESS ASSESSMENT COMPONENT

11.1 Introduction

In accordance with Section J.3.(l) of the Permit, each Copermittee is required to develop a long-term strategy for assessing the effectiveness of the various components of its Jurisdictional and Watershed Urban Runoff Management Programs (URMPs). The City will perform an annual effectiveness assessment to specifically assess:

- Each significant jurisdictional activity/BMP or type of jurisdictional activity/BMP implemented;

- Implementation of each major component of the JURMP (Development Planning, Construction, Municipal, Industrial/Commercial, Residential, Illicit Discharge Detection and Elimination and Education); and

- Implementation of the JURMP as a whole

During this reporting period, the City has continued implementation of all components of the Permit. This section will assess the effectiveness of the JURMP, and discuss all strengths and weaknesses of the City's program. Since the City's JURMP was submitted in March 2008, this Report will be the second full year of implementation and it will be difficult to effectively assess the new programs. Most of the new programs are still in the early stages of implementation, therefore this section will report on any significant results from the programs implemented under the old Permit Order No. 2001-01 and any programs that have been developed and implemented during the second full year under Permit Order No 2007-0001.

11.2 "A Framework for Assessing the Effectiveness of Jurisdictional Urban Runoff Management Programs"

The Copermittees developed an assessment document titled, "A Framework for Assessing the Effectiveness of Jurisdictional Urban Runoff Management Programs." This document was prepared after discussions with the RWQCB in which the Board stated that the Copermittees needed a better method to assess the effectiveness of the JURMP. This document was approved by the RWQCB and will be used to assess all future programs, or until another method is agreed

upon. The document addresses six levels of assessment:

1. Compliance with Activity-Based Permit Requirements
2. Changes in Knowledge/Awareness
3. Behavioral Changes
4. Load Reductions
5. Changes in Discharge Quality
6. Changes in Receiving Water Quality

The levels of assessment have been combined into three rather than six categories for this reporting period because it is easier to assess the programs when they are combined into these three categories. Level 1 includes modified assessment tables from the JURMP. Level 2 and 3 are combined and discuss the program strengths (accomplishments and outcomes) for each component. Level 4, Load Reductions, is still being assessed as to the proper way to address this (possibly TMDLs) and so is only briefly discussed, and Level 5 and 6 are combined to attempt presenting a water quality assessment.

The strategy uses both quantitative and qualitative measures of program effectiveness.

In addition, during the development of the WURMPs, the cities worked tirelessly to develop a meaningful method to assess *that* program for its impact on water quality – not just whether or not the program components were implemented, but more importantly, the ability to find a way to measure the link between activities and improved water quality, if it exists.

The WURMP program effectiveness strategy incorporated all of the elements of a meaningful method to assess impact, incorporated public comments, collaborative writing, thinking and designing, and in the end, is a good start at learning how to meaningfully determine the value of the storm water program activities. The City anticipates that over time, the results of a well-thought-out meaningful assessment will provide the region important information from which program activities can be designed and modified, rather than implementing program activities and hoping the activities have the expected impact. The

individual WURMP program assessments can be found in the upcoming WURMP Annual Report submittals (January 2011).

11.3 Level 1: Compliance with Activity-Based Permit Requirements

A table that summarizes the activities tracked by City Staff, which demonstrates compliance with the requirements of the Permit, can be found in Appendix Z. Additionally, narratives explaining the City's efforts regarding compliance can be found in the individual components of this Annual Report.

11.4 Levels 2&3: Changes in Knowledge/Awareness and Behavioral Changes

This section is broken up into each component of the JURMP and presents a summary of the changes in knowledge/awareness and behavioral changes. Each section discusses the accomplishments for the component and discusses future improvements.

Municipal Component

Program Strengths: During this reporting period, City staff again inspected *all 309 of the City's catch basins* and 15 unimproved channels and cleaned every one that appeared to have trash or sediment accumulated in the basins. Public Works Staff cleaned 26 catch basins and removed approximately 3.5 cubic yards of material from its storm drain system. The City also manages an active Beach Cleaning Schedule and maintains several different permanent BMPs throughout the City (the most significant structural BMPs being the bioswale located at La Colonia Community Center, the Low-Flow Diverter, CDS Unit and Sand Trap at Fletcher Cove and the CDS Unit at the north end of North Cedros).

For a discussion regarding the qualitative accomplishments of the City's Municipal Component (major accomplishments, educational and outreach activities, new activities or improvements to be implemented next year) see Chapter 2 of this report.

Table 11-1 Municipal Inspections

Activity	Quantity	Units	Comments
Number of high priority municipal facilities (*buildings*)	1	n/a	Inspected high priority facility (PW Yard) weekly at Engineering Safety Meeting held at Public Works Yard. Annual inspection conducted on 6/18/10 and facility also inspected prior to rainy season. See Chapter 2 of this Report.
Number of high priority municipal facilities (*parking lots*)	6	n/a	Visually Inspected weekly by PW staff. Cleaned monthly by street sweeper. See Chapter 2 of this Report.
Number of high priority municipal facilities (*other*)	3	n/a	One park (inspected 6/18/10), all city streets and roads (daily), and the MS4 (annually).
Number of high priority municipal facilities targeted for inspection (buildings and parking lots)	10	n/a	See above.
Number of high priority municipal facilities inspected	10	n/a	The Public Works Yard and all parking lots.
Number of medium and low priority municipal facilities inspected	5	n/a	Fire Department, Marine Safety Center, Fletcher Cove Community Center, City Hall and La Colonia Community Center inspected annually. All inspections occurred on 6/18/10.
Quantity of material removed from MS4 and beach	3.5	Cubic Yards	This is the amount of material the City collected from its annual cleaning of the MS4 and the beach. All 309 catch basins and 15 unimproved channels were inspected, 26 catch basins were cleaned, which was 100% of the catch basins that had accumulated trash/debris inside.
Quantity of debris removed that had potential to enter MS4 (i.e. street sweeping, litter removal)	207	Cubic yards	This information provided by daily reports from street sweeping contractor.

The City's Public Works Crew is immensely knowledgeable when it comes to storm water issues. Since the crew consists of only five people, it is very easy to educate them on an ongoing basis. They are all very aware and conscientious of the storm water regulations and are eager to report any violations in the field to the appropriate staff. The Public Works Crew is a vital part of the Storm Water Team, because they are always out in the field, and they have become the eyes and ears of the program. They have weekly tailgate meetings with the City Engineer and City Inspector at the Public Works Yard where they discuss, among other things, the storm water regulations and visually inspect the Yard.

As reported earlier in the Report, the City did hire a specialized consultant to perform department specific trainings. This was an item listed as an "area of improvement" in last year's Annual Report. The City accomplished this goal and held a specialized Public Works Staff Training on June 24, 2010. Some of the items discussed were:

1) Basic laws, regulations and permits associated with the Stormwater Program
2) Intro to Urban Runoff
3) Separation of MS4 and Sanitary Sewer Systems
4) Watersheds
5) MS4 and Receiving Waters
6) Pollutants in Waterways
7) City's Stormwater Program
8) General BMPs
9) Specific BMPs related to Public Works services

In addition, the City's specialized consultant conducted an additional training for all other City Staff, but primarily focused on the Engineering and Planning Department Staff. All Staff from those two departments were required to be there, and there was 100% participation. This training was held on June 22, 2010 and the items discussed were:

1) Basic laws, regulations and permits associated with the Stormwater Program
2) Impact of Land Development on water quality (hydromodification and pollutants)
3) Discussion on Receiving Waters
4) Watersheds
5) City's Land Development processes related to the Stormwater Program

6) Low Impact Development (LID)
7) Source Control BMPs
8) Treatment Control BMPs

The amount of cooperation between the various City departments has proven to be very successful, with each department willing to implement the storm water regulations into their daily activities.

As reported in last year's Annual Report, one of the improvement areas for this component would be to conduct more department specific educational presentations. The City accomplished this goal, but it will continue to be a high priority activity. This has proven to be very successful and is highly encouraged by the Department Directors. It is anticipated with the continued development and implementation of the new Permit requirements that more education of City Staff will be required. This will most likely occur with more department specific presentations to detail any changes or additions to department specific activities required in the Permit.

The Environmental Programs Manager will analyze the new requirements and develop appropriate presentations to City Staff, and will report on these in next year's Annual Report.

Additionally, as a result of the RWQCBs response letter to FY 03/04 Annual Report, the City now calculates and tracks the total amount of material collected by their street sweeping activities. This initially was a difficult task, as the City contracts out the street sweeping to a private company, but after some discussions with both the RWQCB staff and the contractor, a solution was worked out. The amount of material collected is now documented weekly by the street sweeper, and is verified by the City's Public Works Crew. This information is reported in this Annual Report and will be documented in the years to follow to see if a trend can be verified to assess the effectiveness of the program. Additionally, as reported in last year's Annual Report, City Staff ensured that the new street sweeping contract contained language that mandates that this activity is done on a continuous basis. So far, the activity has been very successful as data that is quantifiable is now collected and will be useful in load reduction calculations in the future (as enough data is collected).

Improvement Areas: City Staff is confident that all aspects of the Municipal Component are being adequately addressed, although they realize that things could always be improved. Some improvement areas may be additional

educational sessions with City Staff, to reinforce the importance of the Permit and how it affects their everyday activities (especially with the adoption of the new Permit). Increased inspections on Municipal facilities may be conducted to ensure compliance at all times. And finally, more detailed investigations into the "problem" catch basins, if any, which may require cleaning every year. If any of these catch basins exist, then a more aggressive litter/trash campaign may be conducted to nearby residences or businesses in hopes of a load reduction in the catch basin. Additionally, the Environmental Programs Manager will commit to ensuring all new employees are educated as soon as they start employment. This will help them in adjusting their daily activities immediately to comply with the requirements of the Permit.

One important action that occurred post-reporting period but is worth mentioning is the adoption of a strengthened litter reduction ordinance. Ordinance 419 was adopted by City Council on September 8, 2010 and, among other things, required commercial businesses to develop and implement a Litter Reduction Program for their property. The ordinance required, at a minimum, that all commercial businesses visually inspect at least 200 feet around each business property at least once per day and to clean up any litter or debris identified. This is a significant new litter reduction program that will have a major impact on the City's storm water program. This will be discussed in more detail in next year's Annual Report.

In addition, as reported in the previous Annual Report, the City adopted a Leaf Blower Ban in July 2009 (Appendix F). This ban was enacted to prevent organic debris from being blown all over the City and into the storm drain conveyance system. Staff noticed that often times, landscapers would use these blowers to push the organic matter off of the property they were maintaining and into the streets, gutters or sidewalks, where it would eventually end up in the storm drains. This has a major impact on the City water quality, so the City Council voted unanimously to ban gas powered leaf blowers in the City. The ban does not go into effect until January 1, 2011 as the City Council wanted to give the community some time to transition away from the blowers.

These two progressive and aggressive ordinances further show the City's commitment to environmental protection and enhancement. These laws go above and beyond the basic requirements of the Permit, and the community supports it. These ordinances will go into effect during FY 10/11 and will be reported on in-depth in next year's Annual Report.

Industrial Component

Program Strengths: Since the City has only one industrial site, it had been determined that a strong pro-active approach to compliance would be adopted. The one site (Baker Iron Works) has been incorporated into the routine inspection schedule of the commercial sites as dictated in the JURMP, thereby allowing the City to ensure that the site is up to code on all storm water issues. Since the one site was elevated to a high priority site, the City has taken an active approach in ensuring that the site will be in compliance at all times.

The City has developed a strong working relationship with the owners of Baker Iron Works. City Staff have visited the site multiple times and worked cooperatively with them to come into compliance. The owners have responded well to the City's educational efforts and compliance requests. The City has successfully worked with Baker Iron Works to help them come into compliance by instituting several BMPs throughout the property. Although there are no indications from any of the Dry Weather Programs throughout the years that this site has contributed to pollutants to the City's MS4, the mere fact that there is a possibility of this occurring in the future prompted the City to request that a few BMPs be installed onsite. A couple of very successful accomplishments occurred that are worth noting.

The first accomplishment was the sealing up of a small storm drain located on the property that drained directly away from the property and into street.

The second BMP installed was the daily dry sweeping of the property to ensure that no sediment/gravel got into the street by automobile traffic.

The third BMP integrated into their normal routine was the use of a magnet on the grounds outside where some work is conducted using steel. The magnet is used to sweep the entire yard and collect miscellaneous scrap metals that may have collected on the ground. This activity is conducted on an as needed basis, but no less than once per week.

The fourth, and most important, BMP was the installation of the storm drain sump/infiltration pit at the northwest corner of the property that was designed to catch all low flow dry-weather runoff from the property and filter it before it left the property. These BMPs have been successfully implemented by the owners and are currently in place and functioning.

An improvement area that has been listed in previous annual reports involved ensuring that Baker Iron Works is complying with all requirements of the State Industrial General Permit, even though this is not a requirement of the storm water Permit. However, Baker Iron Works asked for the City's assistance in compliance and so City Staff has worked with Baker Iron Works to implement the necessary elements for compliance. This has further helped the relationship grow between the City and its industrial partner, furthering the great working relationship.

City Staff worked with Baker Iron Works to come into compliance under the GISW. Baker employees requested help with the monitoring requirements so City Staff trained them in the proper sampling techniques and offered options on where to take the samples for analysis. This just proves the healthy working relationship between City staff and Baker Iron Works.

Improvement Areas: The City is confident that it is fulfilling all requirements of the Industrial Component. City Staff is committed to inspecting Baker Iron Works annually as part of its high priority facility inspections due to the potential to release pollutants into the City's MS4. City Staff believes that this industrial site is working well within the regulations of the Permit and is satisfied with the current situation. City Staff will look to continue the open communication with Baker Iron Works and conduct further inspections to ensure that all new employees are aware of and compliant with the storm water regulations. Also, City Staff will ensure that Baker Iron Works is aware of any new regulations coming down from the State and work with them to ensure compliance.

Commercial Component

Program Strengths: The City has a very aggressive commercial inspection program that goes above and beyond the Permit requirements. As reported previously in this Report, the City inspected 100% of *all commercial facilities,* regardless of priority*,* identified in the JURMP inventory. This is above and beyond the requirements of the Permit, which states that 100% of the *high priority* sites be inspected. In addition, the City implemented an aggressive Fats, Oils and Grease (FOG) inspection program to ensure the reliability of the sewer system, and prevent sewer spills caused by grease buildup. These two programs demonstrate the City's proactive approach to maintaining compliance with the Commercial Component of the Permit, and are described in more detail below.

The City also re-inventoried the commercial facilities as part of the JURMP

revision and set minimum inspection frequencies per the new Permit. The facilities were inspected by an independent consultant specializing in storm water and FOG inspections, with follow-up being conducted by both the contractor inspector and City Staff.

As stated in the new JURMP, the City had 77 stationary facilities, of which 67 are identified as high Threat To Water Quality (TTWQ). The JURMP states that in the third year of JURMP implementation, at least 25% of all inventoried stationary businesses will be inspected, meaning 17 sites are required for inspection. In addition, the JURMP states that at a minimum, 100% of all sites (excluding mobile sources) determined to pose a high threat to water quality will be inspected in the second year of implementation, increasing the number of facility inspections from 17 to 67. The City, through its contractor, went above and beyond the required 67 inspections and inspected all 77 facilities. During the course of the inspections, the consultant identified 5 additional businesses that should be added to the inventory. The City requested that the consultant inspect those businesses as well, bringing the total to 82 facilities inspected. Ten (10) facilities required more than one follow-up inspection and no major violations were detected. All facilities were in compliance during the enforcement inspections conducted by City Staff. A summary of the follow-up actions can be found in the Commercial Component of this Report.

Another program strength is the implementation of the City's grease management ordinance. The City is happy to report that a grease management ordinance was passed by City Council on September 7, 2004. Staff introduced the proposal to City Council on February 17, 2004, and got the approval to move forward with the education of local restaurants and the public about the pending ordinance. A condition of the resolution once the proposal passed was to give restaurants 18 months to install a grease trap/interceptor, or receive an approved waiver from the City. Therefore, all restaurants in the City (even existing restaurants) must have a functioning grease trap/interceptor by March 2006. This is a huge accomplishment by City Staff as it is well documented that most major sewer spills are the result of grease related problems. Inspection of the grease traps and maintenance are accomplished in conjunction with the storm water inspections. As mentioned above, the contractor the City hired to perform facility inspections also specializes in grease management device inspections. The contractor included grease management inspections into the storm water inspections and check for such things as proper cleaning and maintenance, record keeping, duct cleaning, screen cleaning and hood cleaning. These are all important aspects of storm water management, as grease can have an extremely

detrimental environmental effect.

A significant improvement to the grease management program that occurred during this reporting period is the increased level of inspection that was authorized and conducted by the City's contractor. As mentioned above, the City's contractor checked if each required commercial facility had a grease management device during FY 07/08. However, the inspection was taken to the next step in analyzing whether or not the installed device was of sufficient size and type. As often is the case with restaurants, they change frequently. So, an appropriate size and type grease management device may be sufficient for one type of restaurant, but if that restaurant closes and another, higher grease producing restaurant moves in, then the grease trap and/or interceptor may no longer be sufficient. This was a bold new move by the City that could be extremely controversial, but the City felt it was a necessary preventive measure and proceeding with the increased inspection level. This increased inspection process continued in FY 09/10.

This process will take more time to complete as the restaurants have been notified of their insufficient management devices, but the City recognizes that to replace or install a device takes time. However, by getting the process started now, the City hopes to have all restaurants in compliance in the very near future.

Improvement Areas: In previous annual reports, one improvement that was mentioned was the inspection of 100% of all high TTWQ commercial facilities in one reporting period. As reported above, this has been accomplished. The City is confident that all requirements of the Commercial Component of the Permit are currently being satisfied. One area of improvement may be increasing the amount of education and public outreach to the business community. The City believes that they have a good relationship with the current business community but more education is always welcome. City Staff could make an increased effort to educate new businesses as they apply for business licenses but producing additional educational brochures and pamphlets.

Residential Component

Program Strengths: The City provides a wide range of programs for its residents to allow for convenient implementation of pollution prevention activities. Among the many programs the City provides are:

- Curbside recycling (first in the County to provide this service)
- Curbside Green-waste collection
- Aggressive and convenient Household Hazardous Waste collection program (described in detail in Residential Component)
- Community Education Program (described in Residential Component)
- The development and maintenance of the City's website regarding the Storm Water Program
- Community workshops on proper landscape practices
- Educational opportunities at local community events (Fiesta Del Sol, Beach Blanket Movie Night, Coastal Cleanup Day, Paws at the Park, etc.)
- Free presentations on proper HHW disposal and Used Oil Recycling (conducted by Solana Center)
- Opportunity to join Community Clean and Green Team which meets monthly to discuss environmental programs

The City Council meetings are also televised and available live on the internet to all the residents of Solana Beach. Many times storm water issues are discussed during these meetings. Other positive aspects of the program are the direct mailings of education materials included in monthly trash billings and the articles placed in the community newsletter, "*Shorelines*." Tallying the amount of phone calls to the City's Storm Water Hotline does not appear to be a good assessment of the City's program. The City, because of its relative small size, prefers to conduct business on a more personal level. This has proven to be a much more effective way to work with the public. Therefore, although the hotline is still publicized, City Staff distributes their direct telephone numbers to the public when dealing with storm water issues. This allows direct, immediate contact with a Staff member, which ensures immediate, effective response to storm water issues.

As stated in last year's Annual Report, City Staff documents contacts (phone call, visit to City Hall, etc.) with the public regarding storm water issues to help assess the effectiveness of the program over time. The only calls documented are ones

that required Staff action on some level. The community of Solana Beach is very unique in that the residents are actively involved. Staff receives numerous phone calls every day that must be addressed immediately. Therefore, it would be unreasonable to document every contact made by the public, only the ones that pertain to storm water and where action is needed.

Another area of improvement mentioned in previous Annual Reports was to develop additional educational materials for the residential community. This activity is constantly being addressed by the two WURMP groups discussed previously in Chapter 8. In addition, as mention throughout this Report, a large focus was placed on developing an effective regional educational program in the requirements of the new Permit. The Copermittees have formed a regional workgroup to develop a regional "brand" that will be recognizable by all residents throughout the region. The Copermittees have adopted the "Think Blue" campaign developed by the City of San Diego, since this slogan is widely known throughout the region. The activities and programs that have been developed and implemented by this group are described in the Regional Unified Annual Report. The City has been an active member in this workgroup during this reporting period.

The City feels that it is much more effective and efficient to address these issues collaboratively with the WURMP groups and the Regional Educational Workgroup. This allows for a consistent message to be disseminated to a large population of people throughout the region, as well as resulting in a significant cost savings for the City. As for requirements/projects unique to Solana Beach, Staff will continue to develop materials as the situations arise. A few examples of these specialized educational materials are listed in Chapter 8 of this Report.

Improvement Areas: For the next reporting period, City Staff will evaluate this component and make any necessary alterations to the program. The City will continue to develop educational materials for the residential community, both jurisdictionally, on a watershed basis through the NCSWP and regionally through the Regional Educational Workgroup.

Land-Use Planning for New Development Component

Program Strengths: The City continued its implementation of the Standard Urban Storm Water Mitigation Plan (SUSMP) program as well as participated in the development of the new SUSMP. The City has successfully implemented the

SUSMP review into all plan check processes. Although there will not be many projects within the City subject to this new requirement (the City is 95% built-out), the appropriate departments are still very aware of the requirements. In addition, the new model SUSMP was developed and approved by the City during last period and the City is now implementing the requirements of the new SUSMP program during this reporting period.

The Planning Department is actively involved in the City's Storm Water Program, and often notifies the Environmental Programs Manager when a proposed project may have storm water implications, including possible SUSMP projects. Although, as mentioned above, the City is almost completely built-out, the Planning Department has, as a result of this Permit, developed a list of possible proposed projects that may require a SUSMP. These projects have not been approved by City Council, but Planning Department Staff have surveyed the City and put this list together to warn the Environmental Staff as these projects may be proposed soon. This gives Staff a "heads up" before the projects are submitted that they will probably be subject to the SUSMP requirements and so the process can begin when, if ever, these projects are proposed.

As mentioned previously in this Report, the City is very small and by nature, very intimate. This applies to development projects as well, as the City Council reviews development projects very closely. It is extremely rare when a significant development project is proposed that has not gone through extensive review by the applicants and City Staff prior to submittal. This allows the Community Development/Planning Staff to inform the applicants of possible storm water issues (especially grading, LID, HMP and SUSMP projects) prior to submitting their plans, so that the project will incorporate necessary storm water features into the original plans. This is extremely helpful to the applicants, as it avoids the possibility of redesign (as well as increased costs) and speeds up the process. Therefore, most applicants set up meetings beforehand with Staff to review their plans to avoid any possible delays or impediments to their proposed projects.

Improvement Areas: The City will continue to educate prospective applicants regarding the SUSMP, LID and HMP if their respective projects will be subject to the new regulations. The City is very confident that its Land Use Planning component is very effective; however, it will continue to be modified in the future when necessary. The City is expected to initiate an update to its General Plan sometime during 2011. This will have a major impact on the storm water program and City Staff will make certain that elements of the Permit and JURMP are incorporated into the new General Plan. In addition, as the new SUSMP, LID

and HMP are finalized and adopted, City Staff will develop new educational materials for the construction community.

Construction Component

Program Strengths: The City Inspector and Environmental Programs Manager are responsible for conducting construction site inspections. The City Inspector is responsible for all public CIP projects, whereas the Environmental Programs Manager deals with all private projects.

All construction sites were inspected for storm water issues based on the frequencies described in the City's JURMP. Since there are relatively few construction sites in the City, Staff often times can visit the higher priority sites more frequently. Additionally, the City's contracted Building Department (EsGil) inspector makes daily visits to most construction sites in the City. Although they do not handle storm water issues directly, they do notify the City Inspector or Environmental Programs Manager if they notice anything questionable onsite. This is another significant advantage to having the private building department staff housed at City Hall. Therefore, the City has three different Staff members out in the field monitoring construction sites and BMPs on a daily basis.

If the City Inspector or EsGil inspector notices a problem related to storm water, they notify the Environmental Programs Manager immediately. The Environmental Programs Manager then investigates further, taking any necessary corrective or enforcement actions. This program has worked very well due to the already established relationship between the contractors and the City Staff. Because of this pre-established relationship, the transition into storm water compliance was virtually seamless. The Inspector keeps a daily log of all his activities, and storm water related issues are included. The City also mailed out a wet-season reminder to all active construction sites reminding them of their obligations under the Permit. Therefore, the City is assured that all contractors are aware of the regulations, making enforcement much easier for the City.

Additionally, for all CIP projects, the applicant/contractor is required to have a Pre-Construction Meeting with City Staff in which storm water issues are discussed. At these meetings, contractors are given a sample copy of the Site Inspection Checklist, and they are required to fill out a Wet-Weather Triggered Action Plan (if the project will be in construction during the rainy season). All of these measures are taken to ensure that all contractors are aware of the storm

water regulations, and it helps the enforcement aspect of the Permit as Staff can be assured that all contractors have been educated and cannot claim ignorance of storm water issues. Appropriate enforcement actions (corrective, stop work, fines, etc.) can be enforced without fear of being challenged by violator.

Another activity that has proven very successful in regards to construction activities was the distribution of a colorful, informative BMP Construction Brochure. This brochure was developed by the Carlsbad WURMP workgroup and delivers a consistent message for all North County cities. The brochure is a tri-fold that gives background information on the storm water program and regulations and on the reverse side is a large diagram of a common construction site with the general BMPs shown and described. This brochure has been a huge success with the construction/developers world as they can post this brochure at their site to remind their employees of proper BMPs. These brochures are attached to all building and grading permits.

The City believes that any opportunity to educate the community should be taken advantage of. So, during this reporting period, approximately 150 BMP brochures were distributed during this reporting period, down from 224 BMP brochures in FY 08/09, 470 during FY 07/08, 521 during FY 06/07, 509 during FY 05/06 and 416 during FY 04/05. The drastic reduction in brochures distributed during the last two reporting periods directly reflects the slowdown in construction activities region-wide. All building project applicants were given a brochure; there were just drastically reduced projects during this reporting period.

As discussed in last year's Annual Report, the City developed and now tracks the SUSMP long-term BMP maintenance agreements as required by the Permit. In addition, the City continues to implement the Long Term BMP Maintenance Agreement that requires the applicant to submit a recorded document from the County of San Diego which includes the maintenance activities required and gives the City the legal authority to inspect the BMP to ensure compliance. This is an extremely helpful tool in ensuring that the post construction BMP is not only installed, but is being properly maintained to remain effective.

As mentioned in last year's Annual Report, there are significant new construction requirements in the new Permit. The significant additions to the new Permit include the development and implementation of the Hydromodification Plan (HMP), Low Impact Development (LID) and the update to the model SUSMP. The City is pleased to report that these new programs either have been developed and implementation is currently in the process or they are being

developed and close to finalized, and the City is participating in the regional process. The HMP program is not expected to affect the City; however the City still contributed funding toward the program development as part of its Copermittee responsibility to the region. The City also revised its Municipal Code to adopt the updated model SUSMP in compliance with the new Permit regulations.

Improvement Areas: During the next reporting period, the City is committed to improving and modifying the construction program if any deficiencies are detected. The City is also committed to developing more educational materials to distribute to the public, and contractors in particular. The Construction BMP Brochure has been a major success, and the contractors/developers are constantly looking to us for more information and guidance.

With the adoption of the new Permit, additional construction activities and programs need to be developed and implemented in the years to come. The City will continue to work with the Copermittees to develop these programs for implementation. One area of improvement that the City is looking at is possibly hiring a specialized contractor to conduct construction inspections. This is similar to the City's decision to hire a contractor to perform commercial/industrial inspections and specialized Staff training, as this will free up limited Staff resources while providing increased service to the community. The City Council approved $10,000 in FY 10/11 specifically for construction inspections, further strengthening the City's commitment to protecting the local water quality. The new Permit contains significant additional requirements for the Construction Component, so the City felt it was prudent to strengthen its program as well, and hiring a specialized consultant is a first step in the right direction.

Illicit Discharge Detection and Elimination Component

Place Holder – This will be submitted with Chapter 7 on December 15, 2010 as a result of Addendum No. 2 adopted by the RWQCB

Education Component

Program Strength: The City feels very strongly that the current education program being implemented by City Staff has been very effective. The amount, and quality, of educational materials developed by the City and through

collaboration with the other Copermittees, has proven to be very successful. The following events have allowed City Staff to educate the community, both residential and commercial:

- Fiesta Del Sol
- Paws in the Park
- Beach Blanket Movie Night
- Annual Coastal Cleanup Day
- Annual Green Fair
- Future of Surfing Event
- City Council Meetings
- Clean and Green Team
- Civic and Historical Society meetings
- Friends of the Library meetings
- *Shorelines* Community Newsletter
- Green Flash website
- Brochures and Handouts at City Facilities
- Partnerships with Solana Center, Santa Fe Irrigation District, Kids Korps and the Solana Beach School District

The complete educational program is discussed thoroughly in the Educational Component of this report.

Improvement Areas: The City is very satisfied with its current educational program. The respective WURMP groups have gone above and beyond the requirements of the WURMP's educational component, and have delivered many quality items to the resident's of Solana Beach.

Also, as reported in last year's Annual Report, the City is participating in the development of the new regional educational program. The new Permit requires the development of a regional educational program, and the City is committed to working with the other Copermittees to develop a successful and comprehensive program. Also, the new Permit requires Watershed based education based on the activities chosen by the participating Copermittees, and the City is committed to working with the Copermittees in its two watersheds to develop and implement

the educational activities to support the watershed activities. These activities are described in detail in the Regional Unified Annual Report (submitted with the Copermittees reports in September 2010) and the Watershed Annual Reports which will be submitted in January 2011, respectively.

Public Participation Component

Program Strengths: The residents of Solana Beach have multiple opportunities to interact with City Staff through the hotline, website, community events and direct interaction. All City Staff are available to discuss any issues with the community if they come into City Hall, and most all literature distributed currently has the appropriate Staff contact information listed on it. City Staff prides itself on dealing with the community on a personal basis, and as a result has established many positive relationships with key members of the community. The City continued to host the annual Coastal Clean-Up Day that allowed the community to get involved as well as distributing educational brochures at the local community events. Some additional opportunities include:

- Copermittee meetings
- Adopt-A-Beach Program Beach Cleanups
- Fiesta Del Sol
- Paws in the Park
- Annual Green Fair
- Beach Blanket Movie Night
- Shorelines Articles
- Opportunities to work with local Partnerships/Collaborative's
- City Hotline
- Green Flash website
- Clean and Green Community Group

Improvement Areas: The City realizes its responsibility to get the community involved in the storm water program. The City has given the residents ample opportunity to get involved in implementing the program. City Staff is very visible throughout the community on a daily basis and routinely has discussions with residents regarding storm water issues. The feedback given to City Staff has been overwhelmingly positive, and the City looks forward to continuing this personal relationship with the community.

In addition to the JURMP public participation opportunities, the community has public participation opportunities through the WURMP process. More information on the WURMP process is available in the WURMP annual reports submitted in January.

11.5 Level 4: Load Reductions

Level 4 load reduction is a key assessment measure for the storm water program. Ultimately, the goal of the storm water management programs is to reduce pollutant loading into the City's MS4 and by doing so, improve the discharge and receiving water quality. However, load reductions are very difficult to quantify, and the Copermittees as a whole are struggling to develop methods to achieve this task. This being said, the City will continue to analyze any data received that may be able to show a load reduction with the hope that it will somehow be linked to improvements in discharge and receiving water quality.

As a result of the Regional Water Quality Control Board's comments on the City's FY 02/03 Annual Report, the City has adapted its street sweeping program. The City now requires the private street sweeper to document all load information on a weekly basis. This includes an estimated amount of debris collected. This information was collected initially in FY 05/06 and continued into this reporting period as well. The total amount of street sweeping debris collected for each FY is as follows:

- FY 05/06 – 299.1 cubic yards
- FY 06/07 – 188 cubic yards
- FY 07/08 – 275 cubic yards
- FY 08/09 – 274 cubic yards
- FY 09/10 – 270 cubic yards

The total amounts remained amazingly constant from FY 08/09 to FY 09/10. City Staff believes that the reason is most likely that the majority of the debris picked up by the street sweeper is organic material from natural sources such as trees and vegetation. Therefore, the load reduction measure of quantifying cubic yards and hopefully detecting a decrease over time is not a good indicator for Solana Beach. The street sweeper not only quantifies the amount of debris each day

collected but also records an approximation of the type of debris. And for Solana Beach, it is over 95% organic matter. There are only trace amounts of litter or trash, which is a positive thing, but it also indicates that quantifying load reductions from street sweeping activities is not a good measure of the City's storm water program. However, the information will be collected and analyzed and any trend will be documented for future use.

Another possible load reduction calculation could be documenting the amount of material collected and removed from the various BMPs throughout the City. These BMPs include:

- Annual inspection and cleaning of MS4 system
- Maintenance of CDS Unit(s)
- Maintenance of detention basin adjacent to San Elijo Lagoon
- Load reduction calculation for the Low Flow Diverter at Fletcher Cove and the filtration basket located upstream from Seascape Sur Outfall
- Load reduction calculation for the Bioswale maintained at La Colonia Community Center
- Maintenance records of permanent treatment BMPs required as part of SUSMP projects (privately owned)

All of these activities may not be feasible, however they all warrant further consideration. It has been generally agreed upon the Copermittees are not capable at this point to perform complete load reduction calculations and assessments, but we are committed to working towards this goal. The Copermittees have decided that this Level (4) should be attacked at a regional level, and not jurisdictionally. A significant regulatory program that should force us in this direction is the TMDLs that have been developed and are now being implemented by the Copermittees in several watersheds. The City is currently involved in the San Elijo Lagoon Bacteria TMDL Investigative Order, and as relevant information is received from the monitoring they will be discussed in upcoming Annual Reports.

11.6 Levels 5&6: Changes in Discharge and Receiving Water Quality

The City has been collecting and analyzing jurisdictional monitoring data received through the dry-weather and coastal monitoring programs. The City will continue to analyze the data to better understand the collective water quality

picture in the City. The data will be assessed to determine the potential water quality problems within the City. Data collected by the City will be analyzed independently as well as collectively with the regional monitoring programs. Although it is generally accepted that it will take many years to develop a trend in water quality, the City will nonetheless analyze its data on a continuous basis to see if anything develops. There are no glaring deficiencies in the water quality in the City, but the situation at Seascape Sur will continue to be monitored to ensure that the storm drain does not have an impact on the quality of the receiving water (Pacific Ocean). Seascape Sur will be explained in greater detail in the next Chapter.

The Regional Monitoring Program currently conducts trend analyses for the Wet Weather Monitoring Program. The goal of the WWMP is to collect data and analyze the data to determine if there are in fact improvements in the receiving water quality throughout the region. The City participates in this workgroup and will continue to assist the Copermittees in determining if we have obtained levels 5 and 6 of the assessment strategy.

11.6.1 Dry Weather Monitoring Data

2010 Summary

Place Holder for 2010 Dry Weather Monitoring Program – Will be submitted in December 2010 as a result of Addendum No. 2 adopted by RWQCB.

11.6.2 Coastal Water Quality

The Pacific Ocean is the ultimate receiving water for the City although there are other intermediate receiving waters, such as the San Elijo Lagoon and the San Dieguito Lagoon. To measure the quality of the coastal receiving waters and assess the JURMP effectiveness, the City has monitored its one coastal storm drain outfall (Seascape Sur). The City used to monitor another outfall at Fletcher Cove; however, a low-flow diverter was installed in 1998 to divert dry-weather flows into the sewer system. The City is currently involved in a IRWM grant application that includes the installation of an additional low-flow diverter at Seascape Sur, but that will be discussed in more detail in Chapter 12 of this Report.

Coastal Storm Drain Outfalls

The coastal outfall monitoring program reporting period is different than the reporting period for this Report. The coastal monitoring program reporting period runs from November through October. All cities with flowing coastal storm drains meet regularly (Coastal Monitoring Workgroup) to develop and implement this program to promote regional consistency.

The Coastal Monitoring Workgroup developed an adaptive monitoring approach. This approach was developed to allow the individual cities to adapt their program to concentrate their limited resources on problematic locations and ease up on consistently non-problematic areas. The City had *no receiving water exceedances* for bacteria during this reporting period, which was consistent with the results of the last three reporting periods. In addition, it's apparent that the increased educational and oversight of the vendors at the Fiesta Del Sol was successful as there were no exceedances after the event for the sixth year in a row. City Staff again made this a priority during this reporting period to meet with the event organizers and discuss BMPs requirements with them so that they can relay that information to the individual vendors and provide them with more educational materials. In addition, City Staff monitored the Food Court during the event to ensure all vendors were abiding by the storm water regulations. This was mentioned in previous annual reports as an improvement area because of the consistent exceedances after the Fiesta Del Sol that had occurred in the past.

The storm drain at Seascape Sur had multiple exceedances for total coliform, fecal coliform and enterococcus during this reporting period. However, the magnitude and the frequency of exceedances have decreased during the last two reporting periods, which is a significant achievement. This is a storm drain that has a history of high bacteria counts and is currently the focus of an ongoing IC/ID investigation. The City has recently installed upstream BMPs that may be contributing to the improvement in water quality. The program is being implemented by City Staff, and the complete results are presented in the Coastal Monitoring Annual Report, and explained in the next Chapter of this Report.

The Copermittees had to modify the Coastal Monitoring Program due to the new requirements of the Permit. The Coastal Monitoring Program workgroup made the necessary changes and additions to the program and are currently implementing the new model. The City is confident that it has met the requirements of both the old Permit and new Permit. The complete Copermittees Coastal Monitoring Program is incorporated into the Regional Monitoring Annual Report.

Beach Posting Data

The County Department of Environmental Health has monitored beach water quality for bacteria since the 1950's. This sampling is used to assess the health of the beaches. When bacteria levels exceed State standards, the County posts the beaches with signs warning and advising the public not to enter the water. In 2000, there was a significant change in protocol as a result of the passage of AB411, which required additional testing, incorporating testing for enterococcus, and required the beach be posted when only one sample exceeded the standard.

During this reporting period, there were ***no beach closures*** **in the City of Solana Beach,** which bodes well for the overall effectiveness of the City's program.

CHAPTER 12
Special Investigations

CHAPTER 12: SPECIAL INVESTIGATIONS

12.1 Introduction

In accordance with Permit Section D.4.e, this section of each Annual Report will describe the Copermittee's efforts to eliminate all detected illicit discharges, illicit discharge sources, and illicit connections as soon as possible after detection. The City's Illicit Discharge Detection and Elimination (IDDE) program is designed to identify, prohibit, and eliminate discharges that are a significant source of pollutants with the goal of protecting receiving water quality. This section of each Annual Report will provide the results of any special investigations conducted during the reporting period. However, the City also responded to many other complaints of possible IC/IDs, which resulted in rapid compliance, but did not warrant or require a comprehensive special investigation.

Although this Report does not contain a completed Chapter 7 due to the extension granted in Addendum No. 2, this Chapter will remain as many activities related to this Special Investigation can be reported on. Any additional information gathered from the 2010 Dry Weather Monitoring Program will be included in the December 2010 submission.

"The Mystery of the Bacteria at Seascape Sur…"

12.2 Background

As first reported in the FY 2002/2003 Annual Report, there has been as ongoing, historical problem occurring at one particular storm drain in the City. The location, Seascape Sur, has had historically high levels of bacteria; often times exceeding limits at the storm drain and occasionally in the receiving water (there were *no exceedances in the receiving water during FY 09/10*). Previous annual reports go into deep detail regarding the history of this problem and the City's efforts to remedy it. Since the history is important in describing the situation, this report will include much of what was written last year. Any added information that was discovered during this reporting period will be included in this report. Next year's report will include the City's additional efforts that were undertaken during the FY 10/11.

Prior to and during this reporting period, the City began a concerted effort to determine what was causing the elevated levels of bacteria at Seascape Sur

outfall (based on results from the Dry Weather and Coastal Monitoring Programs). The problem was thought to be resolved early on, but then monitoring results in subsequent years indicated the problem had either returned or persisted. In 2000, the City Engineering/Public Works Department was fairly certain that the problem had finally been corrected; particularly when the 2001 DWMP indicated the bacteria elevated levels had *decreased* (although they were still elevated above the normal range).

However, preliminary results from the 2002 DWMP revealed that the bacterial levels had risen from the previous year to a troublesome level (see 2002 DWMP, available at City Hall upon request). As a result, the City "went back to the drawing board," and with the help of MEC Analytical (consultant for the 2002 DWMP), began an upstream investigation that continued through the end of calendar year 2002.

History

The City began its DWMP in 1993, with no significant problems reported until 1996 when elevated bacteria levels were noted at the Fletcher Cove Outfall. Subsequently, the City constructed a low flow diverter (in 1998), which corrected the problem by diverting dry weather flow to the City's sanitary sewer system.

Between 1997 and 1999 results from the DWMP revealed some minor issues that were readily resolved, but nothing significant at Seascape Sur or Fletcher Cove Outfalls.

However, results from the 2000 DWMP identified two locations with high levels of coliform bacteria, which was of significant concern because both locations flowed directly to the beach via the Seascape Sur Outfall and were in fact, just a short distance from the outfall. The City conducted an extensive investigation and eventually found an old leaking sewer lateral that was buried under the ground near the site of the upstream catch basins in the parking garage of a business complex. The lateral was dug up, examined, and staff determined that cementing over the pipe would be the best method to ensure it was completely sealed off (investigation confirmed that the pipe was no longer in use). Because the leaking lateral was located quite close to the curb inlet, City staff, plumbing contractors and the consultant were fairly certain that the pipe was the cause of the elevated bacteria counts.

To confirm that the pipe was the cause of the suspected pollution, the City

contracted with Kinnetic Labs to provide additional testing, which showed reduced counts during several follow-up tests. At that point, staff was optimistic that their efforts had been successful.

The 2001 DWMP included ten sites for testing. To ensure the problem from the previous year had been corrected, the program included the same two sites that had elevated bacteria counts in 2000. Surprisingly, the site had elevated bacteria levels, but because they were much lower than the previous year, staff believed that the problem might be residual bacteria. As a result, the City ordered that the line between the curb-inlet and the outfall be televised in 2002. The televising of the lines was scheduled during the routine cleaning of the storm drains later that year. Due to various issues, the televising of the lines did not take place prior to the implementation of the 2002 DWMP, which was under the regulations of the new Permit.

The City requested proposals from consultants to design and conduct the 2002 DWMP. The contract was awarded to MEC Analytical in late spring, early summer 2002. The City requested that the same two monitoring sites from 2000 and 2001 be included in the program, regardless of the new sampling procedures required of the Permit. The City included those sites to ensure continual monitoring of the area.

12.3 The 2002 Investigation

Samples for the 2002 program were collected on August 6th and 7th, 2002 throughout the City by MEC Analytical (MEC). Shortly thereafter, MEC contacted the City and informed the Storm Water Coordinator that significantly high levels of bacteria had been found at the locations of the year 2000 and 2001. As shown on Table 13-1, the amounts were troublesome.

Table 12-1 DWMP Initial Results (Sampled August 6-7, 2002)

Site	Site Location	Total Coliform	Fecal Coliform	*Enterococcus*
1	West Side of Sierra Ave	700,000	30,000	24,000
2	Manhole between sites 1 and 2.	900,000	50,000	28,000
3	Seascape Sur Outfall (downstream from sites 1 and 2)	800,000	21,000	35,000

Results are reported in MPN/100 mL.

Based on the above results, it appeared that the problem, whatever the cause, was more pronounced at Site 2, the manhole, than at either Site 1 or 3. Therefore, the City immediately requested that the conveyance system be televised. At the same, the City authorized MEC to conduct an upstream investigation, accompanied by City staff. MEC indicated to staff that the elevated levels of bacteria, combined with the results from previous years, were a sign that an illegal sanitary wastewater connection may be the cause of the problem. However, subsequent inspection by City staff (including public works crews that inspected various locations of the line) did not reveal any expected accompanying waste solids. A somewhat consistent drip was noticed, which was traced back to nearby condo complex that was discharging their pool (the process was discontinued and the complex changed their procedures to drain into the sewer system). Other causes of the slow drip appeared to be over-watering of the many condominium complexes on Sierra Avenue.

Staff sent letters to all HOAs on Sierra Avenue that drain to the Seascape Sur outfall to eliminate the slow drip. Staff received calls from some of the HOAs in response to the letters and discussed the issue in more detail and received positive responses.

The results of the televised line were viewed by the City Engineer, which revealed a dip in the line approximately at the location of the manhole (with the elevated bacteria) and two possible illegal connections just west of the curb inlet. However, additional investigation indicated that the connections were not a problem, but staff thought that the dip in line could be harboring residual bacteria, and possibly re-growth.

12.3.1 More Testing

In an attempt to pinpoint the source of the contamination, MEC and City staff began the upstream investigation on August 19, 2002. Samples were collected from Site 1, and at a curb inlet catch basin on the *eastside* of Sierra Avenue, directly upstream from Site 3 (named Site IE).

Staff was surprised when the results of the second round of sampling revealed *higher levels of total coliform (2,400,000), fecal coliform (50,000) and Enterococcus (500,000)* at Site 1E, than the previous results from Sites 1 and 3. Further, the results were surprising given that the dip in the line at Site 2 was thought to be the source of the contamination. *The results seemed to indicate*

that the source of the bacteria was coming upstream from Site 1E.

12.3.2 Traveling Further Upstream

The curb-inlet catch basin on the east side of Sierra Ave (Site IE) receives street runoff and runoff from the Beachwalk Business Complex (Beachwalk). Beachwalk is a collection of various businesses located at 437 South Highway 101 in Solana Beach. Beachwalk businesses, at that time, included several restaurants (Pacific Coast Grill, California Pizza Kitchen, Rubio's), several small food facilities (ColdStone Creamery, Solana Beach Coffee Company, VitaFit, etc.,) several professional offices, a bike shop and others. Beachwalk was constructed approximately 13 years ago and at the time of construction, an on-site storm drain system, that collects on-site runoff from the property, was lawfully connected to the City's MS4.

Based on the results of the second round of testing, City staff thought that the source of the contamination must somehow come (or significantly contribute) from Beachwalk. Upon speaking with the Management Group that oversees the property, staff made several visits to look for possible non-point source explanations and speak with business owners to discuss BMPs (see Timeline below for more details).

On August 27th, 2002, City staff went to Beachwalk and personally delivered educational brochures to *all of the businesses,* educating business owners about storm water regulations and BMPs. To ensure that all the businesses were addressed, door hangers were left at the businesses that were not open at the time of the visit and additional property visits were scheduled. City staff also spoke with the person responsible for maintenance of the property and provided detailed information about pollution prevention, storm water regulations, and BMPs and how to report violations. Many of the business owners were extremely helpful and all were cooperative. Some business owners went out of their way to show staff potential problem areas, discuss BMPs and provide access to private restroom facilities (staff were looking for overflow problems and unusual construction or evidence of recent repairs).

Staff conducted another visit on September 3rd, 2002 in response to a call from one of the business owner's that staff had contacted on August 27th, 2002. City staff confirmed that foul smelling odors were coming from catch basins on-site. Further inspection revealed excess watering occurring on the patio of the Pacific

Coast Grill restaurant. A manager at the restaurant was contacted and educated regarding BMPs and the new storm water regulations. During this visits, staff determined that samples were needed at various storm drains throughout the complex to try and pinpoint and eliminate the problem. City staff identified several locations that should be tested and requested permission to collect the samples from the property owners.

On September 4th, 2002, City staff accompanied MEC to conduct additional testing and investigation. The process confirmed staff's suspicion that the bacteria levels were coming from Beachwalk. Various samples were collected at locations throughout the complex. An outdoor floor drain just outside the kitchen of Pacific Coast Grill appeared to have dark brown, stagnate water in it. On-site ammonia tests were also consistent with elevated bacterial numbers (60 mg/L). A sample (Site 32) was then collected for further lab analysis. Sites IE and 3 were also sampled again for additional information. As shown on Table 13-2, Site 32 confirmed that the contamination was coming from Beachwalk and most likely, the source was near or in, the floor drain outside Pacific Coast Grill Restaurant.

Table 12-2 Upstream Testing Results

Site	Site Location	Total Coliform	Fecal Coliform	*Enterococcus*
32	Beachwalk floor drain	>16,000,000	300,000	>241,960
1E	East Side of Sierra Ave	3,000,000	50,000	3,550
3	West Side of Sierra Ave	800,000	70,000	24,950

Results are reported in MPN/100 mL.

12.3.3 Just When We Thought the Problem was Solved…

After the lab results came back and confirmed what was suspected, the property owners were notified of the severity of the situation and were eager to remedy the problem and work with the City to find a solution.

The property owners worked together with the City's Public Works Supervisor and a local plumber experienced in storm drain cleaning to correct the problem. The east side catch basin was temporarily sealed, the pipe was flushed and a specially equipped trucked was placed at the catch basin to vacuum out the resulting sludge for proper disposal. As soon as the procedure was complete, on September 18th, 2002, City staff collected additional samples from all three sites (32, 1E and 3), *expecting the results to show a decrease in bacteria levels*. The

residual water in the pipes was clear of the brown, stagnate water, which also contributed to the hope that the problem was *surely* resolved. However, while results from Site 32 indicated *reduced bacterial levels*, downstream sample *again* indicated *high bacteria levels* (the sample on the west side of the street).

12.3.4 Brainstorming

At first, these results seemed a bit perplexing (maybe it was the dip in the line?, etc.), but then, while staff continued to brainstorm ideas to solve the problem, some engineers thought was that the flushing of the system might have loosen some bacteria, which escaped collection by the Vactor truck. The City decided to wait a few weeks to see if the problem was alleviated after the system had time to completely flush out.

In the meantime City staff met with the property owners and 1) reviewed old construction plans for the property to look for potential areas of cross contamination; 2) discussed possible options that may help alleviate the situation, including training and education of business owners, television activities that might occur near the catch basin; and 3) it was decided that a temporary cap would be placed on the floor drain of Site 32 to secure it from contamination for 30 days (the cap could be removed during rain to prevent flooding).

After 30 days (and two rain events), staff requested that the plumbing contractor remove the temporary cap to allow further testing, which was agreed to.

12.3.5 Not again!

Surprisingly, results from this last round of testing indicated that there was still a significant problem on the property. An immediate meeting was scheduled with the property owners, who were informed of the test results and that the City now required them to remedy the problem through televising the lines, locating the illegal connection and reconstruction, or face serious fines by the RWQCB and the City. The property owners were concerned, responsive, cooperative and resolute in their attempts to do just that.

In addition, the City agreed to purchase a storm drain inlet filter to be placed in the catch basin just downstream from the complex, leading to the ocean outfall. It was installed the first week of December, and is maintained by the City's Public Works Staff. Although it does not filter the water passing through from

Beachwalk, it does help alleviate the problem by filtering out the water coming from the street. The City hopes that this will help reduce the high bacteria numbers found in the catch basin.

12.3.6 Action Taken By Property Owners During FY 03/04 Annual Reporting Period

By the end of December 2002, Beachwalk property owners had done the following to remedy the problem.

While attempting to televise the lines, a significant amount of sludge built up in the pipe prevented the camera from penetrating the pipes (which is likely the source of the problem, City staff also reviewed the small amount of footage that was performed in the pipes)

An extensive flushing out of the entire system was conducted, which took quite some time to accomplish amidst the rain events in December and the amount of material in the pipes.

The lines were televised and detected a large dip in the pipe where sediment and sludge were building up, possibly providing a breeding haven for re-growth of bacteria.

No illegal connections or sanitary waste connections were detected. There were a few pipes connected to the outfall pipe coming from the adjacent condos, however these lines were proven to be outdoor area drains. Beachwalk property owners and condo associations are completely aware of the responsibility to rectify the situation.

The City decided that they must increase their efforts to rectify this continuous problem to ensure the integrity of the receiving waters at Seascape Sur. The bacteria levels were still consistently high, often exceeding standard limits for the outfall, but, fortunately, not yet affecting the receiving waters. Growing increasingly frustrated, City staff decided that an increased effort, and the high costs that come with it, were necessary to finding the cause, and solution, to the problem at Seascape Sur.

On March 4, 2004, City staff televised the Seascape Sur storm drain line for maintenance purposes. The video showed a significant amount of sediment accumulated at the end of the pipe coming from the Beachwalk Business

Complex. Staff met with the Beachwalk property management and mandated that they clean the sediment from the line. The Beachwalk management complied to our request and immediately cleaned the pipe, and City staff supervised to ensure all Best Management Practices were used and abided by at all times.

Laboratory results were still coming back consistently high, so the City decided to take on the cost of completely cleaning the storm drain pipe with the hopes that it would remove any residual bacteria that may be contributing to the problem. The problem the City faced was that this had never been done before, and the dimensions of the pipe made it very difficult to develop a plan of attack. The pipe starts at the curb inlet on Sierra Avenue, then travels completely underground and slopes downward until it empties out onto the beach. The distance from the street to the outfall is approximately 550 feet and dips to 30 feet below the surface, so access is very difficult. The City was able to gain access from the neighboring condominium complex to place a vactor truck to ensure that no excess water would escape containment and empty onto the beach. The project took 5 entire days to complete (ending on Friday, May 5, 2004), with City staff working with its private contractor, and cost approximately $10,000. The City removed 4 cubic yards of sediment from the pipe, and used over 5,000 gallons of water. The City was confident that the next lab results would come back spotless.

12.3.7 What Happens Next…?

On the following Monday (May 10, 2004), City staff received a phone call from the County of San Diego Department of Environmental Health advising them that samples they took in the receiving water adjacent to the Seascape Sur outfall had failed AB 911 standards. The exact opposite had happened from what staff was expecting. It appeared that all the effort and money spent to clean the pipe had actually made it worse. However, Staff immediately began an IC/ID investigation and discovered that an adjacent condominium complex had a sewer spill that weekend and raw sewage had entered into the Seascape Sur storm drain. City staff was relieved that they found the cause of the high bacteria, but highly disappointed that all of their work, time, and money had been wasted by a small sewer backup, and it was back to square one.

Because the sewage was traced back to a private lateral, the City was determined to put the pressure on the condominium complex to clean the pipe again. Staff met with the HOA representative and a deal was worked out to have the pipe cleaned again, at the HOA's expense. Additionally, the City took this

opportunity to once again educate the HOA and wrote an article regarding the proper handling and disposal of grease for the HOA's monthly newsletter The City then set the HOA up with a plan of attack and supervised the process, but the effort was stepped up a bit. Staff worked with the Regional Water Quality Control Board to allow the City to use a small concentration of bleach mixed with the water to make sure that the pipe was completely sterilized at the end. This cleaning was done on September 24, 2004.

12.3.8 Where We Were in FY 04/05

The results of the cleaning performed on September 24, 2004 proved it to be very successful. The bacteria levels were reduced significantly and the City hoped that the sterilization would be a permanent fix. However, the results in the resulting few months showed that the bacteria was slowly increasing back to its historical levels, further frustrating City staff. This may be due to City staff's worst fear that the dip in the pipe could be harboring and resulting in re-growth of bacteria that may enter by way of decomposing organic debris and/or illegal dumping.

Since this did not permanently solve the problem, the City continued to explore other options. In March 2005, the City was discussing the situation with its contract lab, Weston Solutions, and jumped at the opportunity to participate in a pilot study aimed at refining a new lab analysis that would potentially categorize the generic coliform and enterococcus bacteria indicators as deriving from human or animal origins. This would be an extremely significant discovery because the City could further identify where the bacteria was coming from, human (IC/ID) or from animals (dogs, possums, raccoons, etc.), to help direct what steps to take in the future. The City could further refine its source identification and, in theory, stop wasting limited resources on sources that don't exist.

The pilot program is completed; however, the results did not come back revealing anything substantial. Only one sample came back positive for human bacteria (and this was somewhat inconclusive), and samples collected after this positive result all came back negative. Therefore, the City can conclude with relative certainty that the source of the bacterial contamination is not human. This one positive result may be caused by a single illegal dumping occurrence or by laboratory error. The resulting negative results show that there is not a continuous inflow of sewage, as would result if there were an illegal connection. Although the pilot program is complete, one early, important conclusion would be

that the bacteria is not coming from human origins, which would allow the City to eliminate this from source identification and focus its efforts on non-human origins.

12.3.9 Special Pilot Program FY 07/08

The City's lab (Weston Solutions) offered their services to the City for a special pilot program during FY 07/08. On 5/30/07 Weston staff met with City staff to investigate the surrounding areas to see if they could detect anything that may be contributing to the high bacteria levels adjacent to the east catch basin. Weston has performed similar investigations in other cities with very positive results. They were very interested in finding the source for the City, as we have been partners now for years on this. The results were very interesting and reconfirmed the City's belief that there is substantial re-growth occurring in the pipe as the bacteria results were much lower in the catch basins than at the outfall. The results are as follows:

	East Side Catch Basin (MPN/100mL)	Outfall (MPN/100mL)
Total Coliform	700,000	16,000,000
Fecal Coliform	80	50,000
Enterococci	41	483

The City and Weston Solutions partnered for a unique pilot study with the hopes of finally determining the source of the bacteria. The specialized studies were conducted to further analyze a unique phenomenon called "pseudofluorescence." This phenomenon first was detected in some samples from Seascape in the summer of 2007, when using the Enterolert method there were some false positives, or "pseudofluorescence." The lab noticed that the tests became to increase in frequency, and brought it to the attention of City staff after the March 31, 2008 samples were analyzed. The City and Weston then developed a plan to determine why this phenomenon was occurring, and if this could bring us any closer to solving the mystery.

Starting on April 30, 2008, Weston began testing the samples using the IDEXX method (SM 9223B) side by side with the Multiple Tube method (SM 9230B) for Enterococci in order to determine if the different methods yielded different results. Parallel analyses were carried out only on the outfall samples, as the

paired ocean samples never exhibited pseudofluorescence. The following are the results:

Date	IDEXX Results (MPN/100mL)	Multiple Tube Results (MPN/100mL)
4/30/2008	<10	170
5/29/2008	<10	300

Analyzing the results, it is easy to confirm that something is causing interference with the IDEXX method. Because of this, PCR analyses were also performed, with results ranging between 1,000-10,000 (PCR includes viable and non-viable cells, as it only looks for specific DNA markers, regardless of cellular viability), which validates the Multiple Tube results by showing a definite presence of the target bacteria.

There is some concern that detergents may be the cause of the interference and pseudofluorescence. Enteroalert (IDEXX) analysis from both months displayed pseudofluorescence wells, so both were tested for detergents using an MBAS kit. The results are as follows:

Date	MBAS Results (ppm)
4/30/2008	15
5/29/2008	25

The 5/29/2008 sample had a larger number of pseudofluorescent Quantitray - 2000 wells, which seems to confirm the relationship between pseudofluorescence and the amount of detergent in the sample.

As a result of this pilot study, an official method change for enterococcus was instituted beginning with the 6/28/2008 samples. Using the Multiple Tube method, MPN for enterococcus was determined to be 3,000 per 100mL, while results from Enterolert (performed as a continued comparison) were found to be 63 MPN/100mL, with a continued pseudofluorescence.

This pilot study will continue into FY 08/09, and will be reported on in further depth in next year's Annual Report. In addition, continued upstream investigations will focus on detergents as the presence has been recorded a

couple of different times.

The City will continue cooperating with Weston and their professional staff to investigate this ongoing mystery until a resolution is found.

12.4 Timeline of Significant Actions

August 27, 2002- City staff distributed storm water brochures to all the businesses located in the Beachwalk complex. Staff toured the mall, visually inspected on site catch basins, outdoor floor drains, restroom facilities, and inspected several restaurants and discussed pollution prevention BMPs.

September 4, 2002- Based on feedback from the testing, staff spoke with the managers of Pacific Coast Grill, reviewed the storm water regulations, spoke about prohibited activities and distributed storm water brochures.

September 4, 2002- City staff and an employee from MEC conducted upstream investigation. A small outdoor floor drain contained brown, stagnate water with a very pungent odor. The drain cover was removed and the material was sampled. MEC called a few days later and reported that the results were consistent with the numbers for raw sewage for total and fecal coliform and *Enterococcus*.

September 18, 2002 - The Beachwalk storm drains were flushed out using clean, fresh water and the sludge was vacuumed out into a Vactor truck at Site 3. Results from follow-up samples indicated that a problem still existed.

October 24, 2002- Additional samples were taken to see if the problem had been eliminated. Results from the lab showed that the problem had not been solved. City staff continued to meet with property owners to pinpoint the source.

November 2002- The City installed a specialized catch basin filter unit that is designed to catch all debris (trash, organics, etc.) from the street before it reached the MS4 system. It also has specialized bio-filter rolls to filter out the hydrocarbons.

November 13, 2002- a semi-permanent cap was placed on the floor drain that seemed to be the source of the bacteria. A follow-up sample was scheduled for 30 days.

December 13, 2002- Samples were taken after the cap was removed and

preliminary results indicate that the problem has not been resolved. More extensive investigation was ordered.

December 14-31, 2002- All property drains were cleaned and televised.

January through June- Increased monitoring and sampling through Coastal Monitoring Program to try and determine if the steps taken previously had successfully remedied the problem. An intensive educational program to the HOA's and the Business Complex was also implemented to assure compliance under the Permit.

March 4, 2004- Mandated and required the Beachwalk Business Complex to clean out storm drain system that leads to the City's Seascape Sur storm drain due to accumulation of debris (sediment, trash, etc.).

May 5, 2004- Completed cleaning of entire Seascape Sur storm drain line from Sierra Avenue to the beach outfall. A sewer spill occurred that following weekend from a private lateral connected to the Seascape line.

May 20, 2004- Wrote two articles for *Seascape Sur News,* the monthly newsletter distributed to the Seascape Sur condos, educating the residents on activities that may reduce bacteria that could be a possible source into the problem at Seascape Sur outfall. The first article was titled, "Sewer Clean-Outs," and it describes the proper way to dispose of grease (not down sink) to prevent sewer blockages and spills. The second article was titled, "Walk Dogs Off The Property and Clean Up After Them," which is pretty self-explanatory.

September 24, 2004- Completed cleaning again with the addition of bleach to counteract the sewer spill that occurred on May 5, 2004. Access issues during the summer months prevented the cleaning from occurring earlier.

November 2004- Samples showed a dramatic decrease in bacterial indicators, proving the cleaning was successful. However, future results showed the bacteria increasing back to historically high numbers.

March 1, 2005- Started participating in contract lab's pilot program to differentiate bacteria into human and animal origins.

May 30, 2007 – Conducted a thorough investigation with our lab (Weston) to detect any possible sources of the ongoing pollution (see below). Results of the

investigation revealed that bacteria levels were in fact higher at the outfall than the catch basin; further reinforcing what City staff believes is a structural deficiency in the pipe that is leading to bacteria re-growth.

March 30, 2008 – Initiated a pilot study with lab to determine if the correct analytical analysis was being conducted

June 18, 2008 – Installed a catch basin inlet guard to prevent organic material from entering into catch basin on the east side of Seascape Sur storm drain. This was done to hopefully prevent the organic matter from decomposing inside the storm drain pipe and providing an area for bacterial re-growth.

August 10, 2008 – City contracted a company to place concrete inside the catch basins to fill in a one inch gap at the bottom where stagnant water would sit. The City thought this might be contributing to the bacteria load at the end of the pipe. By filling in the gap, water and organic matter would not have a place to stagnant and harbor bacteria.

September 29, 2008 – City hired a contractor to clean the entire Seascape storm drain from street to outfall.

August 30, 2008 – City entered into a pilot project with a company that installs catch basin curb inlet screens to prevent leaves and debris from entering the catch basin. Screen was installed on east side catch basin to prevent organic debris from entering the catch basin and rotting inside the pipe.

October 2, 2008 – City entered into a pilot project with a different company that installs catch basin curb inlet screens to prevent leaves and debris from entering the catch basin. Screen was installed on west side catch basin to prevent organic debris from entering the catch basin and rotting inside the pipe.

12.5 Where We Are Now

As listed above, the City is participating in two unique pilot programs at Seascape Sur. The City has installed two different catch basin debris screen BMPs at the east and west catch basins directly upstream from the Seascape outfall. The goal of the debris screens is to prevent organic debris and trash from entering the pipe and rotting, producing a perfect food source for bacterial re-growth in the sag in the pipe. The BMPs were installed in August and September 2008, with the intent to monitor the bacteria results at the outfall after a year.

Here are the results for FY 08/09 and 09/10:

Date	Total Coliform (MPN/100mL)	Fecal Coliform (MPN/100mL)	Enterococcus (MPN/100mL)
9/30/08	16,000,000	800,000	80,000
10/9/08	16,000,000	1,300,000	130,000
11/20/08	No Flow	No Flow	No Flow
12/22/08	500	20	20
1/21/09	1,600,000	2,200	13,000
2/21/09	No Flow	No Flow	No Flow
3/25/09	170,000	110	5,000
4/3/09	74	10	10
5/27/09	1,600,000	23,000	800
6/23/09	270,000	13,000	5,000
7/21/09	230,000	20,000	7,000
8/18/09	170,000	7,000	13,000
9/22/09	80,000	23,000	3,000
10/26/09	130,000	9,000	2,000
11/16/09	600,000	230,000	4,000
12/21/09	9,000,000	110,000	600
1/11/10	9,000,000	17,000	9,000
2/16/10	40,000	20,000	<200

3/15/10	240,000	11,000	220
4/20/10	140,000	20,000	200
5/10/10	210,000	20,000	500
6/23/09	1,300,000	170,000	13,000

As you can see from the table above, the bacteria results have decreased when compared to previous years, with the exception of December 2009 and January 2010. This may be attributable to the new BMP installations upstream or the continuous educational efforts of City Staff. Whatever the case may be, the results still are not acceptable to City Staff or the community. It can't be emphasized enough that the outfall does not seem to impact the receiving water at all; however the City is still focusing its efforts on eliminating the source of the bacteria in the very near future.

The City continues to struggle with this ongoing situation, although has made some improvements to the bacteria levels during this reporting period. The budget continues to include money for cleaning out the line once per year, but this is merely a temporary band-aid to the problem, whereas the City is looking for a permanent fix. The one positive to take from this is that the discharge is not affecting the water quality of the receiving water (Pacific Ocean) yet, but there is no guarantee that this will not change in the future. Here are some options the City is now looking at to hopefully solve this reoccurring situation:

Repairing sag in the outfall pipe: This option is being actively researched as re-growth in the pipe is now the most suspected culprit. Our Public Works Operation Manager is researching this option with other City Staff. In addition, City Staff is looking into other options such as re-lining the pipe or "pipe-blasting", which may help reduce the sag and improve flow through the pipe.

Blocking off connections from adjacent residential complexes and making them drain to street so that discharge can be sampled: This option is seen as a last ditch effort, as it would be very expensive and politically challenging. This would only be considered if outfall started affecting receiving water quality.

Installing permanent BMP such as a low flow diverter: This option is also seen as a last ditch effort as it would be expensive and has not been fully researched to

check the feasibility. City engineers would have to check the locations of the sewer main and the capacity to determine if this would be feasible. Funding may be available through grants for water quality, but again this option is a long term effort. City staff will continue to look into various funding options, one being the recent grant that allowed the City of Imperial Beach to install a low-flow diverter. Staff will monitor that project closely and may seek the same grant to place a diverter in this location.

During this reporting period, the City partnered with the San Elijo JPA (the local WWTP) to apply for grant funding to assist with the costs associated with installing a low-flow diverter. The grant is through the IRWM Proposition 84 and includes, among other local water quality improvement projects, the City's Seascape Sur Low-Flow Diverter project. The City's grant application received the highest ranking by the IRWM review board. It is currently included in the Phase 1 application process that will be submitted to the State for approval in the next few months. Hopefully, the City will have more news to report in the next Annual Report.

12.6 Future Activities

The City is committed to finding the solution of the bacteria problem at Seascape Sur, or at least installing a permanent treatment control BMP to redirect the flow to the sewer system. During last reporting period, the City installed and monitored additional upstream BMPs at the catch basins leading into the problem pipe. This activity seems to have slightly improved the bacteria levels at the outfall and has encouraged City Staff that some of their efforts seem to be paying off. As discussed above, the City is now looking at other structural options with its engineering staff to hopefully look at another angle in this seemingly unending battle, and also applied for a grant to help with funding a Low Flow Diverter. As mentioned above, the grant received the highest priority ranking by the regional grant review board and will be submitted to the State for funding under the Prop 84 IRWM process.

The City has committed to setting money aside in its CIP budget to undertake some major projects to help solve the problem. As stated in the Fiscal Analysis Chapter, the FY 10/11 budget has $5,000 set aside specifically for the Seascape Sur storm drain cleaning. The City is committed to thoroughly cleaning the pipe annually if need be, or until a long-term solution is found. The City is currently investigating other structural options and may find it better financially to undertake a large CIP project than continually spending $5,000 a year for a

temporary fix. However, the location and depth of this particular pipe make it very difficult to work on, so it is taking some time to develop a sound engineering plan to fix the pipe or divert the flows. If this is the option the City ultimately takes, it will be very prudent to take the time to do it correctly, so the City is committed to taking the time to develop a plan to ensure its effectiveness.

Additionally, the City actively monitors the outfall pipe and all surrounding areas for any unusual occurrences, and the Marine Safety Department will continue to notify the Environmental Programs Manager whenever there seems to be unusual spikes or odors coming from the outfall pipe, as one of the lifeguard towers is located directly in front of the outfall (during summer months). Lastly, City Staff will continue to work with the neighboring condominium associations to educate the residents as well as perform inspections of upstream businesses.

12.7 Summary

The City has thoroughly utilized the results from its DWMPs and Coastal Monitoring Program during the last several years to identify and attempt to eliminate the source of bacteria that was identified through testing and upstream investigations. With the efforts of City Staff, and the cooperation of the Beachwalk property owners/managers and neighboring condominium complexes, the sources of the elusive bacteria has almost been solved. Unfortunately, with the structural deficiencies (the sag) in the pipe, it may only take a small amount of bacteria entering the pipe to remain in the sag and promulgate (re-growth). Fortunately, the elevated bacteria levels do not seem to be affecting the receiving waters (no receiving water exceedances the past five years) yet, but the City desires to stay ahead of the curve and wants to take care of the situation before it becomes a problem. Therefore, the City is currently examining other options such as re-lining the pipe, "pipe-blasting" or installing a low-flow diverter. In the very near future, the City is confident it will close the book on the *Mystery of Seascape Sur Bacteria*.

CHAPTER 13
Non-Emergency Fire Fighting

CHAPTER 13: NON-EMERGENCY FIRE FIGHTING

In accordance with Permit section J.3.a.(3)(l), this section of the report describes the City's efforts to control Non-Emergency Fire Fighting events. The City understands that the health and safety of its residents supersedes the storm water regulations when it comes to emergency situations, such as a fire. However, for non-emergency fire fighting activities such as routine maintenance and training, the release of water into the City's MS4 is not permitted. Therefore, the City's Fire Department trains at two special facilities, one in San Marcos and the other in Rancho Santa Fe. Both facilities have BMPs installed to properly handle the excess water, and comply with all regulations of the storm water Permit. ***No training exercises that involve water are conducted within the City limits.***

Routine maintenance of the City's fire trucks and apparatus is essential to ensuring public health and safety, as all equipment must be in top condition and functioning properly during an emergency. Most times, this maintenance is conducted onsite at the Fire Department. To handle the excess water, the Fire Department staff redirects the flows onto a large slope of vegetation behind the Fire Station. Staff takes extra precaution to ensure no water leaves the site. Also, the washing of trucks and apparatus occurs inside the large bays, which is plumbed directly to the sewer system.

This component is also discussed in the Municipal Component.

CHAPTER 14
JURMP Revisions

CHAPTER 14: JURMP REVISIONS

In accordance with Permit section Permit sections I.1.b. and J.3.a.(3)(m), this section of the report describes any revisions that occurred to the City's JURMP.

As reported in last year's Annual Report, the City made multiple revisions to the JURMP based on comments by RWQCB staff after initial review of the new document. Those revisions have been made and are currently included in the City's JURMP. *There were no additional revisions to the City's JURMP made during this reporting period.*

CHAPTER 15
Conclusions and Recommendations

CHAPTER 15: CONCLUSION AND RECOMMENDATIONS

15.1 Conclusion

During the FY 2009/2010 reporting period, the City was able to successfully implement the many requirements of the Permit. Although the City has been required to have a storm water program under previous Orders issued by the RWQCB, this new Permit greatly expanded the types of activities and documentation efforts required of the cities. This was the third full year of implementation under Permit No. 2001-07 and the second full year of JURMP implementation. The City is very satisfied with the progress of the new program and is actively developing the regional large scale programs such as the HMP, LID, SUSMP and regional educational programs.

The City continued its "team approach" to implementing the JURMP by integrating the ever-evolving requirements of the Permit into specific tasks that each member would be responsible for implementing in their respective departments. The Environmental Programs Manager is responsible for bringing the group together and updating the respective departments on any changes that may affect their respective daily activities. Additionally, the Environmental Programs Manager is responsible for ensuring that all requirements of the Permit are being addressed and satisfied. This collaborative method allowed the City to more rapidly modify procedures and handle the increased workload quickly and efficiently, especially with a small staff with lean resources.

The City's accomplishments during this final year of the JURMP implementation provide evidence of the City's pro-active approach to improving water quality. The requirements under Order 2001-01 expanded the previous Order (90-42) significantly and have altered many of the daily routines of Staff at the City. In addition, the City is actively working on developing and implementing the new programs to satisfy Permit Order No. 2007-0001, including, but not limited to, modifying the Municipal Code for the new model SUSMP, LID and HMP requirements, updated the City's JURMP and implementing the new Coastal Monitoring Program.

During the next reporting period, the City expects to build on the accomplishments of FY 09/10, and determine the most effective and meaningful program activities as to their impact on water quality (pollutant specific) collaboratively with the other Copermittees, and implement the approved

program assessment strategy. The City is confident that it is in compliance with the goals set out under Permit No. 2007-0001 for the first three years of implementation. These include but are not limited to:

- Minimum commercial, industrial and construction inspections
- Minimum municipal inspection and maintenance of BMPs
- Implementing comprehensive educational and public participation component
- Developing Hydromodification Plan
- Implementing SUSMP Model update
- Developing Low Impact Development (LID) program
- Minimum inspection and street sweeping frequencies
- Post Construction BMP verifications and inspections

The City eagerly anticipates working collaboratively with the other Copermittees in further developing and implementing these significant programs during this Permit cycle. The City is confident that the Copermittees will continue to develop and implement these programs to meet the requirements and goals of the new Permit. The City understands that all parties' involved (Copermittees and RWQCB staff) are in this together to improve the discharge and receiving waters in the region and we will continue to support and work collaboratively with all parties to accomplish this goal.

15.1.1 2009/2010 Accomplishments

The following is a small list of notable accomplishments achieved during the 2009/2010 reporting period. All of these activities are described in more detail throughout this report. They are the following:

- Continued development and implementation of new SUSMP, LID and HMP programs

- Continued implementation of new BEACH database to track building permits, post-construction BMP inspections, and plan check comments

- Implementation of post-construction BMP verification and maintenance tracking system

- Development of stakeholder cooperation and partnerships with key organizations such as the Santa Fe Irrigation District, Solana Center and Kids Korps

- Implementation of new upgraded web portal “Green Flash” to house all of the City’s environmental programs and information

- Implementation of unique plastic bag recycling program that turns bags into reusable, high quality plastic building materials locally within the United States

- Implementation of only organic pesticides, herbicides and fertilizers for all City landscaping purposes

- Development of relationship with local Solana Beach School District to foster open communication for environmental education in local schools

- Continued work with the Clean and Green Team, consisting of active environmentally conscientious community members to develop and implement environmental programs and education

- Continued educational outreach at all local events, and conducting cleanups and community bulky-item pickup days

- Continued implementation of aggressive and convenient HHW program to provide easy and efficient HHW pickup and proper disposal

- Continued extensive landscape and irrigation educational series for public and private landscapers. The classes were given in both English and Spanish and taught the participants proper landscaping and irrigation practices.

- Participated in regional workgroup to develop new mobile sources program

- Implemented new specialized Staff trainings utilizing an outside consultant to target priority educational areas

- Implemented a comprehensive Sewer Assessment and Repair Program, which consisted of videoing the entire sewer system and setting a

schedule to repair priority areas

- Completed the Fletcher Cove Pump Station Vault Maintenance, which consisted of repairing a dilapidated portion of the pump station, installing a new manhole for cleaning and maintenance purposes and redirecting the floor drains in the public restrooms to the pump station directly, bypassing the Sand Trap and Low-Flow Diverter

- Completing the Marine View Slope Maintenance which consisted of using an experimental "hydroseed" product to protect the slope from ongoing erosion. The City has tried other BMPs on the slope with minimal results, but the new "Rhino Snot" product proved successful, and will be placed on the slope prior to every rainy season until the long term CIP project can be completed on the slope

- Staff re-inventoried the commercial and industrial sites throughout the City

- Staff continued to outsource the commercial/industrial facility inspections to a specialized contractor that inspected 100% of all facilities, regardless of priority

- Staff inspected 100% of all municipal inspections

- City Council adopted a mandatory commercial recycling ordinance, mandating recycling at ALL commercial facilities

- Adopted a Leaf Blower Ban, banning all gas powered leaf blowers in the City and banning landscapers from blowing or collecting organic debris in the street, gutter or sidewalk. Oftentimes, this organic debris finds its way into the City's MS4 system, so the City now requires all landscaping activities to be conducted on the property, and makes it a violation of the City's storm water requirements subject to enforcement actions if people do not comply

- Implemented a "Keep Solana Beach Beautiful Day" to have the community "adopt" areas throughout the City to clean up litter and trash

- Implemented the 2nd Annual Green Fair

15.2 Recommendations

Since the new Permit was adopted in January 2007, FY 2009/2010 was again dedicated to developing new programs and fine tuning existing programs to comply with the new requirements. The City is committed to working cooperatively with the other Copermittees to develop and implement the new required programs to provide a consistent and recognizable message for the region. However, the City still must develop jurisdictional specific programs to address the specific pollutants of concern and their respective sources. So, in an effort to implement a successful and meaningful program, the following are recommendations to improve the City's storm water program for FY 10/11:

- *Continue to educate new and existing City Staff to ensure compliance in the ever-changing storm water world.*
- *Complete the special investigation to uncover and eliminate the root cause of reoccurring problems upstream from Seascape Sur Outfall, or install a permanent treatment control BMP to eliminate the ongoing bacteria exceedances at the outfall.*
- *Evaluate staffing needs and program responsibilities and continue to research the possibility of utilizing outside consulting help.*
- *Continue implementation of SUSMP, LID and HMP requirements and ensure all plans are in compliance.*
- *Continue implementation of the new JURMP program plan and implement measures to comply with Permit requirements*
- *Increase the education of residential sector which is a main focus of the new Permit. These programs will be addressed cooperatively at the regional level, but the City is committed to helping develop the materials and distribute to our residents.*
- *Continue to collect and analyze monitoring data to establish a long-term assessment of the City's water quality.*
- *Develop additional industry specific educational materials to distribute to the community.*
- *Develop and implement pollutant specific activities to address high priority COCs (Constituents of Concern).*

APPENDICES

APPENDIX A: STREET SWEEPING MATERIALS FORM

Employee Name and Organization (below)

Date (above) use N/S below if not scheduled

1st 2nd 3rd 4th Tuesday	Time in: Time out:	Time in: Time out:	Equipment Number: Year, Make & Model

OBSTRUCTIONS (identify as vegetation, vehicle, etc. and provide description).

Reference previous date(s) reported (no entry above required):

End of day Volumn in Cubic Yards:
% (percentage) Sediment:
%(percentage) Organics:
Litter (describe-or-enter –0-)

Operator enter reason(s) for not following schedule or other comments:

C.O.S.B. Initial

Forward to R.W.Q.C.B. (C.O.S.B. Initial on Sending) City of Solana Beach 2004(adinf)

APPENDIX B: SMOKING BAN ORDINANCE

ORDINANCE NO. 316

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF SOLANA BEACH, CALIFORNIA, AMENDING SOLANA BEACH MUNICIPAL CODE SECTION 11.12.020 A TO INCLUDE TOBACCO LITTER AND ADDING SECTION 11.12.020 EE TO PROHIBIT SMOKING IN CITY PARKS AND BEACHES

THE CITY COUNCIL OF THE CITY OF SOLANA BEACH DOES HEREBY ORDAIN AS FOLLOWS:

SECTION 1. Findings and Purpose. The City Council of the City of Solana Beach hereby finds and declares that:

A. The City of Solana Beach is committed to keeping its beaches and parks clean, safe, healthy and pleasant for everyone.

B. Smoking is hazardous to health. Numerous studies have shown that second-hand smoke is a significant public health hazard. The U.S. Environmental Protection Agency has classified second-hand smoke as a group A carcinogen, the most dangerous class of carcinogen. Smoking in parks and beaches endangers children and others by exposing them to second-hand smoke. Moreover, children and youth who observe smoking and tobacco use in public beaches and parks may model the behavior.

C. The U.S. Centers For Disease Control and Prevention (CDC) estimates that second-hand smoke causes 3,000 lung cancer deaths per year among adult non-smokers in the U.S. The California Environmental Protection Agency has concluded that second-hand smoke causes coronary heart disease in non-smokers. Second-hand smoke is especially hazardous to particular groups, including those with chronic health problems, the elderly and children. The CDC has found that second-hand smoke causes children to suffer from lower respiratory tract illness, such as bronchitis and pneumonia, exacerbates childhood asthma, and increases the risk of acute chronic middle ear infection in children.

D. Additionally, discarding cigarettes and cigar butts and tobacco onto the ground in City parks and beaches is unsightly, unclean and particularly hazardous to small children who handle and sometimes ingest them. The City must collect tobacco litter in parks and beaches or it will be collected by stormwater and washed directly into our ocean waters in violation of the City's stormwater pollution prevention permit and to the detriment of ocean life and all ocean users.

E. The City Council therefore determines that banning smoking and the improper disposal of tobacco products in City parks is necessary to protect the health, safety and welfare of Solana Beach residents and visitors.

SECTION 2. Section 11.12.020 A. of the Solana Beach Municipal Code is hereby amended to read as follows:

A. To dump or deposit any trash, specifically including cigarette and cigar butts and tobacco, refuse, rubbish, litter, or other kind of waste materials, except in approved containers specifically placed and designated to receive such waste materials. No person shall dispose of any animal carcass in or on any beach or park.

SECTION 3. Section 11.12.020 EE of the Solana Beach Municipal Code is hereby added to read as follows:

EE. No person shall smoke within the boundaries of any public beach or park unless the City has designated a specific temporary or permanent signed smoking area.

SECTION 4. If any section, subsection, sentence, clause, or phrase of this Ordinance is for any reason held to be invalid or unconstitutional by a decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this Ordinance. The City Council hereby declares that it would have passed this Ordinance and each section, subsection, sentence, clause, or phrase not declared invalid or unconstitutional without regard to whether any portion of the ordinance would be subsequently declared invalid or unconstitutional.

SECTION 5. This ordinance shall become effective thirty (30) days following its adoption. Within fifteen (15) days after its adoption, the City Clerk shall publish this ordinance, or the title hereof, as a summary, in a newspaper of general circulation within the City of Solana Beach as required by law.

INTRODUCED at a regular meeting of the City Council of the City of Solana Beach, California held on the 7th day of October, 2003, and thereafter

PASSED AND ADOPTED at a regular meeting of the City Council of the City of Solana Beach, California, held on the 21st day of October 21, 2003, by the following vote:

AYES: Councilmembers – Golich, Kellejian, Campbell, Sheres, Powell

NOES: Councilmembers – None

ABSENT: Councilmembers – None

ABSTAIN: Councilmembers – None

THOMAS S. GOLICH, Mayor

APPROVED AS TO FORM:

CELIA A. BREWER, City Attorney

ATTEST:

JAN UHLMAN, Acting City Clerk

STATE OF CALIFORNIA)
COUNTY OF SAN DIEGO) ss.
CITY OF SOLANA BEACH)

I, JAN UHLMAN, Acting City Clerk of the City of Solana Beach, California, DO HEREBY CERTIFY that the foregoing is the original of Ordinance No. 316 duly passed and adopted by the City Council of the City of Solana Beach, California, at a Regular meeting thereof held on the 21st day of October, 2003.

That, in compliance with the laws of the State of California, Ordinance No. 316 being:

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF SOLANA BEACH, CALIFORNIA, AMENDING SOLANA BEACH MUNICIPAL CODE SECTION 11.12.020 A TO INCLUDE TOBACCO LITTER AND ADDING SECTION 11.12.020 EE TO PROHIBIT SMOKING IN CITY PARKS AND BEACHES

A certified copy of the full text of Ordinance No. 316 along with the names of those City Councilmembers voting for and against said Ordinance was caused to be posted in the office of the City Clerk.

Executed the 23rd day of October, 2003.

(SEAL)

CITY OF SOLANA BEACH INCORPORATED JULY 1 1986 CALIFORNIA

JAN UHLMAN, Acting City Clerk

Published: North County Times: October 28, 2003

APPENDIX C: SPECIAL EVENT VENDOR BMP GUIDELINES

VENDOR GUIDELINES

Fiesta del Sol

- All electric cords should be out of the public access areas. If they must extend into a public access area, the cords must be protected with pedestrian transition molding to minimize the trip hazard.
- All cooking areas and devices shall have at least one 2A-20BC fire extinguisher readily accessible to persons working in the immediate proximity of each device or cooking area and shall be in plain view.
- All portable LP-gas containers, valves, and fittings shall be properly secured in a fixed upright position and protected in accordance with the Uniform Fire Code.
- The following conditions apply to canopies in excess of 400 square feet, and to tents and temporary membrane structures having an area in excess of 200 square feet:
- All tents, temporary membrane structures, and/or canopies that are to be used at the function shall be adequately braced and anchored to prevent weather related collapse. Documentation of structural stability shall be furnished to the Fire Chief on request.
- All tent, canopy, or temporary membrane structure exits shall be in accordance with the Uniform Fire and Building Codes.
- The design and construction of the fabric envelope, method of anchoring, and inflation systems for air-supported and air-inflated structures shall be in accordance with the Building Code.
- The sidewalls, drops and tops of temporary membrane structures, tents and canopies shall be composed of flame-resistant material or shall be treated with flame retardant in an approved manner. Floor coverings, bunting, combustible decorative materials and effects, including sawdust when used on floors or passageways, shall be composed of flame-resistant material or shall be treated with flame retardant in an approved manner. Temporary membrane structures, tents or canopies shall have either a permanently affixed label or a Certificate of Flame Resistance bearing the following information:
  - Identification of the temporary structure's size and fabric or material type.
  - For flame-resistant-treated materials, the date that the temporary membrane structure, tent or canopy and other combustible materials were last treated with an approved flame retardant. The trade name and type of flame retardant utilized in the flame-retardant treatment. The name of the person and firm that applied the flame retardant.
- The following general storm water run-off practices shall apply to the event:
  - No dumping or allowing any material into City storm drains.
  - Install secondary containment around portable restroom facilities when feasible.
  - Prompt and proper clean-up of all trash debris.
  - Do not use water or any liquid to rinse down any debris or dirt on any ground surface. Dry sweeping only of event debris is allowed.
  - Protect all storm drain catch basins/inlets when feasible with proper storm water Best Management Practices implementation.
  - Do not allow excess water to leave the site. Properly contain everything onsite before it enters the City's storm drain system.

APPENDIX D: KEEP SOLANA BEACH BEAUTIFUL DAY 2009



APPENDIX E: FIESTA DEL SOL FLYER 2010



APPENDIX F: LEAF BLOWER BAN – ORDINANCE 399

ORDINANCE NO. 399

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF SOLANA BEACH, CALIFORNIA, AMENDING AND REPEALING SECTIONS OF CHAPTER 7.34 OF THE SOLANA BEACH MUNUCIPAL CODE, ALL RELATED TO NOISE ABATEMENT AND CONTROL AND AMENDING SECTION 13.10.030 OF THE SOLANA BEACH MUNICIPAL CODE, RELATED TO STORM WATER MANAGEMENT

WHEREAS, the City's Noise Abatement and Control Ordinance (Chapter 7.34 of the Solana Beach Municipal Code) was enacted in 1991 pursuant to Ordinance Number 147; and

WHEREAS, no amendments have been made to Chapter 7.34 of the Solana Beach Municipal Code since its enactment;

WHEREAS, the City Council desires to update Chapter 7.34 to clarity certain provisions and to repeal sections that are unnecessary.

WHEREAS, the City of Solana Beach's storm water management and discharge control ordinance, Chapter 13.10 of the Solana Beach Municipal Code, provides for the prevention and enforcement of certain discharges into the storm water system within the City; and

WHEREAS, organic contaminants whose presence degrades the quality of the receiving waters in violation of basin plan, enclosed bays and estuaries plan, inland surface water plan, and California ocean plan standards including but not limited to leaves, grass clippings and yard waste and trimmings must be prevented from entering the storm drain conveyance system, which includes, among other things, the streets, gutters, and catch basins.

WHEREAS, leaf blowers can contribute to the discharge of pollutants, specifically organic contaminants, into the City's storm drain conveyance system; and

WHEREAS, the SBMC section 13.10.030 needs to be amended to expand the definition of pollutants to specify leaves, grass clippings, and yard waste and trimmings as organic contaminants.

NOW THEREFORE, THE CITY COUNCIL OF THE CITY OF SOLANA BEACH DOES ORDAIN AS FOLLOWS:

Section 1. Section 7.34.040.A of the Solana Beach Municipal Code is hereby amended as follows:

7.34.040 Sound level limits.

A. Unless a permit has been applied for and granted pursuant to this chapter, it shall be unlawful for any person to cause or allow the creation of any noise to the extent that the one-hour average sound level, at any point on or beyond the boundaries of the property on which the sound is produced, exceeds the applicable limits set forth below except as provided in SBMC 7.34.170 and construction noise level limits governed by SBMC 7.34.100. The noise subject to the limits set forth below is that part of the total noise at the specified location that is due solely to the action of said person. The limits apply to the source of the noise only, not the source of the noise plus the ambient noise level.

Applicable Limit
One-Hour Average
Sound Level

Zone	(Time)	(Decibels)
ER1, ER2, LR,		
LMR, MR	7 a.m. to 10 p.m.	50
Residential	10 p.m. to 7 a.m.	45
MHR, HR	7 a.m. to 10 p.m.	55
Residential	10 p.m. to 7 a.m.	45
C, LC, OP	7 a.m. to 10 p.m.	60
Commercial Office	10 p.m. to 7 a.m.	55
LI, SC		
Light Industrial and	7 a.m. to 10 p.m.	70
Special Commercial	10 p.m. to 7 a.m.	60
Public/Institutional	7 a.m. to 10 p.m.	60
	10 p.m. to 7 a.m.	45
Park/Recreational	7 a.m. to 10 p.m.	60
	10 p.m. to 7 a.m.	45

B. In the event the alleged offensive noise, as judged by the noise control officer, contains a steady, audible tone such as a whine, screech, or hum, or is a repetitive noise such as hammering or riveting, the applicable limits set forth above shall be reduced by five dB. The noise control officer may use an octave band spectral filter coupled to a sound level meter to aid in the judgment of the presence of an audible tone. If the sound intensity measured in any audible octave band exceeds that in adjacent bands by five dB, then an audible tone shall be judged as present.

C. The sound level limit at a location on a boundary between two zoning districts is the arithmetic mean of the respective limits for the two districts.

D. Fixed location public utility distribution or transmission facilities located on or adjacent to a property line shall be subject to the noise level limits of this section,

measured at or beyond six feet from the boundary of the easement upon which the equipment is located.

Section 2. Section 7.34.070 of the Solana Beach Municipal Code is hereby amended as follows:

7.34.070 Solid waste management vehicles and parking lot and sidewalk vacuums.

No person shall operate, or permit to be operated, a refuse compacting, processing, or collection vehicle or a parking lot or sidewalk vacuum between the hours of 6:00 p.m. and 6:30 a.m. in or immediately adjacent to any residential area of the city unless a permit has been applied for and granted pursuant to this chapter.

Section 3. Section 7.34.080 of the Solana Beach Municipal Code is hereby amended as follows:

7.34.080 Leaf blowers.

A. Regulation. It is unlawful for any person to use or operate within the city limits any leaf blower powered by a 2-stroke gas-powered engine to blow leaves, dirt and other debris off sidewalks, driveways, lawns and other surfaces, except between the hours of 9:00 a.m. and 5:00 p.m. Only non-commercial residential uses of leaf blowers are permitted on Sundays.

B. No person shall operate any leaf blower without attachment of all mufflers and full extension tubes supplied by the manufacturer for that leaf blower.

C. Beginning January 1, 2011, no leaf blower powered by a 2-stroke gas engine shall be permitted to operate within the city.

Section 4. Section 7.34.140 of the Solana Beach Municipal Code is hereby amended as follows:

7.34.140 General noise regulations.

A. General Prohibitions. It is unlawful for any person to make, continue or cause to be made or continued, within the limits of the city, any disturbing, excessive or offensive noise which causes discomfort or annoyance to reasonable persons of normal sensitivity residing in the area.

The characteristics and conditions which should be considered in determining whether a violation of the provisions of this section exists, include, but are not limited to, the following:

1. The level of noise;
2. Whether the nature of the noise is usual or unusual;
3. Whether the origin of the noise is natural or unnatural;
4. The level of the background noise;
5. The proximity of the noise to sleeping facilities;
6. The nature and zoning of the area within which the noise emanates;
7. The density of the inhabitation of the area within which the noise emanates;
8. The time of the day or night the noise occurs;
9. The duration of the noise; and

APPENDIX G: MANDATORY COMMERCIAL RECYCLING ORDINANCE

ORDINANCE 417

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF SOLANA BEACH, CALIFORNIA, AMENDING SECTIONS OF CHAPTER 6.20 OF THE SOLANA BEACH MUNUCIPAL CODE, ALL RELATED TO RECYCLING

WHEREAS, the City's Solid Waste Collection and Disposal Ordinance (Chapter 6.20 of the Solana Beach Municipal Code) was enacted in 1993 pursuant to Ordinance Number 177; and

WHEREAS, the City's Solid Waste Collection and Disposal Ordinance, Sections 6.20.090 and 6.20.135 were amended in 2006 pursuant to Ordinance Number 345;

WHEREAS, Section 6.20.135 fails to mandate that all business types must recycle;

WHEREAS, Section 6.20.135 does state that residents and businesses may choose other methods to recycle other than through the City's recycling services;

WHEREAS, the City Council desires to update Chapter 6.20 to clarify certain provisions.

NOW THEREFORE, THE CITY COUNCIL OF THE CITY OF SOLANA BEACH DOES ORDAIN AS FOLLOWS:

Section 1. Section 6.20.090 of the Solana Beach Municipal Code is hereby amended as follows:

6.20.090 Containers.

It shall be the duty of the occupants of residential, commercial and industrial occupancies to maintain containers for the accumulation and disposal of garbage, recyclables, combustible and noncombustible rubbish, miscellaneous debris, rubbish, recyclable material and other refuse. All containers or receptacles used for the reception, removal and disposal of garbage, recyclables, food plant wastes, market greens, market refuse and like refuse, should be water-tight, constructed of a material of suitable strength and durability, shall be tight-seamed and provided with handles and tight-fitting lid or cover, which lid shall be and remain affixed to the container at such time as the garbage, recyclables, food plant waste, market greens, market refuse and other refuse are placed within the container. Noncombustible refuse and other like refuse, other than garbage, may be deposited in well-constructed containers having a capacity not in excess of 96 gallons each (residential) and which, when filled, do not collectively exceed a weight of 150 pounds for solid waste and recyclables. Green waste may be deposited in well-constructed containers having a capacity not in excess of 32 gallons each (residential) and which, when filled, do not collectively exceed a

weight of 50 pounds. No person shall fill any container with garbage, recyclables, rubbish or other refuse above the top of the container to such extent as to permit the contents of any container to be blown or otherwise strewn about. Paper bags and cardboard containers shall not be used as containers for the disposal of garbage, recyclables, rubbish and other refuse.

Where a franchisee, pursuant to a franchise agreement under this chapter, provides carts/containers for refuse, all refuse and recyclables must be containerized only in the carts/containers provided by the franchisee at the cost and under the terms set out in the franchise agreement. Containers provided by the franchisee are the sole property of the franchisee and may not be removed from the residential premises for which they are provided. Franchisee shall be responsible for normal wear and tear of such containers. Costs to repair damages beyond ordinary wear and tear shall be borne by the resident. Costs for additional carts/containers shall be borne by the resident. All costs shall be as set out in the franchise agreement.

Tree limbs, trunks, hedge cuttings, brush and lumber shall not exceed four feet in length. In commercial and business zones, containers shall be metal lined, leak proof, constructed of noncombustible materials, provided with an impervious lid, and approved by the fire department or its representative as providing adequate protection against fire hazard.

Section 2. Section 6.20.135 of the Solana Beach Municipal Code is hereby amended as follows:

6.20.135 Mandatory recycling.

A. It shall be mandatory for all occupants to separate from refuse, for recycling purposes, all designated residential, commercial, and industrial recyclables and otherwise participate in recycling through the collection service provided by a franchisee.

B. A responsible occupant is not prohibited from using alternative collection and disposal methods which are not in conflict with the provisions of this code.

C. Nothing in this ordinance shall preclude any person from self hauling recyclable materials generated by that person to a recycling facility or operator. An occupant may transport recyclable materials generated at its business or property to a recycling facility or operator (rather than utilizing a franchisee). The city manager or his/her designee may restrict or prohibit self hauling by an occupant if the city manager or his/her designee determines, after providing notice and an opportunity for a hearing, that the occupant's self hauling activities violate the provisions of this section or any other applicable law or regulation.

D. Nothing in this ordinance shall preclude any occupant from selling or exchanging at fair market value, for reuse or recycling, recyclables generated from that business,

commercial or residential property; or from donating to another entity for reuse or recycling recyclables generated from that business, commercial or residential property.

E. It is unlawful for any person to fail to segregate designated recyclable material. Violations of this section shall be punishable as provided in Chapters 1.16 and 1.18 SBMC. Nothing in this subsection shall prevent the city from obtaining voluntary compliance with the provisions of this section through educational programs, issuance of warning notices, or other means.

EFFECTIVE DATE: This Ordinance shall be effective thirty (30) days after its adoption. Within fifteen (15) days after its adoption, the City Clerk of the City of Solana Beach shall cause this Ordinance to be published pursuant to the provisions of Government Code Section 36933.

INTRODUCED AND FIRST READ at a regular meeting of the City Council of the City of Solana Beach, California, on the 12th day of May, 2010; and

THEREAFTER ADOPTED at a regular meeting of the City Council of the City of Solana Beach, California, on the ____ day of _____, 2010, by the following vote:

AYES: Councilmembers –
NOES: Councilmembers –
ABSTAIN: Councilmembers –
ABSENT: Councilmembers –

_____
THOMAS M. CAMPBELL, Mayor

APPROVED AS TO FORM:

_____
JOHANNA N. CANLAS, City Attorney

ATTEST:

_____
ANGELA IVEY, City Clerk

APPENDIX H: RWQCB FIELD AUDIT REPORT

CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD - SAN DIEGO REGION
WATERSHED MANAGEMENT PROGRAM

FACILITY INSPECTION REPORT

FACILITY: City of Solana Beach JURMP Program Field Visit | CIWQS#: 257637 | INSPECTION DATE/Time: 10/08/09 1 pm

FACILITY: **City of Solana Beach JURMP Program Field Visit October 08, 2009**

REPRESENTATIVE(S) PRESENT DURING INSPECTION: Laurie Walsh (SDRWQCB), Danny King (City of Solana Beach Stormwater Program), Denise Olaguer (City of Solana Beach Stormwater)

City of Solana Beach	**Dan King Stormwater Program Administrator (858) 720-2477**
NAME OF COPERMITTEE	CONTACT NAME AND PHONE #

APPLICABLE WATER QUALITY LICENSING REQUIREMENTS

- ☒ **MS4 URBAN RUNOFF REQUIREMENTS NPDES NOS. CAS0108758, CAS0108740 or CAS0108766**
- ☐ **GENERAL PERMIT ORDER NO. 99-08-DWQ, NPDES NO. CAS000002 – CONSTRUCTION**
- ☐ **GENERAL PERMIT ORDER NO. 99-06-DWQ, NPDES NO. CAS000003 - CALTRANS**
- ☐ **GENERAL OR INDIVIDUAL WASTE DISCHARGE REQUIREMENTS**
- ☐ **GENERAL OR INDIVIDUAL WAIVER OF WASTE DISCHARGE REQUIREMENTS**
- ☐ **SECTION 401 WATER QUALITY CERTIFICATION**
- ☐ **CWC SECTION 13264**

INSPECTION TYPE (Check One)

A1 ____ "A" type compliance--Comprehensive inspection in which samples are taken. (EPA Type S)

B1 __X__ "B" type compliance--A routine nonsampling inspection. (EPA Type C)

02 ____ Noncompliance follow-up--Inspection made to verify correction of a previously identified violation.

03 ____ Enforcement follow-up--Inspection made to verify that conditions of an enforcement action are being met.

04 ____ Complaint--Inspection made in response to a complaint.

05 ____ Pre-requirement--Inspection made to gather info. relative to preparing, modifying, or rescinding requirements.

06 ____ No Exposure Certification (NEC) - verification that there is no exposure of industrial activities to storm water.

07 ____ Notice of termination request for industrial facilities or construction sites - verification that the facility or construction site is not subject to permit requirements (**Type, NOT I or NOT C - circle one**).

08 ____ Compliance Assistance Inspection - Outreach inspection due to discharger's request for compliance assistance.

INSPECTION FINDINGS

__N__ Were violations noted during this inspection? (Yes/No/Pending Sample Results)

I. COMPLIANCE HISTORY:

- 2/24/2009 Regional Board wrote letter commenting on JURMP Annual Report 07/08.
- 3/26/2009 City of Solana Beach response letter to Regional Boards 2/24/09 Letter.

FACILITY: City of Solana Beach JURMP Program Field Visit CIWQS#: 257637 INSPECTION DATE/Time: 10/08/09 1 pm

II. FINDINGS :

- The Field Visit included all private and public post construction BMP locations within the City of Solana Beach. Affordable Pipeline Services is contracted with the City to conduct all the maintenance of their storm water BMPs.

Fletcher Cove Restrooms



Submersible Pump gets extracted just prior to cleaning of low flow diverter at Fletcher Cove.

Overflow of the diverter can occur if plastic bags or debris get caught within pump intake. Typically occurs after heavy rain event when trash ends up in the low flow diverter structure.





Low Flow Diverter Structure is downgradient from the public restrooms located at the top of the steep grade. The floor drains in the restrooms are plumbed to connect to the low flow diversion structure. In its current condition if the toilets in the restrooms were to overflow and the submersible pump in the low flow diversion structure were to be clogged, there is the potential for waste products to be discharged to the beach. Once the City of Solana Beach became aware of this connection, they installed plugs in the restroom floor drains. Any discharge from an overflowing toilet gets captured in the floor drain and cleaned out every morning. The City has engineered a solution to fix the plumbing problem and is currently advertising for bids to do the work. The engineered solution includes connecting the floor drains directly to the sanitary sewer and installing a manhole for ease of future maintenance. Quantities of material (water and sediment) removed are calculated by differentially leveling of vac truck volume. There is no discernable way to tell what portion of volume is liquid vs. sediment. Vac truck decants at the San Elijo Joint Power Authority WWTP. The low flow diverter is cleaned once per month.

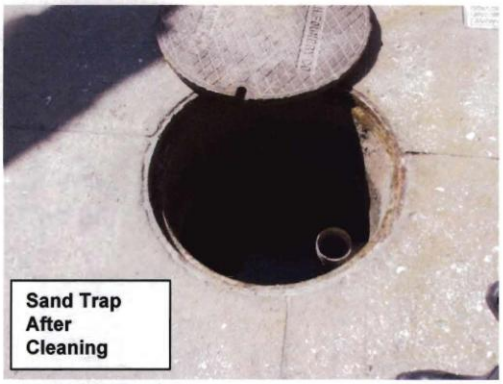




Hose coupling broke during rinsing of vac truck pipe. The hose contained potable water and runoff barely reached the beach as is seen in photo on right. An alternate hose was used to avoid further discharge of water. No discharge occurred after the alternate hose was use.



Sand Trap Before Cleaning



Sand Trap After Cleaning

PVC pipe in manhole is from the floor drain coming from showers. The Sand Trap design is successful in removing significant amounts of sand preventing it from fouling the system further downgradient. When the sand trap fills water overflows the weir into the low flow diversion. There is no schedule plan to modify this system since it is working well along with regular cleanings. The sand trap is cleaned once per month.

La Colonia Park Bioswale BMP

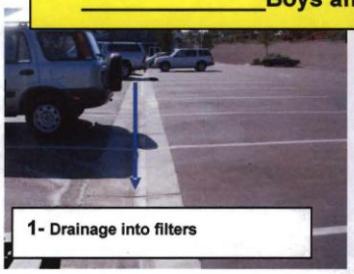


BioSwale located at the La Colonia Park. This post construction BMP is managed by the City. The inlet pipe looked clogged with debris and some trash to the point it was about half way clogged. Dan King with city requested city staff come and clean it out that day.



Cedros CDS Unit: Cleaned on a once per month basis. During first flush of rainy season this unit can get quite filled with trash and debris.

Boys and Girls Club Post Construction BMPs



1- Drainage into filters



2- Verified presence of Inlet filter beneath grate



3- Verified second filter insert



4- Discharge from parking lot onto private BGC road.



5- Ultimate discharge point onto neighboring school grassy area.



6 CDS unit verified

Boys and Girls Club: Blue arrows indicate direction of storm water run off into and out of filter inserts in photos 1-5. Storm water run off from the BGC property is designed to drain through the filter inserts beneath the retaining wall (photo 4) and onto their private driveway before discharging to a grassy field (beyond the fence in photo 5). The BGC have a written agreement with the school to allow this drainage pattern. Photo 6 shows the location of the CDS unit at the back of the BGC Property. CDS Unit gets maintained once per year. BGC staff is going to check manufactures recommended maintenance for this unit under current design parameters to make sure that once per year is sufficient.

III. RECOMMENDATIONS AND ADDITIONAL COMMENTS

- The City of Solana Beach has a small inventory of private and municipal post construction BMPs.
- The debris in the bioswale at the La Colonia Park should be removed to increase efficiency of that BMP.
- The City contracts with Affordable Pipeline Services (APS) for maintenance of the low flow diverter and the CDS units that the City is responsible for maintaining. Maintenance of these units is on a regular basis. City staff is onsite when APS is servicing the units. APS writes comments on the invoices regarding amount of debris removed and if there is anything in the debris that may be cause for concern (oil/grease, excessive trash, etc.). If it's an emergency situation that needs immediate attention, Steve Kerr (Operations Manager) is contacted directly by APS and/or City staff.
- By letter dated March 26, 2009 the City of Solana Beach responded to all comments set forth in the Regional Boards February 24, 2009 letter commenting on the FY 07/08 JURMP Annual Report.

IV. SIGNATURE SECTION

Inspection Report received by:

FACILITY REPRESENTATIVE	SIGNATURE	TITLE	DATE
Laurie Walsh	Laurie Walsh		10/08/2009
STAFF INSPECTOR	SIGNATURE		INSPECTION DATE

VI. (For internal use only)

Reviewed by Supervisor: _____ Date 10-14-09

cc:

Inter-office Referral: 1) _____ 2) _____ 3) _____ 4) _____ 5) _____

s: north watershed unit/forms/inspection form.doc (vrs. 11/22/00)

CIWQS:
Place ID: 257637

APPENDIX I: CONSTRUCTION BMP BROCHURE

A POLLUTION PREVENTION GUIDE FOR THE CONSTRUCTION INDUSTRY

North County Storm Water Program

Carlsbad • Del Mar • Encinitas • Oceanside • San Marcos • Solana Beach • Vista

Only Rain in the Storm Drain

WATER QUALITY REGULATIONS FOR CONSTRUCTION SITES

Dear Contractor,

The North County Storm Water Program is a collective of jurisdictions in northern San Diego County working together to protect our watersheds. We believe that reducing pollution is critical to maintaining our communities' way of life.

It is our hope that this brochure will help you identify activities that are recognized to cause water pollution and implement appropriate Best Management Practices (BMPs) to minimize their impact. By providing you with these tools, we hope to make your job easier while keeping our waterways clean.

Each jurisdiction will be inspecting their construction sites to ensure the protection of water quality. We look forward to seeing the BMPs presented in this brochure implemented at your sites.

Together we have the ability to preserve and improve the quality of life in our communities.

Sincerely,

The North County Storm Water Program

Contact Phone Numbers:

City of Carlsbad
760-602-2789

City of Encinitas
760-633-2787

City of Oceanside
760-435-5800

City of San Marcos
760-744-1050

City of Del Mar
858-755-8313

City of Solana Beach
858-720-2470

City of Vista
760-726-1340

Construction Sites

In 1972, the Environmental Protection Agency developed regulations to control water pollution. As a result, the National Pollutant Discharge Elimination System (NPDES) Permit was created. NPDES permits are issued to municipalities as well as construction sites. In addition to complying with local regulations, which are governed by our municipal NPDES permit, you may be required to obtain a permit through the State of California under the State General Construction Permit (99-08-DWQ). All construction sites over one acre are required to obtain coverage under this permit.



Construction sites can contribute pollutants such as sediment, metals, and chemicals, to our local creeks, rivers, lakes, lagoons, and ocean. These pollutants make their way down our streets and into storm drains, eventually discharging to the nearest body of water.

All construction sites are required to implement Best Management Practices (BMP) to prevent storm water pollution. This brochure is intended to assist your construction site in understanding BMP requirements.

Each municipality has one or more persons dedicated to ensuring that all construction sites are in compliance with state and local storm water control regulations. Contact your local municipality for further information.

Right-of-Way Permitting

We understand that there are times when space on construction sites is limited. If at any point, you (as a contractor or subcontractor) need to use the public right-of-way in order to work or store materials, you must apply for a special permit. This permit allows you to use the City's right-of-way areas, and describes what is required to prevent illegal contaminants from entering local storm drains. For more information or to obtain a permit application contact your local jurisdiction.



Inspection and Enforcement Program

Each jurisdiction has established an enforcement program to ensure that all businesses operate in compliance with all appropriate storm water laws and other City requirements. Contractors, site supervisors and property owners can be held responsible for violations, which may lead to a civil penalty of up to $10,000 per day and/or reimbursing the local jurisdiction for all expenses associated with clean up.

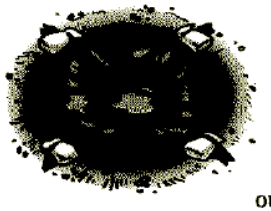


Best Management Practices

Construction materials such as paint, dirt and trash often find their way into our storm drains, polluting the environment and jeopardizing our creeks, rivers, lakes, lagoons, and ocean.

The NCSWP is working with contractors to implement what are known as Best Management Practices (BMPs) on all construction sites. That is, methods used to keep pollution out of our storm drains and off public property, such as sidewalks, streets, parkways and alleys. Carrying out and maintaining these BMPs on the construction site is critical to protecting our ocean and bay.





The following is a list of BMPs and pollution prevention measures that shall be implemented at all construction sites:

1. **Conduct daily site cleanings.**
2. **Develop spill response and containment procedures.**
3. **Educate employees and subcontractors about BMPs.**
4. **Develop an erosion control plan for wind and rain.**
5. **Regularly maintain all BMPs at project site.**

APPENDIX J: STORM WATER PLAN CHECK COMMENT FORM

CITY OF SOLANA BEACH
ENGINEERING DEPARTMENT
STORM WATER PLAN CHECK COMMENTS

Project: _____ Address: _____

☐ Construction phase **Erosion Control** shall be shown on the permitted plans, such as silt fences, gravel bags, de-silting basins, slope protection and entrance controls. **Best management practices (BMP's)** shall be developed and implemented to manage storm water and non-storm water discharges from the site at all times during construction activities. Erosion prevention shall be emphasized to keep sediment on site during excavation and grading activities. Sediment controls such as mulch, jute netting and straw blankets shall be used as a supplement to erosion control for keeping sediment on site.

- **Submit Storm Water Management Plan** (attached)
- **Add the following note to plans**: "**EROSION CONTROL:** Best management practices shall be developed and implemented to manage storm water and non-storm water discharges from the site at all times during excavation and grading activities."

☐ The Applicant shall demonstrate that the **project does not increase storm water runoff** or peak discharge from their property. For example, add a storm water retention and infiltration feature such as a depressed landscape area or below ground drywell using course rock (1.5" to 2.5") or a pre-fabricated chamber. The amount of retention volume should be at least equal to 0.60 inches (0.05 feet) times the added impervious area. This should be designed to avoid runoff damage to downstream properties, such as not concentrating runoff where it was previously not concentrated. (For 5,000 SF or more of added impervious area, use County of San Diego Hydrology Manual)

☐ Storm Water and Non-Storm Water Runoff Control. Post-development measures that **reduce pollutant discharges from the site** shall be shown on the permit plans. For example, maximize permeable areas (landscaping, driveway grass strips, gravel paths, concrete pavers on sand) to allow runoff seepage into the ground and drain impermeable surfaces (roofs, hardscape, driveways) to permeable areas (i.e. planted areas) and other approved pollutant treatment BMP's.

- Is runoff from hardscape areas routed over natural treatment areas before draining off site?
- **Show on the plans** where hardscape and roofs drain to.
- **Show BMP's** on the plans (grassy swales, landscaping, infiltration pits, pervious pavements, gravel paths, etc.).
- The volume of treatment should be at least 0.60 inches (0.05 feet) times the added impervious area.

APPENDIX K: BUILDING PLAN CHECK ROUTING FORM

CITY OF SOLANA BEACH
635 S. Highway 101, Solana Beach, CA 92075
(858) 720-2440
APPLICATION TRACKING FORM

Plancheck No.: _____
Received by: _____
Date:

Site Address _____ Suite # _____
Site Business Name _____ APN _____
Project/Property Owner's Name _____
Contact Person _____ Phone # _____
Address _____ Fax # _____
Project Description _____ E-Mail _____
Discretionary Permit Applicable? _____ Sq. Ft. _____
Estimated Building Valuation? _____ Estimated Grading Required? _____
Is/will the building equipped with fire sprinklers? ☐Yes ☐No Is the property on a septic system? ☐Yes ☐ No
Is there an existing swimming pool &/or spa on the property? ☐Yes ☐ No **If "yes," see the Pool & Spa note below**

THE FOLLOWING "CHECKED" ITEMS MUST HAVE WRITTEN APPROVAL PRIOR TO PERMIT ISSUANCE. APPROVALS FROM THE PLANNING, ENGINEERING, FIRE, HEALTH DEPARTMENTS, AND THE AIR POLLUTION CONTROL DISTRICT MAY ALSO BE REQUIRED PRIOR TO FRAME AND/OR FINAL INSPECTION AND OCCUPANCY (INDICATED ON "BLUE" CARD). IF YOU HAVE ANY QUESTIONS, PLEASE CONTACT THE INDIVIDUAL DEPARTMENT(S) AT THE NUMBERS SHOWN.

CITY DEPARTMENTS

☐ **PLANNING / ZONING**.....**858-720-2440**
- ☐ O.K. for Plancheck Only. By _____ Date _____
- ☐ Fees Due. ☐ Park Fees ☐ Public Facilities Fees ☐ Public Arts Fee
- ☐ Fee Payment Required Prior to ☐ Permit Issuance ☐ Final Inspection
- ☐ Height Certificate Required prior to Requesting Frame Inspection.
- ☐ Approval Req'd prior to: ☐ Permit ☐ Frame Insp ☐ Final Insp
- ☐ Approval required prior to ☐ Frame ☐ Final Inspection
- ☐ Project shall comply with Wildland Urban Interface Standards (WUI)
- ☐ O.K. to Issue Building Permits _____

☐ **ENGINEERING / SANITATION**.....**858-720-2470**
- ☐ O.K. for Plancheck Only. By _____ Date _____
- ☐ Permits Req'd ☐ Dedication Req'd ☐ Fees Req'd.
- ☐ Approval required prior to ☐ Frame ☐ Final Inspection (Sewer, Plancheck, In Lieu)
- ☐ See attached form for Storm Water BMP'S
- ☐ O.K. to Issue Building Permits _____

☐ **ENVIRONMENTAL**.....**858-720-2477**
- ☐ O.K. for Plancheck Only By _____ Date _____
- ☐ See attached form for Storm Water comments
- ☐ WMP Required Prior to ☐ Permit Issuance ☐ Final Inspection
- ☐ Post Construction BMP Inspection Required:
  - ☐ During Construction ☐ Prior to Final Inspection
- ☐ O.K. to Issue Building Permits _____

☐ **FIRE PREVENTION**.....**858-720-2410**
- ☐ O.K. for Plancheck Only By _____ Date _____
- Approval required prior to ☐ Frame ☐ Final Inspection
- ☐ O.K. to Issue _____

☐ **POOL & SPA SAFETY ENCLOSURE & SAFETY FEATURES**
Effective 1/1/07, AB 2977 requires all existing pools and spas shall comply with current State mandated enclosure & safety features.

AGENCY APPROVALS

☐ **SCHOOL FEES**
(Obtain signature on the attached forms)
Solana Beach Elementary &
San Dieguito Union H.S. District.....**760-753-6491**

☐ **HEALTH DEPARTMENT**
- ☐ Health Regulated Business
- ☐ Hazardous Materials Management.....**619-338-2222**
  1255 Imperial Avenue, San Diego 92138-5621
- ☐ Final Approval Required
- ☐ Septic Approval Required **760-471-0730**
  151 Carmel St, San Marcos 92078

Approved by _____

☐ **AIR POLLUTION CONTROL DIST.** .....**(858) 586-2600**
(Obtain stamp and signature on APCD Questionnaire)
10124 Old Grove Rd., San Diego CA 92131

☐ **WATER AND SEWER**
(Obtain signatures on attached forms)
- ☐ Santa Fe Irrigation District.....**858-756-2424**
- ☐ Solana Beach Sanitation District **858-720-2470**

☐ **CALIFORNIA COASTAL COMMISSION**....**619-767-2370**
Call for an appointment

☐ **ASSESSOR'S COPY OF PLANS**
At permit issuance, provide a third copy of Title Sheet, Plot Plan & Floor Plan (per Senate Bill 493).

☐ **OWNER/BUILDER AFFIDAVIT AND/OR CONTRACTOR INFORMATION**

☐ **SDG&E WORK ORDER**.....**(800) 411-SDGE**
For new / relocated gas & electric meters

_____ _____
Signature of Applicant Date

F:/Common/UpdatedApplications/Tracking Sheet Eff 09/08

APPENDIX L: PUBLIC PROJECT PRE-CON MEETING AGENDA

PRE CONSTRUCTION MEETING
Fletcher Cove Pump Station Vault Maintenance
Bid No. 2009-07
December 18, 2009

Introductions

Contacts

1. Contractor — A.B. Hashmi, Inc.
   2003 South El Camino Real, # 105
   Oceanside, CA 92054
   (760) 672-8059

2. City — City of Solana Beach
   635 S. Hwy 101
   City of Solana Beach, CA 92075
   (858) 720-2470 (Engineering)
   (858) 755-1782 (Engineering fax)

   Hector Ezquerro – City Inspector (858) 354-8876 (cell)
   Dan Goldberg – Project Manager (858) 720-2474
   Steve Kerr – Public Works Operations Manager (858) 449-2630 (cell)
   Craig Miller – Marine Safety Captain (858) 720-4444

   Utilities — Santa Fe Irrigation District (858) 756-2424
   Joe Hernandez – San Elijo Joint Powers Authority (760) 801-0935 (cell)

Project Status: Notice to Proceed – TBD
25 Working Days

Contract Amount: $20,770.00

Project Goals:
- Safety
- Community
- Quality
- Schedule
- Budget

Contractor Requirements:
- Any questions about Contract Award or “Key Contract Items Summary Sheet"?
- Submit Construction Schedule
- Submit Traffic Handling Plan
- Submit Storm Water Pollution Prevention Plan (SWPPP)
- Submit Names/Phone Numbers of Foreman/Emergency People
- Submit Names of Additional Subcontractors

Storm Water & Erosion Control
- Best management practices shall be used & maintained
- Erosion control plan

Labor Compliance, Certified Payroll and Progress Payments

Public Notification: Contractor's responsibility (keep the public & the city informed)

Utility issues

Project Safety: Contractor's responsibility
- Traffic Control Plans

Inspection & Testing
- City will provide inspection

Change Orders
- Notification must be in writing
- Work is not approved until you have a change order signed by the City Council, City Manager or the City Engineer. Project Manager and Project Inspector cannot approve change orders.

Submittals
- Submittals should be given to the project manager.

Operating hours
- 7 a.m. to 4:30 p.m. Monday through Friday. Do not operate, start equipment or congregate near residential areas before 7 a.m.
- No work will be allowed on weekends or holidays.

Operating Conditions
- Per Section I (General Requirements), Part J.2 (page 43), the contractor shall perform all work in coordination with the San Elijo Joint Powers Authority (SEJPA). SEJPA requires 24 hour access to the pump station and the pump station must remain operational throughout the duration of the project unless coordinated with SEJPA and approved by the city. In addition, the marine safety building and the adjacent restroom building must remain fully operational throughout the project.
- Per Section I (General Requirements), Part J.4 (page 43), the contractor will not be allowed to close Fletcher Cove Park, the beach access ramp or any portion or the parking lot. All work shall be contained as close as possible to the area immediately surrounding the place where the work is occurring.
- Per Section I (General Requirements), Part J.6 (page 43), there may be separate construction projects taking place that will gain access to their project using the beach access ramp. Contractor is expected to cooperate with and allow access to the outside construction contractors.
- Scheduling of all work shall be coordinated with the Marine Safety Department to ensure that their operations are impacted as little as possible during the project.

Project Issues/Ordering of Materials

Work Schedule/Notice to Proceed

APPENDIX M: CIVIL PENALTY MATRIX

SOLANA BEACH
CIVIL PENALTIES MATRIX

The following factors will be considered in determining the amount of civil penalties from the Solana Beach Municipal Code 13.10.140 A. any person who violates any of the provisions of this chapter shall be liable for a civil penalty not to exceed $1,000 for **each day** such a violation exists and will be assessed: (1) The seriousness of the violation (2) the duration of the violation; (3) the frequency or recurrence of the violation; (4) the history of the violation; (5) the Responsible Party's conduct after issuance of the Notice and Order; (6) the good faith efforts of the Responsible Party to comply; (7) the impact of the violation upon the community.

*** Criminal Penalties**

These factors are assigned to two categories, "**Environmental Significance**" and "**Compliance Significance**," in order to easily present them in a graphical form in the matrix chart.

Environmental Significance includes the following factor: Seriousness of the violation.

Compliance Significance includes the remaining factors: The duration of the violation, frequency or recurrence of the violation, the history of the violation, the Responsible Party's conduct after issuance of the Notice and Order; the good faith efforts of the Responsible Party to comply and the impact of the violation on the community.

Environmental Significance

Compliance Significance	Moderate	Major	Severe
Moderate	*NOV-$100	$100 - $200	$500
Major	$100- $200	$500	$1,000
Severe	$500-$1,000	$1,000	$1,000-Referral to Regulating Agency

* Notice of Violation

The list below gives examples of issues specific to storm water violations that could be considered under each of the factors.
Increased Penalties will be factored as Notice of Violation to Moderate, Moderate to Major or Major to Severe.
Decreased Penalties could be Severe to Major, Major to Moderate or Moderate to Notice of Violation.

Environmental Significance
Seriousness of the Violation

Relatively inert discharges (e.g., soil, sediment, cement residue, stucco residue**,** etc.) **[Moderate Environmental Impact]**

Moderate toxicity / moderate health threat discharges (e.g., cleaning products with no specific hazard, i.e. detergent, latex paint) **[Major Environmental Impact]**

Significant toxicity / significant health threat discharges (e.g., sewage, hazardous materials/wastes, etc.) **[Severe Environmental Impact]**

SOLANA BEACH
CIVIL PENALTIES MATRIX

Compliance Significance

Duration of Violation

Extent of discharge as determined by volume, area covered, how long it continued **[Greater Discharge Can Lead to Increased Penalty]**

Number of days the discharge remained unabated in the conveyance system **[Unabated Discharge Can Lead to Increased Penalty]**

Impact on the Community

Results in damage, degradation, or obstruction of the storm water conveyance system **[Can lead to Increased Penalties]**

Results in actual degradation of aquatic habitat in receiving waters **[Can lead to Increased Penalties]**

Results in actual impact on wildlife including benthic communities **[Can lead to Increased Penalties]**

Results in algal bloom, discoloration or odor in receiving waters **[Can lead to Increased Penalties]**

Discharge of constituent of concern within a watershed that leads to a 303 (d) listed water body **[Can lead to Increased Penalties]**

Regulated industry (e.g., subject to OSHA chemical right-to-know requirements or subject to Hazardous Material / Hazardous Waste Permit) **[Can lead to Increased Penalties]**

Recurrence of Violation

No prior administrative enforcement penalty can be a factor for officer's discretion in lowering penalties.

Prior administrative penalties action can lead to increased penalties.

Prior administrative enforcement within the last year maybe a factor in determining higher penalties leading up to a **criminal citation**.

Intentional discharge will be a factor to increase penalties leading up to a criminal citation.
SOLANA BEACH
CIVIL PENALTIES MATRIX

History of Violation
Prior violations or warnings issued by other regulatory or City agencies (e.g., County Dept. of Health, County Dept. of Env. Health, RWQCB, FEWD, MWWD) **[Can lead to Increased Penalties]**

Prior warnings (letter or Notice of Violation) from Storm Water Pollution Prevention Program **[Can lead to Increased Penalties]**

Good Faith Efforts to Comply
Responsible Party failed to implement BMPs and should have known of requirement for BMPs (e.g., gasoline service station or construction industry) **[Can lead to Increased Penalties]**

Existing BMPs failed to prevent discharge (e.g., employee failed to comply with documented training and procedures or structural BMP failed to perform to design) **[Can lead to Reduced Penalties]**

Rapid and appropriate response to discharge **[Can lead to Reduced Penalties]**

The Solana Beach Municipal Code 13.10.140 A States the following:

13.10.140 Penalties for violation.
A. Civil Penalties. Any person who violates any of the provisions of this chapter shall be liable for a civil penalty not to exceed $1,000 for **each day such a violation exists**, and all pollution detection and mitigation costs (if applicable).
B. Criminal Penalties. Any person who knowingly or intentionally violates any provision of this chapter shall be subject to liability for a misdemeanor, punishable by imprisonment for a period not to exceed one year, or a fine not to exceed $10,000 for each day such a violation exists, or both.
C. Any monetary penalties collected by the city of Solana Beach pursuant to violations of this chapter shall be returned to the storm water management program to be used for storm water pollution monitoring and management practices. (Ord. 184 § 1, 1993)

13.10.150 Continuing violation.
Unless otherwise provided, a person, firm, corporation or organization shall be deemed to have committed a separate offense for each and every day during any portion of which a violation of this chapter is committed, continued or permitted by the person, firm, corporation or organization and shall be punishable accordingly as herein provided. (Ord. 184 § 1, 1993)

13.10.160 Concealment.
Causing, permitting, aiding, abetting or concealing a violation of any provision of this chapter shall constitute a violation of such provision. (Ord. 184 § 1, 1993)

13.10.170 Acts potentially resulting in violation of Federal Clean Water Act and/or Porter-Cologne Act.
Any person who violates any provision of this chapter, any provision of any permit issued pursuant to this chapter, or who discharges waste or wastewater which causes pollution, or who violates any cease and desist order, prohibition, or effluent limitation, may also be in violation of the Federal Clean Water Act and/or Porter-Cologne Act and may be subject to the sanctions of those Acts including civil and

criminal liability. Any enforcement action authorized under this chapter should also include notice to the violator of such potential liability. (Ord. 184 § 1, 1993)

13.10.180 Violations deemed a public nuisance.

A. In addition to the penalties hereinbefore provided, any condition caused or permitted to exist in violation of any of the provisions of this chapter is a threat to the public health, safety and welfare and is declared and deemed a public nuisance and to impact storm water quality, and such nuisance may be summarily abated and/or restored by any authorized enforcement official. Civil action to abate, enjoin or otherwise compel the cessation of such nuisance may be taken by the city attorney.

B. The cost of such abatement and restoration shall be borne by the owner of the property and the cost thereof shall be a lien upon and against the property and such lien shall continue in existence until the same shall be paid. If the lien is not satisfied by the owner of the property within three months after the completion by the authorized enforcement official of the removal of the nuisance and the restoration of the property to its original condition, the property may be sold in satisfaction thereof in a like manner as other real property is sold under execution.

C. If any violation of this chapter constitutes a seasonal and recurrent nuisance, the city of Solana Beach shall so declare. Thereafter such seasonal and recurrent nuisance shall be abated every year without the necessity of any further hearing. (Ord. 184 § 1, 1993)

13.10.190 Civil actions.

In addition to any other remedies provided in this section, any violation of this chapter may be enforced by civil action brought by the city of Solana Beach. In any such action, the city of Solana Beach may seek, and the court shall grant, as appropriate, any or all of the following remedies:

A. Injunctive relief;

B. Assessment of the violator for the costs of any investigation, inspection, or monitoring survey which led to the establishment of the violation, and for the reasonable costs of preparing and bringing legal action under this subsection;

C. Costs incurred in removing, correcting, or terminating the adverse effects resulting from the violation;

D. Compensatory damages for loss or destruction to water quality, wildlife, fish and aquatic life. Assessments under this subsection shall be paid to the city of Solana Beach to be used for costs associated with monitoring and establishing storm water discharge pollution control systems and/or implementing or enforcing the provisions of this chapter. (Ord. 184 § 1, 1993)

APPENDIX N: RAINY SEASON REMINDER (SAMPLE)

October 15, 2008

XXXXXXXXXXXX
XXXXXXXXXXXX
Solana Beach, CA 92075

RE: EROSION CONTROL RESPONSIBILITIES FOR CONSTRUCTION SITES

Dear Owner and/or Contractor:

As the rainy season begins, this is a reminder to make sure that your project site at **XXXXXXXX** is in compliance with the City of Solana Beach's Storm Water Management Section 13.60 and Excavation and Grading Ordinance Section 15.40. Your responsibility as owner/contractor is to control and reduce pollutants in runoff from all your construction activities. You are required to comply throughout the year, but the "rainy season" requires special attention and practices.

Since we are now in the official "rainy season," you shall implement all the required measures in the Storm Water Pollution Prevention Plan or Erosion Control Plan for your project site. Your responsibility to implement these measures is not only to comply with the City of Solana Beach's Ordinances and Jurisdictional Urban Runoff Management Program (JURMP), but also to comply with the Regional Water Quality Control Board Permit Order 2007-0001.

At a minimum you must implement these practices on all disturbed areas during the rainy season:

- Cover and stabilize all exposed soil, particularly on slopes, in order to prevent erosion.
- Employ any erosion control measures that are adequate to prevent erosion.
- Implement Best Management Practices (BMPs) to reduce the tracking of sediment onto public or private roads.
- Conduct pre- and post-storm inspections of erosion prevention and control measures and determine whether they function properly; modify if necessary to improve effectiveness.
- Maintain all erosion prevention and control measures throughout the season and replace them as needed to ensure measures accomplish the task.
- Ensure that all site personnel are trained in erosion prevention and control techniques as well as in the requirements of the Statewide General Construction Storm Water Permit.

- Review, upgrade, and fully implement your site-specific Storm Water Pollution Prevention Plan consisting of Best Management Practices for all pollutants, including those other than sediment. The City of Solana Beach will be inspecting your project site for compliance. The California Regional Water Quality Control Board plans to conduct their compliance inspections jointly with the United States Environmental Protection Agency. Other agencies may inspect your site at will.

If you would like additional information on selecting appropriate BMPs, the City has developed a BMP Brochure that is available upon request. Failure to comply with the City's storm water regulations can result in enforcement actions, including stop work notices and fines.

If you have any questions, or require additional information, please contact me at (858) 720-2477.

Sincerely,

Danny King
Environmental Programs Manager
City of Solana Beach

APPENDIX O: GENERAL CONSTRUCTION "GOOD NEIGHBOR" BROCHURE

PROPERTY OWNERS ARE RESPONSIBLE FOR THE ACTIONS OF THE CONTRACTORS AND SUBCONTRACTORS WORKING ON THEIR PROPERTY.

Construction Hours and Noise Levels:

Construction workers shall not congregate at or report to the site prior to the beginning of construction hours.

Monday - Friday:
7:00 a.m. to 7:00 p.m.

Saturday:
9:00 a.m. to 6:00 p.m.

No construction is permitted on Sundays and Holidays. Please check the City's website for a list of observed holidays at:

www.ci.solana-beach.ca.gov

Construction noise levels shall not exceed 75 decibels for more than eight hours during any 24 hour period.

For information concerning construction hours and noise levels contact the Community Development Department at: (858) 720-2440

Storm Water Best Management Practices (BMPs)

Violations of the storm water regulations can result in penalties, including fines of $1000 per day per violation. These practices are strictly enforced.

Storm Water BMPs Continued:

- **Perimeter Protection Controls: Silt fences, straw wattels, sand bags, etc. must be used to control run-on and run-off from project site.**
- **Tracking Controls: All entrances and exits to the site must have protection measures installed to prevent tracking of sediment off the project site.**
- **Washout Area: All sites must have a designated "wash-out" area to clean equipment and dispose of excess concrete, stucco, and paint.**
- **Concrete Trucks/Pumpers: Concrete trucks and pumpers must have perimeter protection installed around and under them at all times. Any spill must be contained on-site and no washing of equipment permitted without a washout area.**
- **Materials Storage: All materials stored on-site must be contained and covered at all times.**
- **Trash Containers/Portable Restrooms: Dumpsters must be covered and have adequate perimeter protection and all portable restrooms must have secondary containment measures installed.**
- **Storm Drain Inlets: All adjacent storm drain inlets must be protected at all times to prevent pollutants from the project site from entering (including sediment).**

For more information concerning Storm Water BMPs contact the Environmental Services Department at (858) 720-2477.

Fire Safety:

Obey all Fire Codes:

- **Ensure fire lanes are kept clear and unobstructed.**
- **Any combustibles onsite must be stored safely.**
- **Remember oily rags catch on fire spontaneously, even when no ignition source or flame is present.**

For more information concerning fire safety contact the Fire Department at: (858) 720-2410

Encroachment Permits:

Encroachment Permits are required before you start work within the public right of way.

- **Constructing new or repairing old curbs, gutters and sidewalks, constructing new driveways or placing dumpsters in the right of way requires approval from the City and a fee of $245.**
- **The installation of new or repair of existing utilities requires approval from the City and a fee of $575.**

For more information concerning encroachment permits please contact the Engineering Department at: (858) 720-2470

Questions, Comments, Concerns?
Contact City Hall at: (858) 720-2400

Construction Site "Golden Rules":

Treat the construction site as if you were living next door to it.

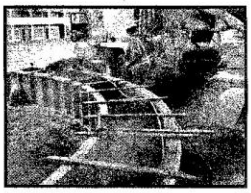
- Communicate construction timetables to the surrounding neighbors. Consider distributing a letter to neighboring properties listing proposed timetables and contact information for the property owner and construction contractor.
- Notify neighbors if you expect excessive noise and/or traffic disruptions on a particular day. For example, if you are planning to demolish an existing residence or if you are expecting heavy equipment onsite to pour concrete.
- Avoid parking in front of neighbors homes and do not run car engines unnecessarily.
- Minimize noise by not using radios and refrain from shouting whenever possible.
- Construction vehicles should be parked legally and accommodated on the construction site whenever possible.
- Use respectful personal conduct by using the onsite restroom facilities and do not use profanity.

Community Development Department

City of Solana Beach
635 South Highway 101
Solana Beach, CA 92075
Phone: (858) 720-2440
FAX: (858) 755-1782
www.ci.solana-beach.ca.gov

City of Solana Beach

Construction Site Supervision in Solana Beach: Code Requirements and Good Neighbor Practices



This fact sheet is provided to increase awareness of the basic rules all construction sites are required to follow by city ordinance. These rules are a minimum, and if not followed can result in penalties if you are found to be in violation of City or State applicable regulations.

In addition, we've provided some tips for additional measures that you can take at the site that would be appreciated by the City and your neighbors. We recognize that a construction site by its nature has a certain amount of noise, debris and inconvenience for the neighborhood. We have found from experience that where you can go above and beyond the minimum City Municipal Code requirements, and implement these good neighbor practices, your project can benefit from the improved neighborhood relations.

APPENDIX P: UNDERGROUND UTILITY DISTRICT SPECIAL BMP HANDOUT

Undergrounding Utility District Construction Best Management Practices

When conducting trenching work, construction Best Management Practices (BMPs) must be utilized at all times. Failure to keep all sediment and debris on your property is a violation of the City's Storm Water Regulations and can result in fines. The following list contains BMPs that may be used to keep sediment onsite and out of the City's storm drain conveyance system:

- Perimeter protection BMPs such as silt fences, straw waddles and/or sand bags can be used to contain sediment onsite.
- Cover all materials and keep above ground when a predicted rain event is to occur (>50% chance).
- Keep all materials/sediment out of street and gutter to prevent nuisance water from washing into storm drain system.
- Prevent sediment tracking into street by placing down gravel where equipment is entering and exiting property and sweeping area frequently.

These are all common general BMPs that can be utilized to prevent discharges into the City's storm drain conveyance system. If you or your contractor have any questions or require additional information on any of this, please feel free to call me at the number below.

Sincerely,

Danny King
Environmental Specialist

APPENDIX Q: COMMERCIAL FACILITY LITTER REDUCTION ORDINANCE

ORDINANCE 419

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF SOLANA BEACH, CALIFORNIA, AMENDING SECTIONS OF CHAPTER 6.12 AND 11.16 OF THE SOLANA BEACH MUNICIPAL CODE, ALL RELATED TO LITTER CONTROL AND REMOVAL

WHEREAS, the City's Litter Control Ordinance (Chapter 6.12 of the Solana Beach Municipal Code) was enacted in 1987 pursuant to Ordinance Number 46; and

WHEREAS, the City's Sidewalk Ordinance (Chapter 11.16 of the Solana Beach Municipal Code) was enacted in 1988 pursuant to Ordinance Number 75; and

WHEREAS, Chapter 6.12 does not require all business to remove litter generated by their establishments; and

WHEREAS, Section 6.12.030 is silent in prohibiting all persons from depositing litter into gutters; and

WHEREAS, Section 11.16.050 does not specifically require all property owners to keep abutting sidewalks free of litter; and

WHEREAS, the City Council desires to update Chapters 6.12 and 11.16 to clarify certain provisions.

NOW THEREFORE, THE CITY COUNCIL OF THE CITY OF SOLANA BEACH DOES ORDAIN AS FOLLOWS:

Section 1. Section 6.12.030 of the Solana Beach Municipal Code is hereby amended as follows:

6.12.030 Prohibition.

A. It shall be unlawful for any person to throw, deposit, cause to be deposited, or leave litter in or upon any public street, alley, gutter, sidewalk, beach, public right-of-way or public place within the city except in public receptacles or authorized private receptacles.

B. It shall be unlawful for any person to throw, deposit, cause to be deposited, or leave any litter in or upon any private property within the city, vacant or occupied, other than the owner of the private property.

Section 2. Section 6.12.070 is hereby added to Chapter 6.12 of the Solana Beach Municipal Code as follows:

6.12.070 Duty to remove litter.

Any persons owning or occupying a place of business within the City of Solana Beach shall implement a general litter removal program within an area of two hundred (200) feet of their commercial establishment so as to remove litter generated by said business at least once each business day. This litter removal program shall not permit the business owner or its employees to trespass upon private property. However, the business shall attempt to gain permission of the owner of the private property for said purposes. In addition, this litter removal program requires the business owner or its employees to remove litter from public property with the exception that they are not required to remove litter from any area within a public street or highway.

Section 3. Section 11.16.050 of the Solana Beach Municipal Code is hereby amended as follows:

11.16.050 Maintenance by lot owners.

A. The owners of each lot fronting on any portion of a public street or place where the street or place is improved with a sidewalk shall maintain the sidewalk in such a condition that the sidewalk will not endanger persons or property and in a condition which will not interfere with the public convenience in the use of those works or areas, including keeping the sidewalk free of litter. The owners' obligations shall not apply to those conditions created or maintained in, upon, above or in connection with such sidewalk by any person other than the owner of the lot, where the person is authorized to do work or to maintain encroachments by virtue of a permit or right granted to the person by law or by the city. The person creating the condition pursuant to a permit shall have the duty otherwise imposed by this section upon the lot owner. The obligations of this subsection also apply to lots where the area between the property line of the privately owned lot and the back of the street line is maintained as a parkway, park or parking strip.

B. The city manager is authorized to enforce subsection A of this section, pursuant to the provisions of the State Streets and Highways Code, Division 7, Part 3, Chapter 22, commencing with Section 5600.

C. For the purposes of this section, the term sidewalk includes a park or parking strip maintained in the area between the property line and the street line and also includes curbing, bulkheads, retaining walls or other work for the protection of any sidewalk, park or parking strip.

EFFECTIVE DATE: This Ordinance shall be effective thirty (30) days after its adoption. Within fifteen (15) days after its adoption, the City Clerk of the City of Solana Beach shall cause this Ordinance to be published pursuant to the provisions of Government Code Section 36933.

INTRODUCED AND FIRST READ at a regular meeting of the City Council of the City of Solana Beach, California, on the 25th day of August, 2010; and

THEREAFTER ADOPTED at a regular meeting of the City Council of the City of Solana Beach, California, on the ___ day of _____, 2010, by the following vote:

AYES: Councilmembers –
NOES: Councilmembers –
ABSTAIN: Councilmembers –
ABSENT: Councilmembers –

_____
THOMAS M. CAMPBELL, Mayor

APPROVED AS TO FORM:

_____
JOHANNA N. CANLAS, City Attorney

ATTEST:

_____
ANGELA IVEY, City Clerk

APPENDIX R: BEACH BLANKET MOVIE NIGHT FLYER



APPENDIX S: SPECIAL EVENTS PERMIT CONDITIONS OF APPROVAL

NOTICE OF APPROVAL FOR SPECIAL EVENT
CITY OF SOLANA BEACH

The Special Event you have applied for has been approved, according to the following information:

Date Requested: June 12, 2004
Hours: 5:30 a.m. – 2:00 p.m.
Organization: San Dieguito Boys & Girls Clubs
Type of Event: Seaside Stride 5 Mile Walk
Location: See Attached Map
Contact Person: Ellen Flanagan (760) 471-5516

Approved By:_____
Barry Johnson, City Manager

SPECIFIC GUIDELINES:

1. No City services, at the request of the applicant, for the event will be provided by the City.
2. The event participants must utilize the sidewalks and not the roadway where available on the course. If there is no sidewalk, participants must utilize the very outer edge of the roadway.
3. Event organizers must obey all traffic signs, lights, and laws.
4. Event organizers and participants shall utilize public right-a-ways and property for the purpose of this event at their own risk.
5. Event organizers and participants shall obey all traffic laws, signs, and traffic control devices at all times.
6. Event organizers must comply with all applicable water run-off regulations and must use best management practices. There will be absolutely no liquid, solid, or any other by-product generated by the event allowed in the city storm drain system. The parking lot at the conclusion of the event must be cleaned of all debris and disposed of in an acceptable manner to the City's Public Works Department.
7. Roadway and sidewalks and any other public areas utilized by the event participants and audience shall be left in a clean and orderly condition at the conclusion of the special event.
8. Applicant shall be charged for the amount of time to clean-up the areas or facilities used by the event participants if the areas utilized by the attendees of the event are not left in a clean and orderly condition. Estimated cost for retaining one City employee to clean-up refuse, and trash disposal is $ 43.20 per hour.
9. Any damage to public property as the result of this event will encumber full cost recovery from applicant by the City.

10. Event organizers shall at all times comply with any request or orders from the City's public works, lifeguard, law enforcement, or other public safety personnel. Failure to do so will result in the revocation of this permit and an immediate cease event order.

GENERAL GUIDELINES:

1. This permit and any other permits associated with this event will be available at the event.
2. If City services are required, applicant will be billed in advance for any and all City services provided above normally scheduled services. **All fees and charges shall be paid prior to final issuance of a permit for the event. Exception: Costs incurred by the City for clean up or other reasons due to the event, if any, shall be charged to the applicant billed as soon as the total cost is determined.**
3. All vehicles must comply with City parking regulations.
4. The organization and any of its subcontractors in advance of the event must file a business license application and fee, if they do not have a business license.
5. Vehicle loading and unloading cannot block pedestrian access. If required for short durations, signage directing the flow of pedestrian access, including wheelchair access must be established and posted.
6. The City reserves the right to shut down the event at any time, if necessary.
7. Applicant must comply with City noise regulations.
8. **It is the responsibility of the applicant to know and comply with the terms and conditions as stated within this special event permit and all applicable laws that pertain do the event, its organizers, and its participants whether they are stated on this permit or not.**
9. Contact Leah Escarcega or David Ott at (858) 720-2410 if there are any questions regarding the special event permit process.

C: City Manager's Office
Public Safety Director
Public Works Director
Sheriff's Department
Marine Safety Captain

APPENDIX T: SUMMER CAMP PROGRAMS/CLASSES

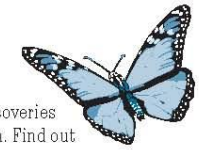
CITY OF SOLANA BEACH PARKS & RECREATION

2009 Kids Summer Day Camp for Ages 6–12



All Sessions will meet Monday – Friday from 8:30 a.m. to 2:00 p.m. at Fletcher Cove Community Center, 133 Pacific Ave. The fee is $106/week per child and includes activities such as beach walks, swimming at the Boys and Girls Club, arts & crafts, Library visit, fun games, t-shirts and a weekly field trip to an exciting destination. After-care is offered from 2:00 p.m.– 5:00 p.m. ($27/week). Our popular "Leader in Training" program is also available again this summer for 13 – 17 year olds for only $40/week!

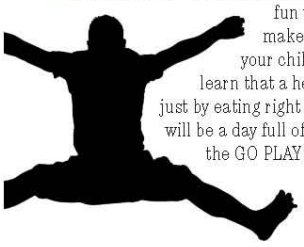
1 ENVIRONMENTALLY FRIENDLY... June 22 – 26



There are many exciting ecological discoveries to be investigated here in Solana Beach. Find out how simple it is to appreciate the simple aspects of the world around you. Campers will discover ways in which he/she can help save the environment, explore the world of creepy crawly insects, and even discover the local San Elijo Lagoon through a nature walk for this week's field trip.

2 FUN TO BE FIT ... July 6 – 10

Challenge your camper to a world of healthy living. Kids will get to learn how to incorporate healthy aspects into their lives in a fun way. Learning simple changes can make a world of difference in the way your child feels and lives. Campers will learn that a healthy lifestyle can be easy and fun just by eating right and staying active. The field trip will be a day full of active fun at Coronado Island for the GO PLAY GET FIT day.



3 TIME TRAVEL ... July 13 – 17

Travel back in time to the prehistoric land filled with dinosaurs and other historic creatures. Campers will get a chance to understand how the world has changed from the prehistoric world to the world we live in now. Kids will have the chance to make some predictions as to what they think the world will look like in the future and hopes for the future based on knowledge of the past. This week's field trip will be to the Natural History Museum at Balboa Park.



4 WORLD EXPLORERS... July 20 – 24

Ever wonder what living in another country would be like? Come explore the many wonders this world has to offer in this 5 day top speed trip around the world. Campers will get to explore the world beyond the United States with crafts from other countries, songs and cultural differences from all over the world. Campers will enjoy this imaginary flight around the world with a special stop at the Cabrillo National Monument for this week's field trip.

5 SPACE CADETS... July 27 – 31

Ever imagined seeing Earth from space or wanted to be an astronaut? This week campers will each get a chance to explore the universe beyond our planet and even how things work on Earth versus other planets. Kids will get to learn about what it takes to be an astronaut and the world above our heads through games, crafts and even a trip to the Ruben H. Fleet Science Center at Balboa Park.



6 IT'S A ZOO OUT THERE ... August 3 – 7

There's the Grasslands, Jungle, Rainforest, and even your local beach that contains hundreds of animals that campers will get a chance to learn about and explore. Learn all about the crazy life of animals of all kinds with theme related crafts and discussions as well as a chance for the campers to explore our own San Diego Zoo.

7 WATER ADVENTURES... August 10 – 14

You don't have to be an underwater animal to enjoy the wonderful world of water. Campers will learn about the various underwater creatures as well as explore all the fun that one can have in and around water. Not only will campers get to enjoy the beach but this week's field trip will be to the Wave Water Park where kids can experience the fun that comes with water, without having to grow gills.

APPENDIX U: 2010 DRY WEATHER MONITORING PROGRAM RESULTS

As a result of Addendum No. 2 adopted by the RWQCB in September 2008, this section will be submitted along with Chapter 7 "Illicit Discharge Detection and Elimination Component" in December 2010.

APPENDIX Z: EFFECTIVENESS ASSESSMENT TABLE

CHAPTER 7: ILLICIT DISCHARGE DETECTION AND ELIMINATION COMPONENT

7.1 Introduction

In accordance with Permit Section D.4, this section of the report describes the City's effort to implement an Illicit Discharge Detection and Elimination (IDDE) program during this reporting period, July 1, 2009 to June 30, 2010.

In each Annual Report to the RWQCB, this section will include a description of the City's efforts during the reporting period and possibly post-reporting period if the activity is deemed essential to understanding the City's efforts at reducing urban runoff or Permit compliance. This section will include results from efforts to eliminate and prevent illicit discharges, results from the most current Dry-Weather Monitoring Program, Wet-Weather Monitoring Program and Coastal Outfall Monitoring Program. Also, this section of the report will include any changes to the City's *Action Levels for Field Screening and Laboratory Parameters*. A summary of activities conducted post-reporting period may be included if the activity is deemed essential to understanding the City's efforts at reducing urban runoff or Permit compliance.

During this reporting period, the City continued the comprehensive IDDE Component in accordance with the City's JURMP (Order No. 2007-0001). The activities are expected to increase knowledge among the residents, business owners, and those who do business (such as contractors) within the City.

The City's JURMP outlines in descriptive detail the City's plans for detecting and eliminating illicit discharges, which would be redundant to repeat in this Report. This report will discuss the results of the City's 2010 Dry Weather Monitoring Program, which adheres to the requirements of the Permit, and is described in detail in the City's JURMP.

7.2 Public Reporting of Illicit Discharges and Connections

The City has an extensive public reporting program that includes a designated storm water hotline (858-720-4424) operated 24 hours a day, 7 days a week, that links directly to the Environmental Programs Manager's desk, a dedicated email address that also links to the Environmental Programs Manager, and a highly trained City Staff that knows how to route calls to the appropriate Staff members at City Hall. The City of Solana Beach is a small and intimate city where residents believe in personal relationships and demand immediate responses and actions. The City's hotline and email address to report storm water violations is posted on almost all public outreach materials, including the City's website, community newsletters and environmental brochures.

The City tracks complaints and follow-up activities in a database that is managed by the Environmental Programs Manager. Usually, the City's Code Enforcement Officers respond to the complaints and hotline reports and handle the issues in the field. An email and/or violation form is then sent to the Environmental Programs Manager to document the actions taken and to proceed with any necessary increased enforcement actions such as Notice of Violations (NOVs), citations or stop work orders. This database is constantly being updated and also acts as a resource for historical violations and repeat offenders. If a repeat offender is identified, then increased enforcement actions will automatically be initiated, as explained in the City's Civil Penalty Matrix.

7.2.1 Summary of IDDE Violations

The following is a brief summary of the IDDE violations that were acted upon by City Staff through complaints, field detection and reports from the public. For a complete account of each violation, the City's database can be reviewed upon request.

During this reporting period (July 1, 2009 – June 30, 2010), there were approximately 260 contacts made by City Staff. This includes educational contacts made by City Staff and violation investigations. The City had a part-time Code Enforcement Officer during this reporting period and one of the primary responsibilities was assisting the storm water program. This part-time Staff member made it a priority to engage the public when he noticed a potential violation occurring or about to occur. Many of these contacts were verbal and educational in nature, and so documentation was not needed. There were 28 documented contacts that required more than an educational message, and the ones that resulted in citations will be discussed in more detail later in this section.

The City believes being proactive is an important part of storm water pollution prevention, and made this a priority by maintaining the part-time code enforcement officer, in addition to the one full-time officer. Most of the violations were minor in nature, ranging from washing down a driveway or patio to washing a car in the street with no containment. These violations are usually handled with a verbal warning or written Notice of Violation. However, during this reporting period, four citations were issued, down from seven last year. The decrease in citations may be attributed to the proactive educational contacts made by City Staff prior to a potential violation occurring. Another reason for the decrease in storm water violations and reports is the economy. There is a significant reduction in building activities in the City, and this sector is where most of the violations come from.

The following is a brief description of each violation that resulted in a citation. The complete database is too large to include in this report, however it is available upon request.

10/12/09 – City Staff encountered a minor construction project at 115 North Highway 101 where the contractor was not utilizing the proper BMPs when conducting a concrete washout. Residue was flowing down the street with no containment BMPs in place. Staff immediately contacted the Responsible Party (RP) and ordered a stop work until the discharge was properly cleaned and BMPs properly installed. The RP complied, the discharge was satisfactorily cleaned, and the proper BMPs were installed. The discharge did not reach the storm drain system, but Staff still issued a citation for the discharge and not having the proper BMPs installed.

4/13/10 – City Staff received a call from the public regarding sand blasting occurring at 480 North Cedros Avenue. Staff investigated and detected a contractor performing sand blasting on a commercial property with no BMPs installed. A slight discharge of materials was detected off-site and the air quality was very poor. Staff contacted the RP and issued a stop work. The owner of the company was off-site, but Staff was able to contact him and requested an immediate meeting onsite. The owner complied, met with Staff onsite, and immediately installed the necessary BMPs. The discharge was cleaned. Staff issued a citation.

7/29/10 – City Staff received a call from the public reporting power washing activities occurring at 311 Pacific Avenue. Staff investigated and confirmed the report. Staff made contact with the RP and issued a stop work. RP complied and installed the necessary BMPs. Staff issued a citation.

8/3/2010 – City Staff detected a discharge of a slurry-type substance at 170 Del Mar Shores Drive. Staff investigated the onsite condominium complex and detected a contractor conducting

some work in one of the units. Staff issued a stop work and an immediate clean-up order to the contractor. The RP complied and cleaned the discharge and installed the necessary BMPs. Staff issued a citation.

As mentioned in last year's Annual Report, City Staff noticed a pattern that the most prevalent and serious violations occurring throughout the City involved mobile concrete pumping trucks. These violations are also the most difficult to clean up after an accident, so the City decided to become very proactive when dealing with these companies. The proper handling of concrete and appropriate BMPs became a standing item to discuss during pre-construction meetings, and City Staff routinely stops at all construction projects if a concrete truck or pumper is detected onsite, regardless if there is a violation or not. City Staff talks to the project superintendents and the concrete pump and truck operator to ensure that all necessary precautions are being taken to prevent a spill, and also to remind them that enforcement actions will be taken if a violation does occur. This proactive program was continued during this reporting period, and it has proven highly successful. The amount of concrete pumping violations continues to decrease, which can be attributed to this proactive outreach program.

7.2.2 Increased Code Enforcement Activities

As mentioned above, in an effort to reduce the number of violations that occur on the weekends, the City has a part-time Code Enforcement Officer dedicated to working alternating Saturdays and off-peak weekday hours. It has come to the City's attention that a significant amount of violations are occurring on the weekends, when people know that no City Staff is available for enforcement. This activity has been overwhelmingly successful, with the identification and elimination of many violations.

7.3 IDDE Program History and Current Prohibitions

The City implemented its first IDDE program in 1993, which included dry weather screening, annual storm water conveyance system inspections, and prompt responsiveness to complaints. Between 1993 and 2002, the City's IDDE program did not indicate any significant problems, except for occasionally high levels of bacteria at a curb inlet or manhole leading down to the Seascape Sur outfall. A complete discussion about the activities related to this IDDE problem, including its history, can be found in the JURMP Annual Report Chapter 12: "Special Investigations."

Over the years, the City has responded to complaints and results from its dry weather monitoring reports to detect IDDEs. The City's efforts have been successful, but in response to the requirements of the Permit, the City expanded its program in 2001 to comply with the old Permit (Order No. 2001-01). During this reporting period, the City continued implementing the new IDDE program required in the new Permit (Order No. 2007-0001), which is described in detail in the City's new JURMP.

Prohibitions
As noted in the City's JURMP, most non-storm water discharges are prohibited by Solana Beach Municipal Code (Storm Water Management Chapter 13.10). The City modified its Municipal Code and General Plan to ensure the City has sufficient legal authority to enforce the prohibitions of non-storm water discharges included in Order No. 2007-0001.

7.3.1 Significant Spills

The City operates a storm water hotline and email address that the community can use to report any violations or suspicious behavior they may observe. This hotline can also be used to notify

City Staff of any significant spills that have occurred. Additionally, the City's website has a link to directly e-mail the Environmental Program's Manager to report violations or spills. The residents can also directly call City Hall and talk to the appropriate Staff member to report any significant spills. These multiple communication options allow the community to get in direct contact with Staff immediately, which greatly speeds up the identification and elimination of spills.

During this reporting period, the City had *no sewer spills*, which is a dramatic reduction from the four spills reported in FY 2008/2009. This is a significant accomplishment that can be attributed to the proactive and aggressive sewer management program the City implements. The grease management ordinance, sewer assessment program and sewer maintenance program all contributed to the overall success of the City's program. These programs are described in greater detail later in this chapter.

7.3.2 HHW Program

The City manages an extensive HHW Program that is discussed in detail in the Residential Component of the 2010 JURMP Annual Report.

7.3.3 Grease Management Ordinance

In October 2004, the City Council adopted a grease management ordinance that requires new, remodeled, and even *existing* restaurants to install a properly designed grease management device (including grease interceptors, traps, etc.). Previously, the City's Building Department would require all new and significantly remodeled restaurants to install a grease management device, but it was simply a policy, not an ordinance. The City realized the need for an enforceable ordinance that would grant the City the power to inspect the devices to ensure proper installation and maintenance. These inspections are now part of the annual commercial/industrial storm water inspections and City Staff (or designated contractors) review maintenance records to ensure the proper devices are installed and properly maintained. The ordinance allowed existing restaurants eighteen (18) months to install the grease traps/interceptors and enforcement began in April 2006. As mentioned in the JURMP Annual Report, the City contracted out commercial/industrial inspection services to a private firm. This private firm inspected grease management devices and reviewed maintenance records for all restaurants/eating establishments that were inspected.

7.4 Dry Weather Monitoring Program (DWMP)

The dry weather field screening data is an important part of the City's IDDE program. The results provide information on whether pollutants are detected in the storm drain system, which can be used to identify potential illegal discharges or connections. The specific purpose of this program is to detect by system inspection and by field screening and lab water quality testing the existence of either illicit connections to the storm drainage system or the use of the storm drainage system for illegal discharges, during the dry season. The basic requirements for the program are described in the Permit and City's JURMP.

The purpose behind conducting tests of storm drains during dry periods is that illicit connections and illegal discharges are most apparent when they are not being masked by storm flows or ground water discharges. Theoretically, there should be no flow in the storm drains during dry periods, except for the limited amount of exemptions listed in the Permit Section B.2 "Non-Storm Water Discharges." Therefore, if flow is present, an investigation must be conducted to determine where the flow is coming from to determine if there is an IDDE violation.

Prior to the implementation of the original JURMP (from 1993 to 2001), the City completed eight

years of dry weather testing, primarily with the services of Kinnetic Laboratories/Cooper Engineering Associates, which collected the field samples and conducted the testing and analysis. The City's program was based on a systematic and comprehensive approach.

In 1993, the City inspected selected outfalls within the City limits and monitored selected sites along Stevens Creek. In 1994, major outlets from the City were tested, in addition to the sites monitored in 1993. The primary objectives in the 1995 through 1999 dry weather field screening programs were to target strategic locations where the potential existed for possible pollutant discharges or illicit connections, as well as carry out a comprehensive monitoring of the City.

For completeness and consistency in reporting, the City will briefly summarize the results from the DWMP over the past few years.

7.4.1 Historical Results

The 1995 dry weather field screening data characterized outfalls, identifying areas of non-storm water, non-permitted discharges as well as the identification of problem or potential problem areas. Sampling points were selected in an effort to survey in-line flow as well as inflow and outflow at the City limits. As a result of the 1995 field screening, dumping of grease into Stevens Creek was discovered at a local restaurant. The City notified the property owner, as well as the business owner, to cease such activity, which occurred.

The 1996 dry weather field screening data continued to characterize outfalls, identifying areas of non-storm water, non-permitted discharges as well as the identification of problem or potential problem areas. Results from the 1996 program indicated elevated bacteria levels at the Fletcher Cove Outfall (O-03A). Subsequently, the City constructed a low flow diverter (in 1998), which diverts the flow to the City's sanitary sewer system. The diverter pumps 40 gallons per minute, year round, 24-hours a day. Runoff is only discharged at Fletcher Cove outfall during storm runoff events that exceed 40 gallons per minute. The diverter helps eliminate the contamination at the Fletcher Cove Outfall caused by storm water runoff.

The 1997 dry weather field screening data included several sites that had been screened in previous years, two new sites and an independent study. The new sites were added upstream of two previously monitored sites in Stevens Creek to try to isolate the sources of pollutants that had been detected at those sites during screening in several past years. The independent study was conducted to isolate the source of bacteria that the San Diego County Department of Environmental Health indicated had been found at a commercial site contributing to Seascape Sur Outfall. Additional investigations were conducted in Stevens Creek and the cleaning of the commercial site was ordered. Results indicated no significant problems had occurred during this reporting period.

The 1998 dry weather field screening data included further investigation of locations with consistent evidence of possible pollutant discharges (high pH) in Stevens Creek, the continual monitoring and bacterial testing of Seascape Sur Outfall, and the continual monitoring of representative areas in the City. The samples from Stevens Creek Outfall were collected while the Del Mar Racetrack was in operation to determine if that location (and its activities) was having an effect on the elevated levels bacteria. The results indicated that the pH phenomenon in Stevens Creek was due to leachate migrating through the concrete structure. The effects of the Del Mar Racetrack were found to be inconclusive, but several outfalls were cleaned of trash and debris.

The 1999 dry weather field screening data continued to screen the same sites as in the previous

year and again included the Fletcher Cove Outfall. The 1999 DWMP was again conducted during the early part of the racing season in Del Mar to build on the data collected in the previous years. Fletcher Cove was added back to monitor the bacteria and the effectiveness of the City's structural Best Management Practice for the low flow diverter. Results from the testing did not indicate any significant problem areas and the effects of the Race Track were again inconclusive.

The 2000 dry weather field screening data continued to build on the database the City established. The report identified two locations with high levels of coliform (both flowing to the Seascape Sur Outfall). The City conducted an investigation and sealed off an old leaking sewer lateral that was found to be located near the curb inlet of the upstream site with elevated bacteria counts. The City contracted with Kinnetic Labs to provide additional testing, which showed reduced counts during the follow-up tests. The 2000 report recommended that the City clean several sites of trash and debris, which was done.

The 2001 DWMP included ten sites for testing, including the same two sites that had elevated bacteria counts in 2000, and Fletcher Cove Outfall (where the diverter is in operation). Site S-13A and S-13 were also included to detect the effects of the Del Mar Race Track during racing season. Seven of the ten sites had at least some flow or ponded water; and one site (S-02) required a follow-up investigation based on elevated levels of fecal and coliform bacteria. Although the S-02 site had elevated bacteria levels, they were lower than the previous year, which led City Staff to believe that the problem (for which repairs had been recently completed), was simply residual bacteria. As a result, the City ordered that the line between the curb-inlet and the outfall be cleaned.

The 2002 DWMP increased the number of sites from 10 to 31, with a representation of all five watershed sub-basins in the City. Sites were selected ensuring that historical problem areas, drainage to sensitive water bodies and sites with potential discharge from commercial areas were all represented. This was the first year of dry-weather monitoring under the Permit Order No. 2001-01, which included specific rules and guidelines developed by the Copermittees to ensure consistency. Some of the keys findings include the following:

- Water clarity at all but one site was clear.
- Floating trash was observed at four sites and sedimentation was observed at four sites.
- At the majority of sites, there was no biological activity noted.
- One site had excessive algae growth, while four had some vegetation and algae growth.
- All sites had pH levels below the action levels agreed upon by the Copermittees.
- Several sites had elevated levels of Ammonia, which triggered a follow-up investigation.
- Elevated levels of detergents were found at one site; as a result, staff has scheduled some time to pass out "door-hanger" flyers to educate the surrounding community as to the cause of this result (which is likely due to car washing, which is prohibited in the City).
- Levels of the all of the following were below the Copermittee action levels: oil and grease, surfactants, Diazinon, Chlorphyrifos and dissolved cadmium, copper, lead and zinc.

7.4.2 Results from the 2003-2009 DWMPs

The Dry Weather Monitoring Programs from 2003-2007 were all conducted under the requirements of Permit Order No. 2001-01, and the 2008 program was conducted under the similar requirements of Permit Order No. 2007-0001. Although the results were slightly different from year-to-year, the program results can be generally summarized into the following

information. Each year, there were approximately 28-30 sites chosen, depending on the amount of flow in each year. The sites were relatively static throughout the years, as the City has identified the key catch basins/outfalls/ manholes in each sub-basin and has monitored them every year. There is one significant problem area that has been identified and it has been the subject of an ongoing IDDE investigation for years. Chapter 12 “Special Investigations” of the JURMP Annual Report is dedicated entirely to this ongoing problem, so all the information can be found there. The City has worked tirelessly on this ongoing problem and plans to continue until a resolution is found.

7.4.3 Results from the 2010 DWMP

The 2010 Dry Weather Monitoring Program is included as an attachment to the 2010 JURMP Annual Report. All procedures and outcomes can be found in the report.

7.5 Action Levels to Trigger Follow-up Investigations

The City collaborates with the other Copermittees of Order 2007-0001 in developing the standardized responses, procedures, processes, policies and programs by participating in the Dry Weather Monitoring Workgroup. This helps by providing consistency in messages, requirements and community expectations. This includes the continuation of the “Trash Assessment Form” analysis at each site, which is a new requirement included in Permit Order No. 2007-0001. This form was utilized during the 2008, 2009 and 2010 DWMPs for all Copermittees and is included in each respective DWMP report (2010 included in Attachment V of JURMP Annual Report). These assessment forms will assist the Copermittees in long-term assessments of DWMP sites, to determine any trends in the prevalence of trash throughout the City. Based on the Trash Assessment inspections during the 2010 DWMP, trash does not appear to be a problem in the City’s MS4 system. The forms can be found as an Appendix to the DWMP Report.

7.6 Coastal Monitoring Program

The purpose of the City’s Coastal Outfall Monitoring program is to detect IDDEs through monitoring of the City’s coastal outfalls, and to protect human health and public safety by notifying the public of any potential health hazards in the ocean. Prior to 2002, the San Diego County Department of Environmental Health designed and conducted the Coastal Outfall Monitoring Program. In 2002, the City utilized its own Staff to conduct an inventory of its outfalls and design the monitoring program, which is currently being implemented.

During this reporting period, the Coastal Monitoring Workgroup, comprised of the cities that have storm drains that flow into the ocean, continued to meet on a consistent basis to discuss pertinent issues and establish monitoring guidelines and reporting limits. Here is a brief description of the City’s Coastal Monitoring Program for FY 09/10.

The Permit requires Copermittees to monitor all flowing coastal outfalls located within the City. The sampling frequency is once per month required during both the wet and dry season (two samples at each location, one at storm drain, one at receiving waters). The samples are taken to a State-certified laboratory for analysis of three parameters; Total Coliform, Fecal Coliform, and Enterococcus. Under the new Permit, the City monitors one coastal outfall (Seascape Outfall). The other coastal outfall in the City (Fletcher Cove Park) is connected to a Low Flow Diverter and sampling is not required.

The Seascape Outfall has had historical problems and is the current target of an ongoing IDDE

investigation. This is discussed in detail in Chapter 12 of the JURMP Annual Report. For complete results, please see the Coastal Outfall Monitoring Annual Report submitted annually with the County Unified URMP.

During this reporting period, the City hired a contractor to perform the required sampling and analysis. The City is co-owner of the San Elijo Wastewater Treatment Plant (SEJPA) which has an on-site laboratory and staff that conducts ocean monitoring as part of its own separate NPDES Permit. The SEJPA extended an offer of services (after a recent expansion which allowed them more personnel and resources) to conduct the City's Coastal Monitoring Program. The City analyzed the proposal and concluded that it would save both financial and staff resources to contract with the SEJPA. In addition, the SEJPA was much more convenient and closer to the City, thereby allowing for a quicker response in case of an emergency. It was a win-win situation both the City and the SEJPA, which is critical during these tough economic times.

The results of the sampling at Seascape Sur show continued elevated bacteria levels at the outfall. Although a positive trend has been identified as the bacteria levels have reduced significantly over the last few years. During this reporting period, there were two spikes in December and January (wet season) but the other months were drastically reduced. This may be the result of the upstream curb inlet BMPs in conjunction with the education and outreach efforts of the adjacent property owners. The results will be analyzed on a continuous basis to determine if the City's efforts are working to reduce the high bacteria levels coming from the Seascape Sur outfall.

7.7 Wet Weather Monitoring

The Copermittees of Order 2007-0001 collectively hired MEC Analytical again to continue the Wet Weather Monitoring Program (WWMP) for 2009/10. The complete report can be found in the County Unified URMP annual submittal.

7.8 MS4 Map

The City has a Geographic Information System (GIS) map of all catch basins located throughout the City. The City also has a Drainage Master Plan that includes all storm drain conveyance structures (catch basins, inlets, outfalls, manholes, drainage channels, etc.) available in GIS format that is accessible digitally.

7.9 Sewer Assessment Project

In the City's continued effort to prevent IDDE's, a major sewer assessment project was undertaken during this reporting period. Old, failing sewer lines can be a major source or potential contributor of sewage entering into the City's MS4 system. Either infiltration through cracks in existing pipes or line breaks from pipes past their life expectancy can create significant water quality problems for any city. The City of Solana Beach recognizes that proper maintenance of existing sewer infrastructure is essential to a successful water quality program. To this end, the City conducted a major sewer assessment project during this reporting period that will likely last into FY 2010/2011 as well.

On September 23, 2009, the City Council authorized the City Manager to enter into a professional services agreement (PSA) with RBF Consulting (RBF) to review the Closed Circuit Television (CCTV) information associated with the City's sanitary sewer pipeline system west of Interstate 5 (I-5), prepare a report related to the findings of the inspection and make specific

recommendation for each of the sewer lines identified in the report as needing immediate or urgent repair. Shortly after execution of the contract, RBF started evaluating all CCTV information.

On January 7, 2010, RBF submitted a report titled "Solana Beach Red Flag Report, Project Number 1". This report identified eight facilities needing immediate repairs. The City immediately repaired the two locations that were in the most need of repair. Construction plans were then prepared for the remaining locations and bids for the work were solicited and received.

On April 28, 2010, the City Council awarded a construction contract to Scott Michael, Inc., in the amount of $84,000 for the 2010 West Side Sewer Pipeline Repair Project, Bid No. 2010-03. The remaining six facilities were then repaired to complete phase 1 of the project.

The City has begun the second phase of the project for the east side of the City. The CCTV videoing of the sewer pipes are currently being conducted, and the City plans on completing the repairs on the east side during FY 2010/2011.

7.10 Sewer System Management Plan (SSMP)

During this reporting period, the City also completed and certified its Sewer System Management Plan (SSMP). The intent of the SSMP is to establish the minimum requirements under which a public collection system must be operated and maintained. The SSMP reflects the ongoing day-to-day activities of the City of Solana Beach for the management, operation, maintenance and funding of the City's sanitary collection system. The SSMP is important to the City's storm water program because it ensures that the sewer collection program is being properly managed and operated, thereby reducing the potential for harmful sewer spills that may contaminate the local waterways.

The SSMP was required to address sewage discharge prohibitions and provisions prescribed in the Statewide General Waste Discharge Requirements for Sanitary Sewer Systems (referred to as the "Order"). The Order prohibits any overflow, spill, release, discharge or diversion of untreated or partially treated wastewater from a sanitary sewer system. The following are some of the provisions that are included in the Order:

- The sewer agency must comply with all requirements of the Order;
- The sewer agency shall take all feasible steps to eliminate sewer spills and overflows;
- All sewer spills and overflows must be reported to the State;
- When a sewer overflow occurs, the agency shall take all feasible steps and necessary remedial actions to limit the volume of untreated or partially treated wastewater discharged and recover as much of the wastewater discharged as possible.

The goal of the SSMP is to provide a documented plan that describes all collection system activities and programs employed by the City to ensure proper management of all collection system assets. Implementing the SSMP will ensure proper management, operation, and maintenance of all parts of the sanitary sewer system. Adhering to the provisions of the SSMP will help reduce and prevent sewer overflows and provide guidance on how to mitigate any sewer overflows that do occur. Mitigation of sewer overflows would include meeting all applicable regulatory notification and reporting requirements. Commitment to continual improvement will also ensure that the SSMP is both a living and sustainable document that is continually updated, revised, and tailored towards the City's needs.

7.11 New Activities and Improvements in FY 10/11

The City will analyze its 2010 DWMP, review the results in detail and integrate the findings into program activities for implementation in FY 2010/2011. City Staff will evaluate the results to determine areas within the city (residential and commercial etc.,) that may need additional education or BMPs to improve the water quality in the region. The City will use the results from previous DWMPs to design the 2011 DWMP and attempt to conclude the special investigation (see Chapter 12). The ongoing problem at Seascape Sur, which was detected again in this reporting period's Coastal Monitoring and Dry-Weather Monitoring Programs, is discussed in greater detail in Chapter 12 (Special Investigations) of the JURMP Annual Report.

As reported in the JURMP Annual Report, the City was successful in securing a grant for the possible installation of a low-flow diverter at Seascape Sur through the IRWM Prop 84 grant cycle. The City was a co-partner in a joint application that was placed in the Tier 1 (highest priority) funding category. Depending on when the State issues the funding for the grants, the City hopes to install a permanent treatment control BMP to eliminate the bacteria problems at Seascape Sur. This will hopefully end the ongoing IDDE at Seascape and close the book on the Special Investigation. This will be reported on in more detail in next year's JURMP Annual Report.

City Staff continued enforcing the stringent Grease Management Ordinance, including inspecting the grease management devices during the commercial/industrial restaurant inspections. Staff, or its designated consultant, will continue to inspect the grease traps/interceptors during future annual storm water inspections to ensure that proper maintenance is being conducted and records kept on-site. Analysis on the effects on sewer spills will also being conducted in the next few years to see if the ordinance has had a successful impact on reducing spills as a result of grease build-up. For FY 2009/2010, *the City had no sewer spills*, which is a great testament to the success of the City's sewer management program.

Additionally, it is anticipated that the WURMP workgroups will begin analyzing the Dry Weather Programs of partnering jurisdictions and begin tailoring some of the watershed activities to address high priority pollutants, and the activities/sources associated with them. In the years past, jurisdictions would self analyze their respective programs to address high priority locations and sources, but with the added emphasis on WURMP activities stressed by the RWQCB staff, these issues will now be addressed on a watershed basis. This has the potential to provide more knowledge and resources that were previously limited by staff resources, but now with the assistance of neighboring jurisdictions, this may prove very valuable. The DWMPs can be used to identify problem areas that may have a particular cluster of sources upstream, and will help focus the WURMP activities on these areas in mini-pilot programs to determine if the source can be identified or, maybe as important, eliminated as a possible source so that resources can be focused on other potential sources.

7.12 Summary

As evidenced by the regional Copermittee WWMP, the City's DWMP, the City's Coastal Monitoring Program, the City's "team approach" in responding to complaints, and the improvements made citywide in procedures and investigative processes, the City is efficient and effective at detecting and eliminating IDDEs, and working to change the human behavior that has caused negative impacts on water quality.

Recognizing that human behavior is the basis of many non-point source pollution problems, the

City quickly acts on reports from residents, City Staff, and other agencies to follow up on problems as soon as they are reported. The City's storm water hotline is linked directly to the Environmental Program Manager's voice mail box so that calls can be consistently monitored and acted upon. The City has effectively utilized the administrative fine process which has proven to be a very efficient and timely procedure in issuing citations, which will reduce the potential for pollution into the City's MS4.

The City's aggressive sewer maintenance program and grease management ordinance has proved to be successful in preventing sewer spills. These programs are vital to prevent the catastrophic environmental effects that sewer spills have on the natural environment. As mentioned above, *the City had no sewer spills in FY 2009/2010*, which is a remarkable testament to the proactive and aggressive sewer management program implemented by the City. In addition, the proactive approach that City Staff takes in educating contractors before there is an illegal discharge has greatly reduced the amount of violations in the City. This is extremely evident by the concrete truck and pumper scenario discussed above. The violations at minor construction projects have reduced as a result of this proactive approach.

In addition, as a result of the effects of the long-term drought the region is currently experiencing, water conservation efforts have been stepped up, which has proven to also help water quality in the City. The City has increased its educational outreach efforts with the assistance of the local water provider Santa Fe Irrigation District, and the community has responded extremely well. This has helped to reduce the dry weather flows into the City's MS4 system, thereby reducing the primary transport mechanism for pollutants entering the local waterways. Over-irrigation has reduced dramatically, and the City and residents have responded by planting more drought tolerant and native vegetation. Overall, water consumption is down close to 20% since the proactive and aggressive educational water conservation campaign has started. The City has forged a great relationship with the private water agency and the results have benefitted both water conservation and water quality. This is evident in the fact that only four DWMP sites (out of 29 total sites) had enough water present to take a sample.

CHAPTER 11: EFFECTIVENESS ASSESSMENT COMPONENT

This to be added to existing Chapter 11 component of 2010 JURMP Annual Report…….

Illicit Discharge Detection and Elimination Component

Program Strengths: The City continued to implement its IDDE program by responding to complaints and investigating potential violations promptly and thoroughly. The City serves the community effectively and efficiently by connecting the storm water hotline directly to the Environmental Programs Manager, saving valuable time and effort. The program has proven to be very successful as the community of Solana Beach is very intimate and prefers to do business face-to-face and demands immediate results. The City has a very customer service focused atmosphere, and the residents demand instant and effective action on relevant issues. This has, in turn, been very beneficial to the storm water program because many times, in order to effectively deal with a violation or IDDE, it has to be investigated immediately. This has led to many violations and violators being discovered while it is occurring, rather than letting time elapse which can lead to a lengthy and complex IDDE investigation that may yield no results.

The 2010 Dry Weather Monitoring Program (DWMP) was conducted by a specialized consultant. The City decided to contract out the services to a consultant with DWM expertise, with the assistance of City Staff. The City, along with most other agencies, has experienced a reduction in City Staff due to the economic downturn. This has stretched in-house resources extremely thin, so the City has relied more heavily on contracted services during this reporting period. The City is fortunate to have a voter-approved NPDES fee which funds a portion of the storm water program. With this dedicated funding source, the City can take advantage of specialized contractors to perform specific duties, such as commercial/industrial inspections, Coastal Monitoring Program and now the Dry Weather Monitoring Program. Although the City has experienced and qualified Staff in-house, they are constantly being pulled in different directions with the budget cuts. Therefore, the City has been able to supplement its current Staff resources with outside consultants, which has made the storm water program even stronger,

The 2010 DWMP was modeled after the initial report conducted by MEC Analytical, and the complete report is included in the 2010 JURMP Annual Report. In summary, *there was one location that showed evidence of an IDDE*. This one location is Seascape Sur, where there is an investigation that has been ongoing for many years. The Seascape Outfall has had a historic problem and the City has tried multiple solutions to locate and eliminate the source. The one positive aspect is that the outfall discharge has not affected the water quality in the ocean. There has been no indication through sampling that the ocean is being affected by the high bacteria counts coming from the outfall. The complete description of this outfall and the investigation the City has conducted can be found in Chapter 12 of the JURMP Annual Report.

The City will continue to monitor the bacteria results throughout the year as part of its Coastal Monitoring Program. In addition, the City continues to dedicate approximately $10,000 in the annual CIP budget to clean out the Seascape pipe with the intention of eliminating any residual bacteria and debris trapped in the sag in the pipe. The City will continue to work with the adjacent condominium complexes to eliminate the over-watering issues that may be contributing to the problem. City Staff works very well in communicating possible IDDE situations around the outfall, as the Marine Safety Department has a lifeguard station located directly in front of the outfall (during summer months). Whenever there is a noticeable increase in flow or odor, the lifeguards are instructed to contact the Environmental Programs Manager to investigate. This will continue to occur until a remedy is found for the problem outfall.

In addition, as reported in Chapter 7 of the JURMP Annual Report, the City was successful in getting placed in the Tier 1 (highest priority) funding level for the Prop 84 grant cycle. The City was a co-partner in a large grant proposal that included funding for a permanent treatment control BMP (low-flow diverter) at Seascape Sur. If the City continues to have high bacteria levels at the Seascape Sur outfall, a permanent BMP solution may be the only option. The City is optimistic that their grant proposal will be funded which will allow for the installation of the treatment control BMP. Hopefully, this will solve the ongoing IDDE investigation and bring this long pursuit to a close.

It should be worth noting that in addition to the DWMP results, the Coastal Monitoring Program sampling results post-reporting period for Seascape Sur have continued to improve. This may be the result of the aggressive educational outreach, the installation of the curb screen debris BMPs or a combination of both, but the results have been much lower than in previous years. Although this outfall has been prone to occasional and unpredictable spikes (two spikes in December and January of this reporting period), the overall trend of the results has been positive. On average, the bacterial results have been much lower the last two years in relation to the years before them.

A major strength of the City's IDDE program is the aggressive sewer maintenance program. The City contracts with a private contractor to clean and video every sewer line in the City at least once annually and the "hot spots" are cleaned quarterly. This helps prevent the buildup of roots and grease in the system, preventing possible blockages and spills. In addition, the City completed a "Sewer Assessment Project" for the west side of the City, which included CCTV video inspection of the sewer infrastructure on the entire west side (west of I-5) of the City. A report was then produced listing the highest priority repairs, and the City completed the work. The City plans to complete the east side of the City in FY 2010/2011. This program has been extremely successful as evident by the fact that there *were no sewer spills in the City during this reporting period* (down from four sewer spills during FY 2008/2009). This is a remarkable achievement and testament to the proactive and aggressive sewer management program implemented by the City. More information on this can be found in Chapter 7 (IDDE) of this Annual Report.

Another strength is the aggressive Grease Management Ordinance that requires not only new and remodeled restaurants and eating establishments to install appropriate grease interceptors or traps, but also requires existing restaurants to install devices as well. This aggressive approach was adopted to address a specific problem area in the City, and the results have been overwhelmingly positive. The amount of grease buildup in the sewer lines of the "hot spot" has been drastically reduced, and there has not been a spill in the targeted area since the adoption of the ordinance.

One final strength of the IDDE program worth mentioning is the City's dedicated part-time Code Enforcement Officer for the storm water program. As mentioned in last year's Annual Report, the City hired a part-time officer to focus on storm water issues, especially on the weekends and off-peak hours. This officer was so successful that the City continued to fund the position in FY 2009/2010. This part-time Staff member made it a priority to engage the public whenever they notice a potential violation occurring or about to occur. The City believes being proactive is an important part of storm water pollution prevention, and made this a priority by continuing to fund the part-time code enforcement officer.

Improvement Areas: During the next reporting period, the City is committed to eliminating the historical bacteria problem at the Seascape outfall. More aggressive actions may have to be taken to determine the ultimate source of the problem, including the installation of a permanent

treatment control BMP. The IDDE investigations discussed in previous annual reports have turned out to be inconclusive; so the City may have to look at alternate solutions such as a low flow diverter or the possibility of blocking off the underground connections to the storm drain and rerouting the site drainage of the neighboring condominiums to the street before entering the catch basin. These solutions would be very expensive, and since the receiving water has not been affected yet, the City will continue to pursue the elimination of the bacteria at its source. However, if the City does receive the Prop 84 IRWM grant funding, work will begin on designing and installing the low flow diverter immediately. As mentioned above, the results of the 2010 DWMP and Coastal Monitoring Program post-reporting period have shown a continued improvement in the water quality at Seascape, but more work still needs to be done. Additionally, the City will continue to gather and analyze additional data from the wet weather and dry weather programs and compare the datasets to determine other potential IDDE problems.

Appendix V: 2010 Dry Weather Monitoring Program Results

THE ATTACHED DOCUMENT IS A COPY OF THE

PROGRAM DESCRIPTION,
NARRATIVE SUMMARY
AND
RESULTS SECTIONS
OF THE

City of Solana Beach
2010 Dry Weather Field Screening Program

Prepared by the City of Solana Beach

TABLE OF CONTENTS

1.0 EXECUTIVE SUMMARY 1

2.0 INTRODUCTION 1

2.1 Land Use Characteristics 3

3.0 METHODS 4

4.0 RESULTS 8

4.1 Visual Observations 14

4.2 Field Chemical Analyses 15

4.3 Laboratory Chemical Analyses 17

4.4 Trash Assessment Monitoring 21

5.0 DISCUSSION 21

6.0 CONCLUSIONS 23

List of Tables

Table 1: Potential Inappropriate Entries Into Storm Drainage Systems 2
Table 2: Range and Detection Limits for Field Test Kits and Meters 7
Table 3: DWMP Site Characteristics 8
Table 4: DWMP Field Screening Visual Observations 10
Table 5: DWMP Analytical Laboratory Results 12
Table 6: DWMP Field Screening Results 13

List of Figures

Figure 1: Land use in the City of Solana Beach 4

List of Appendices

Appendix A: 2010 Dry Weather Monitoring Data Sheets and Trash Assessments
Appendix B: 2010 Dry Weather Monitoring Analytical Laboratory Results
Appendix C: 2010 Dry Weather Monitoring Analytical Chain of Custody Forms
Appendix D: 2010 Dry Weather Monitoring Program Photos

1.0 EXECUTIVE SUMMARY

The Dry Weather Field Monitoring Program (DWMP) is an integral part of the National Pollutant Discharge Elimination System (NPDES) Storm Water Permit issued to the City of Solana Beach (City) and other Copermittees by the San Diego Regional Water Quality Control Board (RWQCB).

The City of Solana Beach has implemented a comprehensive Storm Water Pollution Prevention Program (SWPPP). In 2010, twenty-nine sites were inspected with **only one storm water conveyance** line showing evidence of an illicit discharge or illegal connection. This line has a history of high bacteria counts, and the ongoing investigation attempting to locate the source of the bacteria is well documented and will continue until it is found and abated.

In September 2010, City of Solana Beach conducted inspections at twenty-nine sites under the 2010 Dry Weather Monitoring Program and the regulations set forth in the NPDES Storm Water Permit Order No. 2007-0001. Each site was visually and chemically inspected for illegal discharges and/or illicit connections. The results were recorded on field data sheets and are included in the Appendix A of this Dry Weather Monitoring Program report.

2.0 INTRODUCTION

The Illicit Connection/Illegal Discharge Dry Weather Monitoring Program is one of the required tasks of the Storm Water NPDES Permit issued by the San Diego Regional Water Quality Control Board, under Order No. 2007-0001. This is the third year under this new Permit, which replaced NPDES Order No. 2001-01, that the San Diego Copermittees have conducted this particular dry weather monitoring program. The permit requires the City of Solana Beach, and all Copermittees, to develop and implement programs to prevent, reduce, and eliminate inappropriate discharges of pollutants from storm water conveyances into the waters of the United States.

The purpose of the Dry Weather Monitoring Program is to detect illicit connections and/or illegal discharges to the storm water conveyance system. In order to accomplish this goal, strategic sites were identified to test for chronic and/or improper discharges. Chemical parameters specified by the U.S. Environmental Protection Agency (EPA) for field screening were used as indicators of potential pollution from industrial, commercial, or domestic sources. The EPA has presented the following most common non-storm water sources and has placed them into three contamination categories: pathogenic/toxic, nuisance, and clear. The pathogenic/toxic category can cause illness upon contact or consumption. The nuisance category can cause degradation of water quality and impair aquatic ecosystems. Clear water usually comes from natural sources such as springs and ground water infiltration. Table 1 displays the potential for these sources to enter the storm drainage system (EPA 1993).

Table 1: Potential Inappropriate Entries Into Storm Drainage Systems (EPA 1993)

Potential Source:	Storm Drain Entry		Flow Characteristics		Contamination Category		
	Direct	Indirect	Continuous	Intermittent	Pathogenic/ Toxic	Nuisance	Clear
Residential Areas:							
Sanitary wastewater	●	❍	●	❍	●	❍	
Septic tank effluent		●	●	❍	●	❍	
Household chemicals	❍	●		●	●		
Laundry wastewater	●			●		●	
Excess landscaping watering		●		●	❍	❍	●
Leaking potable water		●	●				●
Commercial Areas:							
Gasoline filling station	●	❍		●	●		
Vehicle maintenance/ repair	●	❍		●	●		
Laundry wastewater	●		●	❍	❍	●	
Construction site de-watering		●	●	❍		●	
Sanitary wastewater	●	❍	●		●		
Industrial Areas:							
Leaking tanks and pipes	❍	●	●	❍	●		
Miscellaneous process waters	●	❍	●	❍	●	❍	❍

Note: ● - most likely condition
❍ - may occur
Blank - not very likely

Discharges to the storm water conveyance system can originate form a variety of sources. The following provides a brief discussion of potential sources:

- Sanitary wastewater sources:
  - Sanitary wastewater (usually untreated) from improper sewer connections, exfiltration, or leakage
  - Effluent from improperly operating, or improperly designed, nearby septic tanks

- Automobile maintenance and operation sources:
  - Car wash wastewater
  - Radiator flushing wastewater
  - Engine degreasing wastes
  - Improper oil disposal
  - Leaky underground storage tanks

- Irrigation sources:
  - Lawn runoff from over-watering
  - Direct spraying of impervious surfaces

- Relatively clean sources:
  - Infiltrating groundwater
  - Water routed from pre-existing springs or streams
  - Infiltrating potable water from leaking water mains

- Other Sources:
  - Laundry wastewater
  - Non-contact cooling waters
  - Metal plating baths
  - Dewatering of construction sites
  - Washing of concrete trucks
  - Sump pump discharges
  - Improper disposal of household toxic substances
  - Spills from roadway and other accidents
  - Chemical, hazardous materials, garbage, sanitary sludge landfills and disposal sites

2.1 Land Use Characteristics

The City of Solana Beach consists of a total drainage area of 2,158 acres. The land use characteristics are estimated as follows (SANDAG 2000):

Agriculture	4 acres
Commercial and Office	192 acres
Industrial	35 acres
Parks and Recreation	246 acres
Public Facilities and Utilities	110 acres
Residential	1436 acres
Transportation	98 acres
Undeveloped	37 acres
Water	1 acre

Figure 1 presents a visual exhibit of the land use characteristics for the City of Solana Beach.

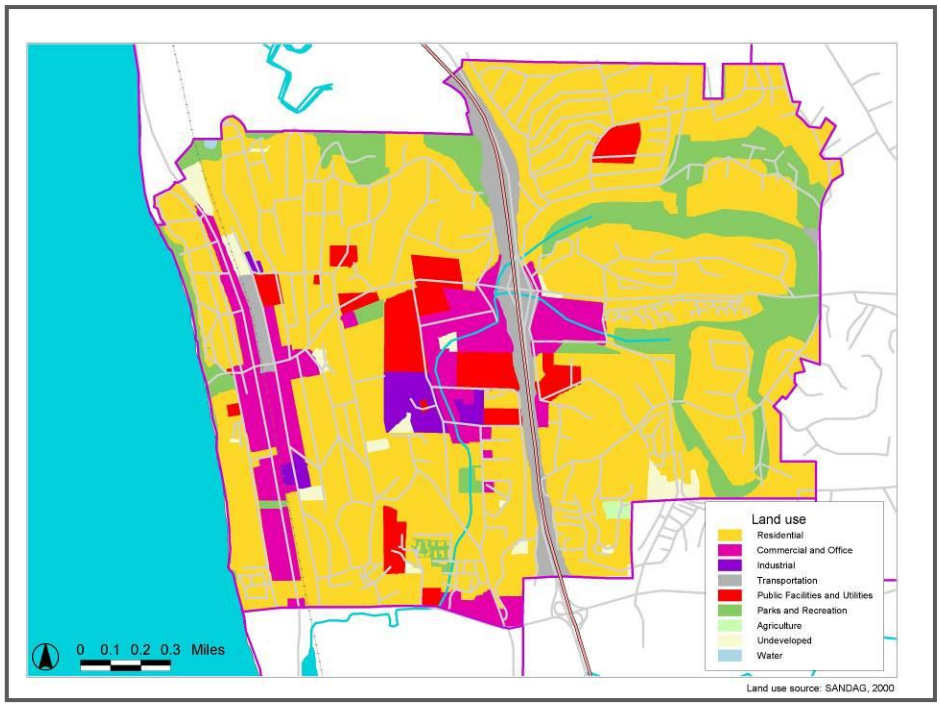


Figure 1. Land use in the City of Solana Beach.

3.0 METHODS

This year marked the third year of dry weather monitoring conducted under the new municipal storm water discharge permit. Under the "Receiving Waters and Urban Runoff Monitoring and Reporting Program No. R9-2007-0001" Section II. B. 3, specific requirements for field observations, field screening monitoring and analytical monitoring are listed. Further, the Copermittee Monitoring Workgroup has developed protocols for the jurisdictions to use to ensure consistency among the Copermittees.

First, the City selected dry weather field screening and analytical monitoring stations based on the criteria listed in the Order. In determining which storm drains and/or outfalls to monitor, a map was analyzed and sites were prioritized and selected based on the following:

- Review of the City's past Dry Weather Monitoring Programs
- Stations should be located downstream of any sources of suspected illegal or illicit activity
- Stations shall be located to the degree practicable at the farthest manhole or other accessible location downstream in the system within each cell

- Hydrological conditions, total drainage area of the site, traffic density, age of the structures or buildings in the area, history of the area, and land use types shall be considered in location stations
- Each Copermittee shall determine alternate stations to be sampled in place of selected stations that do not have flow

The City of Solana Beach is relatively small with highly defined geographic boundaries. The City is bordered to the north by the San Elijo Lagoon, the west by the Pacific Ocean, the south by the San Dieguito Lagoon and the east by the County of San Diego. All major outfalls on each border were selected for this program, along with the furthest accessible downstream storm drain structure for each sub-basin. These sites were selected with the thought that if any water were present in the structures furthest downstream, then upstream investigations would take place to determine the source of the water during dry periods. Therefore, no "alternate" stations were identified because staff would investigate all catch basins upstream from flowing or ponded outfalls/catch basins to attempt to find the source. Based on the above criteria, the following sites were selected for the City of Solana Beach.

Four monitoring locations were selected within the coastal basin based on historical problem areas and proximity to the Pacific Ocean (Sites 11, 24, 25 and 26). Three monitoring locations were selected within the Fletcher Cove Basin based on their drainage to sensitive water bodies (Sites 20, 21, and 23). Eleven sites were selected within the San Elijo Basin. These sites were chosen based on their proximity to the environmentally sensitive San Elijo Lagoon, at the furthest possible point downstream before it enters the lagoon (Sites 1-10 and 22). Seven sites were chosen for the largest basin in the City, the Steven's Creek Basin (Sites 12-17, 19, and 29). The majority of this basin drains into Stevens Creek. Monitoring locations were selected at specific points throughout the basin based on the combination of criteria discussed in the previous paragraph. These sites were chosen to capture data from all the different land uses in the basin. These include industrial, residential, commercial and parks. The last basin, the Via de la Valle East Basin, is located in the southeast portion of the City. Three monitoring locations were selected there to monitor what was leaving the City and entering the City of San Diego (Sites 18, 27, and 28).

An initial list of potential monitoring locations was developed. Twenty-eight sites met the criteria and were initially selected for the Dry Weather Monitoring program. An additional site was added to the list during the 2010 monitoring effort within the Steven's Creek Basin (Site 29), bringing the total number of sites up to twenty- nine. All twenty-nine sites were identified as primary sites for monitoring based on the factors listed previously within this report.

In accordance with Order No. 2007-0001, City staff made an initial visit to each site to determine if there was flow present, ponded water, or if the storm drain structure was dry**.** Field data sheets were used to record site descriptions and characteristics, flow estimations, visual observations, and field chemistry results (see Tables 3 through 6 for a

summary of field observations; individual data sheets are included in Appendix A). A new requirement included in Order No. 2007-0001 was the development of a Trash Assessment program. This program will be used to assess the presence of trash in receiving waters and urban runoff at each dry weather field screening or analytical monitoring station. Assessments of trash shall provide information on the spatial extent and amount of trash present, as well as the nature of the types of trash present. The Copermittees met and developed the "Trash Assessment Form" which is included with each Dry Weather Monitoring Field Datasheet for each station. This is the third year collecting visual data on trash at each site, with the intent being to characterize the amount of trash collected by the MS4 and to assess the long term progress of reducing or eliminating this pollutant if present.

If flowing or ponded water was observed during the initial visit, water quality tests were conducted. Sites that had elevated chemistry levels or abnormal visual observations were investigated immediately and the site was revisited within a period of not less than four hours and not more than twenty-four hours. Observations and chemical testing were repeated during the second visit if the field analytical screening results were above the published action levels. If the site was dry on the initial visit, a follow-up visit was not conducted.

Sites 12, 14, 21 and 25 had either ponded or flowing water present with a collectible sample. Field screening tests and lab analysis were performed on all four stations. The Order only requires that jurisdictions take ¼ (25%) of samples that were field screened to lab for analysis, but the City decided that since there were so few catch basins/outlets that had enough water to sample, it would be prudent to take them all to the lab for analysis. Sites that had lab analysis results above the Dry Weather Monitoring Program action levels were investigated within 24 hours of the receipt of the laboratory findings. Visual observations and additional laboratory samples were collected during the follow-up investigations to be analyzed for constituents above the action levels during the initial site visit.

Samples were collected by inserting a pre-cleaned HDPE bottle into the middle of the flowing or ponded water. Samples were tested on-site using CHEMetrics field test kits for the colorimetric analysis of ammonia, nitrate-N, orthophosphate-P, and detergents (MBAS). In addition to the colorimetric analyses, the samples were also analyzed for pH, conductivity, and temperature using an YSI Model 63 pH/Conductivity/ Temperature Meter. Turbidity was measured using a Hach 2100P Turbidimeter.

Table 2 presents the specific ranges and detection limits of the field test kits and meters.

Table 2: Range and Detection Limits for Field Test Kits and Meters

Parameter	Kit or Meter	Range	Detection Limits (mg/L)	Accuracy/ Increment
pH	YSI Model 63 pH/ Conductivity/ Temperature Meter	0.00 to 14.00 pH	NA	± 0.01 pH
Temperature (^{o}C)	YSI Model 63 pH/ Conductivity/ Temperature Meter	-5 to +75 ^{o}C	NA	± 0.1 ^{o}C
Conductivity (mS/cm @ 25 ^{o}C)	YSI Model 63 pH/ Conductivity/ Temperature Meter	0.0 to 49.99 mS/cm	NA	± 1% Full Scale ± 1 Digit
Turbidity	Hach Model 2100P Turbidimeter	0 to 1000 NTU	NA	± 2% of reading plus stray light from 0-1000 NTU
Ammonia (mg/L)	CHEMetrics K-1510	0 – 1.0 and 1.0 – 10.0 mg/L	0.1	NA
Nitrates (mg/L)	CHEMetrics K-6904	0 – 1.0 and 1.0 – 5.0 mg/L	0.05	NA
Detergents (mg/L)	CHEMetrics K-9400	0 – 3.0 mg/L	0.25	NA
Phosphate (mg/L)	CHEMetrics K-8510	0 – 1.0 and 1.0 – 10.0 mg/L	0.1	NA

4.0 RESULTS

The following tables present a detailed summary of all chemical, biological, and visual observations made during the 2010 Dry Weather Screening Program. The following provides a brief discussion about the purpose and results of visual observations and chemical and biological tests.

Table 3: DWMP Site Characteristics

SITE CHARACTERISTICS							
Site ID	**Watershed**	**Location Description**	**Drainage Area Land-Use (1)**	**Conveyance Type (2)**	**Conveyance Construction (3)**	**Date**	**Time**
1	Carlsbad	Rios Road Trailhead	Residential	Catch Basin	Concrete	9/13/2010	9:50 AM
2	Carlsbad	Glenmont/Rawl	Residential	Catch Basin	Concrete	9/13/2010	10:20 AM
3	Carlsbad	Santa Inez Outfall	Residential	Outlet	Concrete/Steel	9/13/2010	2:50 PM
4	Carlsbad	626 Canyon Dr	Residential	Catch Basin	Concrete	9/13/2010	10:25 AM
5	Carlsbad	635 Canyon Dr	Residential	Catch Basin	Concrete	9/13/2010	10:30 AM
6	Carlsbad	Highland Ave (Executive Golf Course)	Residential/Parks	Catch Basin	Concrete	9/13/2010	2:05 PM
7	Carlsbad	Santa Helena Trailhead	Residential	Catch Basin	Concrete	9/13/2010	2:30 PM
8	Carlsbad	Santa Carina Trailhead	Residential	Catch Basin	Concrete	9/13/2010	2:35 PM
9	Carlsbad	Santa Luisa Outfall	Residential	Catch Basin	Concrete	9/13/2010	2:20 PM
10	Carlsbad	East Side Railroad Tracks	Residential/Commercial	Channel	Concrete	9/13/2010	10:00 AM
11	Carlsbad	645 Pacific	Residential	Catch Basin	Concrete	9/13/2010	8:55 AM
12	San Dieguito	Steven's Creek Outfall	Residential/Commercial/ Industrial/Parks	Open Channel/Box Culvert	Concrete Channel/Natural Creek	9/13/2010	11:50 AM
13	San Dieguito	Valley (N. Baker Iron Works)	Residential/Industrial/ Commercial	Catch Basin	Concrete	9/13/2010	11:25 AM
14	San Dieguito	Genevieve Ave/Steven's Creek	Residential/Commercial	Outfall	Concrete Channel	9/13/2010	11:10 AM
15	San Dieguito	309 Solana Hills Drive	Residential	Catch Basin	Concrete	9/13/2010	10:55 AM
16	San Dieguito	559 Glencrest Ave	Residential	Catch Basin	Concrete	9/13/2010	10:35 AM
17	San Dieguito	Wells Fargo	Residential/Commercial	Catch Basin	Concrete	9/13/2010	3:00 PM
18	San Dieguito	Avocado Place	Residential	Catch Basin	Concrete	9/13/2010	1:55 PM
19	San Dieguito	Dell Street	Residential/Parks	Catch Basin	Concrete	9/13/2010	10:45 AM

SITE CHARACTERISTICS							
Site ID	**Watershed**	**Location Description**	**Drainage Area Land-Use (1)**	**Conveyance Type (2)**	**Conveyance Construction (3)**	**Date**	**Time**
20	San Dieguito	South Cedros/Via De La Valle	Residential/Commercial	Catch Basin	Concrete	9/13/2010	7:55 AM
21	San Dieguito	605 Marsolan Ave	Residential/Commercial	Catch Basin	Concrete	9/13/2010	8:00 AM
22	San Dieguito	779 Barbara Ave	Residential	Catch Basin	Concrete	9/13/2010	10:15 AM
23	San Dieguito	North Cedros/Lomas Santa Fe	Residential/Commercial	Catch Basin	Concrete	9/13/2010	8:30 AM
24	San Dieguito	347 Acacia St	Residential	Catch Basin	Concrete	9/13/2010	8:45 AM
25	San Dieguito	Seascape (Outfall)	Residential/Commercial	Outfall	Steel	9/13/2010	9:15 AM
26	San Dieguito	248 Sierra Ave	Residential	Catch Basin	Concrete	9/13/2010	8:40 AM
27	San Dieguito	San Andreas (City Limits)	Residential	Catch Basin	Concrete	9/13/2010	1:45 PM
28	San Dieguito	Spindrift Way/American Lane	Residential	Catch Basin	Concrete	9/13/2010	1:35 PM
29	San Dieguito	Valley Ave/Via De La Valle	Residential/Commercial	Catch Basin	Concrete	9/13/2010	11:35 AM

Table 4: DWMP Field Screening Visual Observations

QUALITATIVE OBSERVATIONS										
Site ID	**Estimated Flow (gpm)**	**Weather**	**Odor**	**Color**	**Clarity**	**Floatables**	**Deposits**	**Vegetation**	**Biology**	**Other**
1	Damp	Partly Cloudy	Damp/No Flow	Damp/No Flow	Damp/No Flow	Damp/No Flow	Damp/No Flow	Damp/No Flow	Damp/No Flow	Catch basin damp. Sample not collectible.
2	Dry	Sunny	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Catch basin dry; no flow observed.
3	Damp	Sunny	Damp/No Flow	Damp/No Flow	Damp/No Flow	Damp/No Flow	Damp/No Flow	Damp/No Flow	Damp/No Flow	Damp, no flow observed.
4	Dry	Sunny	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Catch basin dry; no flow observed.
5	Dry	Sunny	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Catch basin dry; no flow observed.
6	Dry	Sunny	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Catch basin dry; no flow observed.
7	Damp	Sunny	Damp/No Flow	Damp/No Flow	Damp/No Flow	Damp/No Flow	Damp/No Flow	Damp/No Flow	Damp/No Flow	Catch basin damp; no flow observed.
8	Dry	Sunny	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Catch basin dry; no flow observed.
9	Dry	Sunny	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Catch basin dry; no flow observed.
10	Dry	Sunny	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Concrete channel dry; no flow observed.
11	Dry	Overcast	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Catch basin dry; no flow observed.
12	Ponded	Sunny	None	None	Clear	None	Sediment/Gravel	Normal	Insects, Fish	Water ponded at Outfall; no flow observed.
13	Dry	Sunny	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Catch basin dry; no flow observed.
14	Ponded	Sunny	None	Yellow	Clear	Leaves	Fine Particulates	Normal	Fish	No flow coming from Outfall; water ponded in Stevens Creek concrete channel.
15	Damp	Sunny	Damp/No Flow	Damp/No Flow	Damp/No Flow	Damp/No Flow	Damp/No Flow	Damp/No Flow	Damp/No Flow	Catch basin damp; no flow observed.
16	Dry	Sunny	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry, no flow observed.
17	Dry	Sunny	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Catch basin dry; no flow observed.
18	Dry	Sunny	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Catch basin dry; no flow observed.
19	Flowing (<0.1 gpm)	Sunny	None	None	Clear	None	Sediment/Gravel	None	None	Hairline trickle in catch basin, sample not collectible.

QUALITATIVE OBSERVATIONS										
Site ID	**Estimated Flow (gpm)**	**Weather**	**Odor**	**Color**	**Clarity**	**Floatables**	**Deposits**	**Vegetation**	**Biology**	**Other**
20	Dry	Overcast	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Catch basin dry; no flow observed.
21	Ponded	Overcast	Rotten Eggs	None	Slightly Cloudy	Leaves	Fine Particulates	None	None	Ponded water in catch basin. Evidence of residential over-irrigation.
22	Damp	Sunny	Damp/No Flow	Damp/No Flow	Damp/No Flow	Damp/No Flow	Damp/No Flow	Damp/No Flow	Damp/No Flow	Catch basin damp; no flow observed.
23	Dry	Overcast	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Catch basin dry; no flow observed.
24	Dry	Overcast	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Catch basin dry; no flow observed.
25	Flowing (1.5 gpm)	Overcast	Musty	None	Slightly Cloudy	Bubbles/Foam	None	None	None	Flow estimated at 1.5 gpm. No evidence of overland flow. Does not reach receiving water.
26	Damp	Overcast	Damp/No Flow	Damp/No Flow	Damp/No Flow	Damp/No Flow	Damp/No Flow	Damp/No Flow	Damp/No Flow	Catch basin damp; no flow observed.
27	Dry	Sunny	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Catch basin dry; no flow observed.
28	Dry	Sunny	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Dry/No Flow	Catch basin dry; no flow observed.
29	Damp	Sunny	Damp/No Flow	Damp/No Flow	Damp/No Flow	Damp/No Flow	Damp/No Flow	Damp/No Flow	Damp/No Flow	Catch basin damp; no flow observed.

Table 5: DWMP Analytical Laboratory Results

LAB ANALYSIS																
Site ID	**Oil and Grease**		**Total Hardness mg/L**		**Cadmium (Cd) (dissolved)**		**Copper (Cu) (dissolved)**		**Lead (Pb) (dissolved)**		**Zinc (Zn) (dissolved)**		**Diazinon**		**Chlorpyrifos**	
	mg/L	*DL*	*CaCO3*	*DL*	*mg/L*	*DL*	*mg/L*	*DL*	*mg/L*	*DL*	*mg/L*	*DL*	*µg/L*	*DL*	*µg/L*	*DL*
12	ND	4.8	580	10	ND	0.005	ND	0.01	ND	0.005	ND	0.02	ND	0.05	ND	0.05
14	ND	4.8	670	10	ND	0.005	ND	0.01	ND	0.005	ND	0.02	ND	0.05	ND	0.05
21	6.5	4.8	460	10	ND	0.005	ND	0.01	ND	0.005	0.027	0.02	ND	0.05	ND	0.05
25	ND	4.8	620	10	ND	0.005	0.01	0.01	ND	0.005	0.044	0.02	ND	0.05	ND	0.05

BACTERIAL ANALYSIS						
Site ID	**Total Coliform**		**Fecal Coliform**		**Enterococcus**	
	MPN/100mL	*DL*	*MPN/100mL*	*DL*	*MPN/100mL*	*DL*
12	130,000	200	17,000	200	17,000	20
14	3,000	200	400	200	<20	20
21	30,000	200	1,700	200	2,200	20
25	>1,600,000	200	>1,600,000	200	90,000	20

BACTERIAL ANALYSIS (FOLLOW-UP)						
Site ID	**Total Coliform**		**Fecal Coliform**		**Enterococcus**	
	MPN/100mL	*DL*	*MPN/100mL*	*DL*	*MPN/100mL*	*DL*
12	240,000	200	50,000	200	7,000	20
25	500,000	200	500,000	200	800	20

Table 6: DWMP Field Screening Results

FIELD SCREENING								
Site ID	Temperature ºC	pH	Turbidity NTU	Conductivity uS/cm	Nitrate mg/L NO_3-N	Ammonia mg/L NH_3-N	Reactive Phosphorus PO_4-P mg/L	Surfactants (MBAS) mg/L
1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
3	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
4	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
5	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
6	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
7	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
8	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
9	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
10	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
11	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
12	17.1	7.93	9.56	4.39	1.5	0.6	1.5	0.25
13	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
14	18.4	7.78	6.25	5.26	<0.25	0.2	0.1	0.50
15	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
16	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
17	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
18	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
19	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
21	18.0	7.87	16.9	2.91	<0.25	0.6	0.8	0.25
22	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
23	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
24	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
25	17.6	8.07	52.2	3.11	<0.25	0.6	1.8	0.50
26	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
27	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
28	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
29	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

4.1 Visual Observations

Visual observations included water color, clarity, and flow rate, floating materials, biological observations, structural condition of the conveyance, and vegetative condition at the site. If any particular odors were associated with the site, those observations were also recorded.

- **Flow:** Flowing water was observed at Site 19 and Site 25, although flow at Site 19 was only a hairline trickle and a sample was not collectible. At Site 25 water was flowing from the Outfall at approximately 1.5 gpm, but flow did not reach the receiving water.

  Ponded water was observed at Site 12, although no water was flowing from the Outfall. Ponded water was also found at Site 14, but no water was coming from the Outfall. At both of these locations, significant water was ponded in the Stevens Creek channel, with no evidence of overland flow. Fish were detected in the water at both locations, and evidence of a transient encampment and possible fecal contamination was observed at Site 12. Ponded water was also observed in the catch basin at Site 21, which showed evidence of overland flow from residential irrigation sources.

  Sites 1, 3, 7, 15, 22, 26, and 29 were damp with insufficient water available to collect a sample. Sites 2, 4-6, 8-11, 13, 16-18, 20, 23-24, and 27-28 were all dry.

- **Odor:** Odor can be caused by chemicals from residential, commercial, and industrial discharges; and from natural sources including decaying organic matter and microbial activity.

  Site 21 had a distinctive rotten eggs odor associated with it. This may have been due to decaying organic matter within the catch basin. Site 25 had a slightly musty smell associated with the water flow. This also may be due to decaying organic matter.

- **Water Color:** The apparent color of water results from dissolved substances and suspended matter. Soil runoff and decaying organic matter produce a variety of yellow, red, brown, and gray colors. Some algae and dinoflagellates produce reddish or deep yellow colors in water, while high levels of phytoplankton and other algae appear green.

  Only Site 14 had a distinctive yellow color in the collected sample.

- **Water Clarity:** Turbidity refers to the cloudiness of water. Water that is turbid generally has low clarity, and may appear cloudy or opaque, while less turbid water will appear clear. Suspended solids and microscopic plankton that scatter light passing through the water cause turbidity. High turbidity can be an indicator of soil runoff or blooms of microscopic organisms due to high nutrient inputs.

Two sites had slightly cloudy water samples (Site 21 and Site 25). The samples collected at the other two sites with an obtainable sample (Site 12 and Site 14) were clear. Quantitative measurements for turbidity were analyzed at each site with a collectible sample; turbidity at Site 21 measured at 16.9 NTU, while turbidity at Site 25 measured at 52.2 NTU. Turbidity at the sites with clear samples, Site 12 and Site 14, measured at 9.56 NTU and 6.25 NTU, respectively.

- **Floatable materials:** The type of floating matter can help identify the source of contamination, since these substances are often direct products of the source of the pollution.

  Leaves were observed floating in the ponded water at Sites 14 and 21, while bubbles/foam was observed on the surface of the flow at Site 25.

- **Biological:** Sites 12 and 14 indicated biological activity. Insects and fish were observed at Site 12, while fish were observed at Site 14.

- **Vegetative condition:** Excessive vegetation can be an indicator of elevated levels of nutrients in the runoff.

  There were no sites with abnormal vegetative growth. Vegetation was observed at Sites 12 and 14, although it was normal vegetation similar to that found in the natural portion of the Stevens Creek channel.

- **Deposits:** Site 14 and Site 21 were observed with fine particulates, and Site 12 and Site 19 were observed with sediment/gravel.

4.2 Field Chemical Analyses

All sites with flowing or ponded water were tested for the following parameters: temperature, pH, conductivity, turbidity, ammonia, detergents, nitrates, and orthophosphates. Four of the sites that were monitored had flowing or ponded water associated with them with a collectible sample. These sites had field and lab tests conducted on the water present at the sampling site. The results for the sites will be included under each parameter below, and any exceedances will be discussed in Section 5 of this report. Table 6 included in this report provides a detailed list of field screening results. Section 5 of this report provides a discussion of sites that appear impacted by illicit discharges.

- **Temperature:** Extreme temperatures can be an indication of commercial or industrial runoff.

  Site 12: 17.1°C
  Site 14: 18.4°C
  Site 21: 18.0°C
  Site 25: 17.6°C

- **pH:** Measures of pH represent the intensity of the acidity or alkalinity of water, on a scale from 0 to 14.0, with 7.0 considered neutral. The pH of natural waters ranges from 6.0 to 9.0 (EPA 1993). Measurements outside of this range could be an indicator of commercial or industrial discharges.

  Site 12: 7.93 Site 21: 7.87
  Site 14: 7.78 Site 25: 8.07

  The pH for all sites was within the recommended EPA guidelines and considered neutral.

- **Conductivity:** Conductivity is the measure of the ability of water to carry an electrical current and high levels are an indicator of high total dissolved solids (TDS). The conductivity of saltwater is generally above 43 mS/cm. The Copermittees have not developed an action level for conductivity, but Best Professional Judgment (BPJ) is used. Generally, values greater than 10 mS/cm may indicate an IC/ID.

  Site 12: 4.39 mS/cm Site 21: 2.91 mS/cm
  Site 14: 5.26 mS/cm Site 25: 3.11 mS/cm

  Best Professional Judgment is used for IC/ID follow up for conductivity. No follow-up was necessary from these results.

- **Turbidity:** Turbidity refers to the clarity of water. The cloudier the water, the higher the turbidity. Sources of turbidity include suspended organics/detritus, re-suspended bottom sediments, sediments originating from erosion, and phytoplankton. High turbidity can be an indicator of soil runoff or blooms of microscopic organisms due to high nutrient inputs.

  Site 12: 9.56 NTU Site 21: 16.9 NTU
  Site 14: 6.25 NTU Site 25: 52.2 NTU

  Best Professional Judgment is used for IC/ID follow up for turbidity. No follow-up was necessary from these results.

- **Ammonia**: Ammonia is a common ingredient in commercial and household cleaning products. In addition, organic material contains nitrogen, which can convert into ammonia by means of biochemical degradation. Elevated levels of ammonia can be an indication of decaying organic matter or discharges containing cleaning agents. Ammonia levels range from 6 to 380 mg/L in raw sanitary wastewater, and from 0.1 to 3.0 mg/L in all other waters (EPA 1993). The Copermittee action level for ammonia is 1.0 mg/L.

Site 12: 0.6 mg/L	Site 21: 0.6 mg/L
Site 14: 0.2 mg/L	Site 25: 0.6 mg/L

Ammonia levels at all of the sites were below the action level. No additional follow-up was necessary.

- **Detergents:** Detergents are found in household and commercial cleaning and laundering products. Elevated detergent levels are a good indicator of commercial and/or residential wash water entering the storm water conveyance. Detergent (surfactant) concentrations are usually below 0.1 mg/L in natural waters and range from 1.0 to 20.0 mg/L in raw sanitary wastewaters (EPA 1993). The Copermittee action level for MBAS (detergents) is 1.0 mg/L.

Site 12: 0.25 mg/L	Site 21: 0.25 mg/L
Site 14: 0.50 mg/L	Site 25: 0.50 mg/L

Detergent levels at all of the sites were below the action level. No additional follow-up was necessary.

- **Nitrate-N:** Nitrates are commonly found in fertilizers, human or other animal wastes, in certain manufacturing processes, and in decomposing organic materials. Elevated levels of nitrate may be present in irrigation runoff, or may be indicative of an illicit connection to the storm drain system, by either commercial or residential sources. The Copermittee action level for Nitrate is 10.0 mg/L.

Site 12: 0.25 mg/L	Site 21: 0.25 mg/L
Site 14: 0.50 mg/L	Site 25: 0.50 mg/L

All sites were below the action level for nitrates. . No additional follow-up was necessary.

- **Orthophosphate-P**: Orthophosphate-P occurs naturally from rocks, and with the decay and mineralization of dead plants and animals, but may also indicate the presence of human sewage, and commercial, agricultural or residential waste water. The Copermittee action level for Orthophosphate is 2.0 mg/L.

Site 12: 1.5 mg/L	Site 21: 0.8 mg/L
Site 14: 0.1 mg/L	Site 25: 1.8 mg/L

No site exceeded the established action level for Orthophosphate.

4.3 Laboratory Chemical Analyses

In accordance with Order No. 2007-0001 Section D.4, a minimum of 25% of all sites with flowing or ponded water were tested for the following parameters: total hardness, oil

and grease, diazinon and chlorpyrifos, dissolved cadmium, copper, lead, and zinc, *Enterococcus*, total coliform, and fecal coliform bacteria. All sites that had a collectible sample were selected for laboratory. The following provides a brief discussion of each parameter and the results at each site. Table 5 provides a detailed list of analytical results. Section 5 provides a discussion of sites that appear impacted by illicit discharges. Results from the laboratory analysis can also be found in Appendix B.

- **Total Hardness:** Total hardness refers to the calcium and magnesium concentrations in water. The hardness of water can vary considerably between locations. Natural sources of hardness are dissolved limestone. Guidelines for maximum dissolved metals concentrations in natural water are linked to the hardness or alkalinity of the water (i.e., the softer the water, the lower the permitted level of dissolved metals).

  Site 12: 580 $CaCO_3$ Site 21: 460 $CaCO_3$
  Site 14: 670 $CaCO_3$ Site 25: 620 $CaCO_3$

- **Oil and Grease:** The oil and grease analysis is applicable for the determination of hydrocarbons, vegetable oils, animal fats, waxes, soaps, grease, and related matter. Discharges may cause surface films and shoreline deposits leading to environmental degradation. The established action level for Oil and Grease is 15 mg/L.

  Site 12: ND (< 4.8 mg/L) Site 21: 6.5 mg/L
  Site 14: ND (< 4.8 mg/L) Site 25: ND (< 4.8 mg/L)

  Three of the four sites registered Not Detected (ND) for Oil and Grease; the fourth site was below the action level. Therefore, no follow-up was required.

- **Diazinon:** Diazinon is an organophosphate insecticide. It kills insects, as well as other organisms through its effect on the nervous system. It is moderately persistent and has moderate to high mobility in soil. Diazinon, in high enough concentrations, is highly toxic to birds, mammals, honeybees, and other beneficial insects. It is also very highly toxic to freshwater fish and invertebrates following acute exposure.

  Site 12: ND (< 0.5 µg/L) Site 21: ND (< 0.5 µg/L)
  Site 14: ND (< 0.5 µg/L) Site 25: ND (< 0.5 µg/L)

  Diazinon was not detected at any site and therefore no follow-up required.

- **Chlorpyrifos:** Chlorpyrifos is also an organophosphate insecticide and is the most widely used insecticide in the United States. It is used in agriculture on a variety of crops and for residential use as a termiticide, mosquitocide, lawn treatment, as well as other uses. It adsorbs readily to soil particles and therefore is not highly mobile in soil. Chlorpyrifos presents a high risk to birds, fish and mammals and an even a higher risk to aquatic invertebrates. The Copermittee action level for chlorpyrifos is 0.05 µg/L.

Site 12: ND (< 0.5 µg/L)
Site 14: ND (< 0.5 µg/L)
Site 21: ND (< 0.5 µg/L)
Site 25: ND (< 0.5 µg/L)

Chlorpyrifos was not detected at any site and therefore no follow-up required.

- **Dissolved Cadmium:** Cadmium occurs in sulfide minerals that also contain zinc, lead, or copper. It is used in electroplating, batteries, paint pigments, and alloys with various other metals. It is usually associated with zinc at a ratio of about one part cadmium to 500 parts zinc in most rocks and soils. It is nonessential for plants and animals and is extremely toxic and accumulates in the kidneys and liver. The average abundance of cadmium in streams is 1 µg/L and in groundwater is from 1 to 10 µg/L. The U.S. EPA primary drinking water standard MCL is 10 µg/L (Standard Methods 1998).

  Site 12: ND (< 5 µg/L)
  Site 14: ND (< 5 µg/L)
  Site 21: ND (< 5 µg/L)
  Site 25: ND (< 5 µg/L)

  Dissolved cadmium was not detected at any site and therefore no follow-up required.

- **Dissolved Copper:** Copper occurs in its native state, but is also found in many minerals. It is widely used in electrical wiring, plumbing, roofing, various alloys, pigments, cooking utensils, brake pads, and the chemical industry. Copper is considered an essential trace element for plants and animals. The average abundance of copper in streams is 4 to 12 µg/L and in groundwater is less than 0.1 mg/L. The U.S. EPA drinking water 90th percentile action level is 1.3 mg/L (Standard Methods 1998).

  Site 12: ND (< 0.01 mg/L)
  Site 14: ND (< 0.01 mg/L)
  Site 21: ND (< 0.01 mg/L)
  Site 25: 0.01 mg/L

  Dissolved copper was below the Copermittee action level and no follow-up was required.

- **Dissolved Lead:** Lead is normally found in the mineral galena. It is commonly used in batteries, ammunition, solder, piping, pigments, insecticides, and some alloys. It is nonessential for plants and animals and is toxic by ingestion and is a cumulative poison. The average abundance of lead in streams is 3 µg/L and in groundwater is generally less than 0.1 mg/L. The U.S. EPA drinking water 90th percentile action level is 15 µg/L.

  Site 12: ND (< 5 µg/L)
  Site 14: ND (< 5 µg/L)
  Site 21: ND (< 5 µg/L)
  Site 25: ND (< 5 µg/L)

  Dissolved lead was not detected at any site therefore no follow-up was required.

- **Dissolved Zinc:** Zinc occurs in its native state and is used in many alloys such as brass and bronze. It is also used in batteries, fungicides and pigments. It is an essential growth element for plants and animals, but at elevated levels it is toxic to some species of aquatic life. The average abundance of zinc in streams is 20 µg/L and in groundwater is less than 0.1 mg/L. The U.S. EPA secondary drinking water standard MCL is 5 mg/L.

  Site 12: ND (< 0.02 mg/L) Site 21: 0.027 mg/L
  Site 14: ND (< 0.02 mg/L) Site 25: 0.044 mg/L

  Dissolved zinc was below Copermittee action levels and therefore no follow-up was required.

- **Bacteria:** Bacteria are commonly found in human and animal feces. They are generally not harmful themselves, but they do indicate the possible presence of pathogenic bacteria, viruses, and protozoans that also live in human and animal digestive systems. Total coliform, fecal coliform and *Enterococcus* bacteria are common test organisms for water quality sampling.

  - **Total Coliforms:** Total coliforms are a group of bacteria that can occur in human feces, but can also be present in animal manure, soil and other places outside of the human body. The Copermittee action level for total coliform is 50,000 MPN/100mL.

    Site 12: 130,000 MPN/100mL Site 21: 30,000 MPN/100mL
    Site 14: 3,000 MPN/100mL Site 25: > 1,600,000 MPN/100mL

    Two of the four sites had results that exceeded the Copermittee action level (50,000 MPN/100mL). Site 25 is already the subject of an ongoing IC/ID investigation. Staff conducted follow-up sampling and upstream investigations on Site 12 and Site 25, and will be discussed further in Section 5 below.

  - **Fecal Coliforms:** Fecal coliforms are a subset of total coliforms and are more fecal-specific in origin. The Copermittee action level for fecal coliform is 20,000 MPN/100mL. Fecal coliform levels were the following:

    Site 12: 17,000 MPN/100mL Site 21: 1,700 MPN/100mL
    Site 14: 400 MPN/100mL Site 25: > 1,600,000 MPN/100mL

    Site 25 had bacteria readings that exceeded the Copermittee action level for fecal coliforms (20,000 MPN/100mL). Follow-up sampling and an upstream investigation were conducted and the results are explained in Section 5 below.

- **Enterococci:** Enterococci are a subgroup within the fecal *Streptococcus* group and are better suited for survivability in salt water. They are generally found in the digestive systems of humans and other warm-blooded mammals. The Copermittee action level for Enterococci is 10,000 MPN/100mL.

  Site 12: 17,000 MPN/100mL
  Site 14: < 20 MPN/100mL
  Site 21: 2,200 MPN/100mL
  Site 25: 90,000 MPN/100mL

  Site 12 and 25 exceeded the Copermittee action levels for Enterococci (10,000 MPN/100mL). Follow-up sampling and upstream investigations were conducted and the results are explained in Section 5 below.

4.4 Trash Assessment Monitoring

A new component added to the Dry Weather Monitoring Program in Order No. 2007-0001 is a Trash Assessment Monitoring requirement. According to the Order, Copermittees must "Assess the presence of trash in receiving waters and urban runoff at each dry weather field screening or analytical monitoring station. Assessments of trash shall provide information on the spatial extent and amount of trash present, as well as the nature of the types of trash present."

The Copermittees developed a standardized "Trash Assessment Form" (Form), through the Dry Weather Monitoring Workgroup, which encompasses all the requirements listed in Order No. 2007-0001. This Form was completed for all twenty-nine sites included in this Dry Weather Monitoring Program. Twenty-four sites received an "Optimal" level rating, which is the highest ranking level. The "Optimal" level states, "On first glance, little or no trash visible. Little or no trash (<10) evident when evaluated area is closely examined for litter and debris." Five sites (Sites 6, 8, 13, 20, and 23) received a "Suboptimal" ranking, which is the next level down. At these sites, between 10 and 50 pieces of trash were observed within the MS4 assessment area. No sites received "Marginal", "Submarginal", or "Poor" ratings during the 2010 Dry Weather Monitoring Program.

All Trash Assessment Forms are included with their respective Field Datasheets in Appendix A at the end of this report.

5.0 DISCUSSION

During the 2010 Dry Weather Monitoring Program, twenty-five of the twenty-nine sites inspected were either dry or damp where a sample could not be collected. Four sites (Sites 12, 14, 21, and 25) contained either ponded or flowing water, and field and lab screening were conducted on samples from all four sites. No exceedances were recorded during the field screening of the samples from the four sites, although lab analysis of the samples from two of the sites (Site 12 and Site 25) displayed elevated levels of bacterial

indicators. Site 25 has been the subject of an ongoing IDDE bacteria investigation. The following analytes exceeded Copermittee action levels at their respective sites:

- Site 12: Total Coliform and Enterococcus
- Site 25: Total Coliform, Fecal Coliform, and Enterococcus

- **Site 12:** Samples were taken from ponded water near the outfall located in Steven's Creek just south of Via de la Valle, which eventually drains into the San Dieguito Lagoon. Field tests for all analytes were below the Copermittee action levels, but lab results for Total Coliform and Enterococcus revealed exceedances. A follow-up investigation was immediately conducted on 9/21/2010 on receipt of the lab results.

  The follow-up on 9/21/2010 showed that the site had ponded water at the outfall, and a confirmation sample was collected and brought to the lab for analysis of bacterial indicators. During the confirmation visit, the area adjacent to the creek showed evidence of a transient encampment; trash and clothing was littered around the area (beer cans, cardboard boxes, water bottles, and food packaging), and toilet paper was scattered near the sampling site. The toilet paper appeared to have been used and had what was presumed as feces visible on the outer layer. This area was between 10-15 feet from the outfall and Steven's Creek. There was also one instance of guano on a piece of cardboard near the creek.

  Lab analysis of the confirmation sampling revealed exceedances of Total Coliform and Fecal Coliform bacteria. The City of Solana Beach is investigating possible abatement of the high bacterial indicator results.

- **Site 25:** Samples were taken from the outfall located at the Seascape Sur beach access. This outfall has historically high levels of bacteria, and the City is actively pursuing the source of the bacteria through an ongoing IDDE investigation. Last year's DWMP revealed exceedances of Ammonia and Detergents (MBAS). Initial field screening in 2010 did not result in any exceedances, although lab analysis resulted in bacterial exceedances of Total Coliform, Fecal Coliform, and Enterococcus.

  A follow-up investigation for the field screening exceedances occurred immediately upon receipt of the lab results on 9/15/2010. All upstream catch basins were dry, and no flow was entering the pipe from the street level. Water was again flowing from the Seascape Outfall at approximately 1.0 gpm, and a sample was collected for the exceedance confirmation. Lab results again showed elevated levels of Total Coliform and Fecal Coliform; Enterococcus was detected in the sample, but below the Copermittees action level.

  A second follow-up at Site 25 was performed on 9/20/2010 following the second exceedance of the bacterial indicator data. The two upstream catch basins along South Sierra were damp, although there was evidence of prior flow from the

landscaping at Solana Beach and Tennis Club into the western catch basin inlet, most likely due to over-irrigation. There were also rodent feces along the northern side of the beach access walkway inside a fenced area near utility boxes, approximately 50 feet west of South Sierra. All other areas were dry with no evidence of overland flow. The outfall was flowing, but only at a trickle of approximately 0.5 gpm; a sample was not collected during the second follow-up event.

During the three visits to the Seascape Sur Outfall, the flow never reached the receiving water.

6.0 CONCLUSIONS

The 2010 Dry Weather Monitoring Program found one storm water conveyance line with an indication of illegal discharges to the City of Solana Beach's storm water system (Site 25). The majority of the other sites visited were dry or damp, with one additional site showing evidence of over-irrigation discharges (Site 21). However, this site did not have analyte concentrations high enough to exceed the Copermittees action levels. All necessary follow up activities did not reveal a dominant source, as the catch basins and outfalls were either damp or dry.

Site 12 at Stevens Creek was dry during last year's DWMP, but the ponded water at the outfall revealed elevated levels of bacterial indicators in 2010. Evidence of a transient encampment adjacent to the outfall may have influenced the results, and the City may look into preventing such encampments in the future. During both of the visits to Site 12, the outfall was dry and ponded water was collected from the creek channel. No flow was observed originating from the City's MS4.

Site 25 at Seascape Sur has had historical problems and has been the focus of an ongoing IDDE investigation for over eight years. The City will continue with its efforts to educate the Beachwalk business district and adjacent private condominium complexes about the City's pollution prevention programs and continue its efforts to eliminate the discharge at Site 25 (Seascape Sur). Commercial educational programs will continue and include both the proprietors and their employees. Residential programs will include building owners, Homeowner Associations (HOA's) and residents. An informed public will provide support for new and already existing prevention programs.

Additionally, the City will continue to explore options for capital improvements in the Seascape area as the source of the recurring bacterial problems has proven elusive. The City will continue to look into possibly correcting the structural problems within the pipe, which may be leading to bacterial re-growth. The outfall has not yet affected the quality of the receiving waters, but a proactive approach by the City to abate the bacterial problem is recommended.

Appendix A
2010 Dry Weather Monitoring Data Sheets and Trash Assessments

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San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	1	**Latitude**	(e.g., 33.41174)	**Watershed**	**Hydrologic Unit**	(e.g., 7.00) 904
Location	RIOS ROAD TRAILHEAD	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10) 904.61
Date	9/13/2010	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11) 904.61
Time	0950	**Observer**	B. GAMBLE		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only) ☐ Manhole ☒ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☐ Sunny ☒ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☒ None	☐ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☒ None	☐ Insects ☐ Algae	☐ Fish ☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal DAMP

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 15-16

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: CATCH BASIN DAMP. NOT ENOUGH FLOW FOR COLLECTION.

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

San Diego Stormwater Copermittees

Land Use Types for Dry Weather Monitoring

(Adopted by the Dry Weather Monitoring Workgroup, April 20, 2004)

1. **Residential**

   Residential (general)
   Single- and multi-family homes, mobile home parks, etc.

   Rural residential (For the County of San Diego and other appropriate Copermittees)
   Single family homes located in rural areas with lot sizes of approximately 1 to 10 acres. Rural residential estates may have small orchards, fields or small storage buildings associated with the residential dwelling unit, etc.

2. **Commercial**

   Offices, schools, shopping centers, auto dealerships, government/civic centers, cemeteries, churches, libraries, post offices, fire/police stations, military use, jails, prisons, border patrol holding stations, dormitories, hotels, motels, resorts, and casinos, etc.

3. **Agricultural**

   Orchards, vineyards, nurseries, greenhouses, flower fields, dairies, livestock, poultry, equine ranches, row crops and grains, pasture, fallow, etc.

4. **Industrial**

   Shipbuilding, airframe, aircraft manufacturing, industrial parks, manufacturing uses such as lumber, furniture, paper, rubber, stone, clay, and glass; auto repair services/recycling centers; warehousing, wholesale trade; mining, sand and gravel extraction, salt evaporation; junkyard, dumps/landfills; auto wrecking/dismantling and recycling centers, etc.

5. **Parks**

   Recreation areas and centers, neighborhood parks, wildlife and nature preserves, golf courses, accessible sandy areas along the coast or major water bodies allowing swimming and picnicking, etc.

6. **Open**

   Vacant and undeveloped lands, etc.

Revised 4/20/2004, 4/15/2005, 4/19/2006, 3/13/2008

Trash Assessment Form

SITE ID: 1 DATE: 9/13/2010

LOCATION: RIOS ROAD TRAILHEAD TIME: 0950

OBSERVER: B. GAMBLE

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L x W (FT): 6' x 5'

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ Optimal	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ Suboptimal	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ Marginal	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ Submarginal	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ Poor	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ Threat Human Health	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ Threat to Aquatic Health	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments:

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

				Watershed		
Site ID	2	**Latitude**	(e.g., 33.41174)		**Hydrologic Unit** (e.g., 7.00)	904
Location	GLENMUNT AVE / RANL PL	**Longitude**	(e.g., -117.35213)		**Hydrologic Area** (e.g., 7.10)	904.61
Date	9/13/2010	**TB Page**			**Hydrologic Subarea** (Optional) (e.g., 7.11)	904.61
Time	1020	**Observer**	B. GAMBLE		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only) ☐ Manhole ☒ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☒ None	☐ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☒ None	☐ Insects ☐ Algae	☐ Fish ☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae ☐ Insect/ Snail	☐ Other

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 20

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: DRY

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

San Diego Stormwater Copermittees

Land Use Types for Dry Weather Monitoring

(Adopted by the Dry Weather Monitoring Workgroup, April 20, 2004)

1. **Residential**

   Residential (general)
   Single- and multi-family homes, mobile home parks, etc.

   Rural residential (For the County of San Diego and other appropriate Copermittees)
   Single family homes located in rural areas with lot sizes of approximately 1 to 10 acres. Rural residential estates may have small orchards, fields or small storage buildings associated with the residential dwelling unit, etc.

2. **Commercial**

   Offices, schools, shopping centers, auto dealerships, government/civic centers, cemeteries, churches, libraries, post offices, fire/police stations, military use, jails, prisons, border patrol holding stations, dormitories, hotels, motels, resorts, and casinos, etc.

3. **Agricultural**

   Orchards, vineyards, nurseries, greenhouses, flower fields, dairies, livestock, poultry, equine ranches, row crops and grains, pasture, fallow, etc.

4. **Industrial**

   Shipbuilding, airframe, aircraft manufacturing, industrial parks, manufacturing uses such as lumber, furniture, paper, rubber, stone, clay, and glass; auto repair services/recycling centers; warehousing, wholesale trade; mining, sand and gravel extraction, salt evaporation; junkyard, dumps/landfills; auto wrecking/dismantling and recycling centers, etc.

5. **Parks**

   Recreation areas and centers, neighborhood parks, wildlife and nature preserves, golf courses, accessible sandy areas along the coast or major water bodies allowing swimming and picnicking, etc.

6. **Open**

   Vacant and undeveloped lands, etc.

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

Trash Assessment Form

SITE ID: 2 DATE: 9/13/2010

LOCATION: GLENMONT AVE / KAWL PL TIME: 1020

OBSERVER: B. GAMBLE

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L x W (FT): 4' x 3'

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ Optimal	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ Suboptimal	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ Marginal	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ Submarginal	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ Poor	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ Threat Human Health	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ Threat to Aquatic Health	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments:_____

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	3	**Latitude**	(e.g., 33.41174)	**Watershed**	**Hydrologic Unit**	(e.g., 7.00) 904
Location	SANTA INEZ OUTFALL	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10) 904.61
Date	9/13/2010	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11) 904.61
Time	1450	**Observer**	B GAMBLE		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☒ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☒ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☐ Normal	☒ Excessive		☐ Other
Biology	☐ None	☒ Insects	☐ Algae	☐ Fish	☐ Snails	☐ Mussels/ Barnacles ☐ Insect/ Algae ☐ Insect/ Snail ☐ Other

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal DAMP

Does the storm drain flow reach the Receiving Water? ☐ Yes ☒ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 48

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: OUTFALL DAMP – SAMPLE NOT COLLECTABLE

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

San Diego Stormwater Copermittees

Land Use Types for Dry Weather Monitoring

(Adopted by the Dry Weather Monitoring Workgroup, April 20, 2004)

1. **Residential**

   Residential (general)
   Single- and multi-family homes, mobile home parks, etc.

   Rural residential (For the County of San Diego and other appropriate Copermittees)
   Single family homes located in rural areas with lot sizes of approximately 1 to 10 acres. Rural residential estates may have small orchards, fields or small storage buildings associated with the residential dwelling unit, etc.

2. **Commercial**

   Offices, schools, shopping centers, auto dealerships, government/civic centers, cemeteries, churches, libraries, post offices, fire/police stations, military use, jails, prisons, border patrol holding stations, dormitories, hotels, motels, resorts, and casinos, etc.

3. **Agricultural**

   Orchards, vineyards, nurseries, greenhouses, flower fields, dairies, livestock, poultry, equine ranches, row crops and grains, pasture, fallow, etc.

4. **Industrial**

   Shipbuilding, airframe, aircraft manufacturing, industrial parks, manufacturing uses such as lumber, furniture, paper, rubber, stone, clay, and glass; auto repair services/recycling centers; warehousing, wholesale trade; mining, sand and gravel extraction, salt evaporation; junkyard, dumps/landfills; auto wrecking/dismantling and recycling centers, etc.

5. **Parks**

   Recreation areas and centers, neighborhood parks, wildlife and nature preserves, golf courses, accessible sandy areas along the coast or major water bodies allowing swimming and picnicking, etc.

6. **Open**

   Vacant and undeveloped lands, etc.

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

Trash Assessment Form

SITE ID: 3 DATE: 9/13/2010

LOCATION: SANTA INEZ OUTFALL TIME: 1450

OBSERVER: B. GAMBLE

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L x W (FT): 10' x 6'

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ **Threat Human Health**	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ **Threat to Aquatic Health**	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments:_____

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	4	**Latitude**	(e.g., 33.41174)	**Watershed**	**Hydrologic Unit**	(e.g., 7.00) 904.61
Location	626 CANYON DR.	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10) 904.61
Date	9/13/2010	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11) 904.61
Time	1025	**Observer**	B. GAMBLE		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only) ☐ Manhole ☒ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other		
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other		
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other		
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other		
Deposits	☒ None	☐ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other		
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other		
Biology	☒ None	☐ Insects	☐ Algae	☐ Fish	☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail	☐ Other

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 21-22

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: DRY.

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

San Diego Stormwater Copermittees

Land Use Types for Dry Weather Monitoring

(Adopted by the Dry Weather Monitoring Workgroup, April 20, 2004)

1. **Residential**

   Residential (general)
   Single- and multi-family homes, mobile home parks, etc.

   Rural residential (For the County of San Diego and other appropriate Copermittees)
   Single family homes located in rural areas with lot sizes of approximately 1 to 10 acres. Rural residential estates may have small orchards, fields or small storage buildings associated with the residential dwelling unit, etc.

2. **Commercial**

   Offices, schools, shopping centers, auto dealerships, government/civic centers, cemeteries, churches, libraries, post offices, fire/police stations, military use, jails, prisons, border patrol holding stations, dormitories, hotels, motels, resorts, and casinos, etc.

3. **Agricultural**

   Orchards, vineyards, nurseries, greenhouses, flower fields, dairies, livestock, poultry, equine ranches, row crops and grains, pasture, fallow, etc.

4. **Industrial**

   Shipbuilding, airframe, aircraft manufacturing, industrial parks, manufacturing uses such as lumber, furniture, paper, rubber, stone, clay, and glass; auto repair services/recycling centers; warehousing, wholesale trade; mining, sand and gravel extraction, salt evaporation; junkyard, dumps/landfills; auto wrecking/dismantling and recycling centers, etc.

5. **Parks**

   Recreation areas and centers, neighborhood parks, wildlife and nature preserves, golf courses, accessible sandy areas along the coast or major water bodies allowing swimming and picnicking, etc.

6. **Open**

   Vacant and undeveloped lands, etc.

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

Trash Assessment Form

SITE ID: 4 DATE: 9/13/2010

LOCATION: 626 CANYON DR. TIME: 1025

OBSERVER: B. CAMBUS

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L x W (FT): 5' x 4'

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ **Threat Human Health**	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ **Threat to Aquatic Health**	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments:_____

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	5	**Latitude**	(e.g., 33.41174)	Watershed	**Hydrologic Unit**	(e.g., 7.00) 904
Location	635 CANYON DR.	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10) 904.61
Date	9/13/2010	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11) 904.61
Time	1030	**Observer**	B. GAMBLE		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only) ☐ Manhole ☒ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☒ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☒ Other LEAVES
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☒ None	☐ Insects ☐ Algae	☐ Fish ☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 23-24

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: DRY.

Revised 4/20/2004, 4/15/2005, 4/19/2006, 3/13/2008

San Diego Stormwater Copermittees

Land Use Types for Dry Weather Monitoring

(Adopted by the Dry Weather Monitoring Workgroup, April 20, 2004)

1. **Residential**

   Residential (general)
   Single- and multi-family homes, mobile home parks, etc.

   Rural residential (For the County of San Diego and other appropriate Copermittees)
   Single family homes located in rural areas with lot sizes of approximately 1 to 10 acres. Rural residential estates may have small orchards, fields or small storage buildings associated with the residential dwelling unit, etc.

2. **Commercial**

   Offices, schools, shopping centers, auto dealerships, government/civic centers, cemeteries, churches, libraries, post offices, fire/police stations, military use, jails, prisons, border patrol holding stations, dormitories, hotels, motels, resorts, and casinos, etc.

3. **Agricultural**

   Orchards, vineyards, nurseries, greenhouses, flower fields, dairies, livestock, poultry, equine ranches, row crops and grains, pasture, fallow, etc.

4. **Industrial**

   Shipbuilding, airframe, aircraft manufacturing, industrial parks, manufacturing uses such as lumber, furniture, paper, rubber, stone, clay, and glass; auto repair services/recycling centers; warehousing, wholesale trade; mining, sand and gravel extraction, salt evaporation; junkyard, dumps/landfills; auto wrecking/dismantling and recycling centers, etc.

5. **Parks**

   Recreation areas and centers, neighborhood parks, wildlife and nature preserves, golf courses, accessible sandy areas along the coast or major water bodies allowing swimming and picnicking, etc.

6. **Open**

   Vacant and undeveloped lands, etc.

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

Trash Assessment Form

SITE ID: 5 DATE: 9/13/2010

LOCATION: 635 CANYON DR TIME: 1030

OBSERVER: B. GAMBLE

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L x W (FT): 5' x 4'

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ **Threat Human Health**	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ **Threat to Aquatic Health**	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments:_____

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	6	**Latitude**	(e.g., 33.41174)	**Watershed**	**Hydrologic Unit**	(e.g., 7.00) 904
Location	HIGHLAND AVE (EXEL GOLF COURSE)	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10) 904.61
Date	9/13/2010	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11) 904.61
Time	1405	**Observer**	B. GAMBLE		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☒ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☒ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage		☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray		☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque			☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter		☐ Other
Deposits	☐ None	☒ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits		☐ Other
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive			☐ Other
Biology	☒ None	☐ Insects ☐ Algae	☐ Fish ☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail	☐ Other

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 41-42

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: DRY.

Revised 4/20/2004, 4/15/2005, 4/19/2006, 3/13/2008

San Diego Stormwater Copermittees

Land Use Types for Dry Weather Monitoring

(Adopted by the Dry Weather Monitoring Workgroup, April 20, 2004)

1. **Residential**

   Residential (general)
   Single- and multi-family homes, mobile home parks, etc.

   Rural residential (For the County of San Diego and other appropriate Copermittees)
   Single family homes located in rural areas with lot sizes of approximately 1 to 10 acres. Rural residential estates may have small orchards, fields or small storage buildings associated with the residential dwelling unit, etc.

2. **Commercial**

   Offices, schools, shopping centers, auto dealerships, government/civic centers, cemeteries, churches, libraries, post offices, fire/police stations, military use, jails, prisons, border patrol holding stations, dormitories, hotels, motels, resorts, and casinos, etc.

3. **Agricultural**

   Orchards, vineyards, nurseries, greenhouses, flower fields, dairies, livestock, poultry, equine ranches, row crops and grains, pasture, fallow, etc.

4. **Industrial**

   Shipbuilding, airframe, aircraft manufacturing, industrial parks, manufacturing uses such as lumber, furniture, paper, rubber, stone, clay, and glass; auto repair services/recycling centers; warehousing, wholesale trade; mining, sand and gravel extraction, salt evaporation; junkyard, dumps/landfills; auto wrecking/dismantling and recycling centers, etc.

5. **Parks**

   Recreation areas and centers, neighborhood parks, wildlife and nature preserves, golf courses, accessible sandy areas along the coast or major water bodies allowing swimming and picnicking, etc.

6. **Open**

   Vacant and undeveloped lands, etc.

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

Trash Assessment Form

SITE ID: 6 DATE: 9/13/2010

LOCATION: HIGHLAND AVE (EXEL GOLF COURSE) TIME: 1405

OBSERVER: B. GAMBOA

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L x W (FT): 6' x 4'

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☐ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☒ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ **Threat Human Health**	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ **Threat to Aquatic Health**	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments:_____

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	7	**Latitude**	(e.g., 33.41174)	Watershed	**Hydrologic Unit**	(e.g., 7.00) 904
Location	SANTA HELENA TRAILHEAD	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10) 904.61
Date	9/13/2010	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11) 904.61
Time	1430	**Observer**	B. GAMBLE		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only): ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%): ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only): ☐ Manhole ☒ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather: ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide: ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain: ☒ > 72 hours ☐ < 72 hours

Rainfall: ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☒ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☒ None	☐ Insects	☐ Algae	☐ Fish	☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail	☐ Other

Water Flow: ☐ Flowing ☐ Ponded ☒ Dry Tidal DAMP

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 44-45

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: CATCH BASIN DAMP – SAMPLE NOT COLLECTABLE.

Revised 4/20/2004, 4/15/2005, 4/19/2006, 3/13/2008

San Diego Stormwater Copermittees

Land Use Types for Dry Weather Monitoring

(Adopted by the Dry Weather Monitoring Workgroup, April 20, 2004)

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   Single family homes located in rural areas with lot sizes of approximately 1 to 10 acres. Rural residential estates may have small orchards, fields or small storage buildings associated with the residential dwelling unit, etc.

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3. **Agricultural**

   Orchards, vineyards, nurseries, greenhouses, flower fields, dairies, livestock, poultry, equine ranches, row crops and grains, pasture, fallow, etc.

4. **Industrial**

   Shipbuilding, airframe, aircraft manufacturing, industrial parks, manufacturing uses such as lumber, furniture, paper, rubber, stone, clay, and glass; auto repair services/recycling centers; warehousing, wholesale trade; mining, sand and gravel extraction, salt evaporation; junkyard, dumps/landfills; auto wrecking/dismantling and recycling centers, etc.

5. **Parks**

   Recreation areas and centers, neighborhood parks, wildlife and nature preserves, golf courses, accessible sandy areas along the coast or major water bodies allowing swimming and picnicking, etc.

6. **Open**

   Vacant and undeveloped lands, etc.

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

Trash Assessment Form

SITE ID: 7 DATE: 9/13/2010

LOCATION: SANTA HELENA TRAILHEAD TIME: 1430

OBSERVER: B. GAMBLE

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L x W (FT): 5' x 3'

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
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☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ **Threat Human Health**	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ **Threat to Aquatic Health**	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments:_____

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☒ Field Screening Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	8	**Latitude**	(e.g., 33.41174)	Watershed	**Hydrologic Unit** (e.g. 7.00)	904
Location	SANTA CARLINA TRAILHEAD	**Longitude**	(e.g., -117.35213)		**Hydrologic Area** (e.g. 7.10)	904.61
Date	9/13/2010	**TB Page**			**Hydrologic Subarea** (Optional) (e.g. 7.11)	904.61
Time	1435	**Observer**	B. GAMBLE		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only): ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%): ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only): ☐ Manhole ☒ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather: ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide: ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain: ☒ > 72 hours ☐ < 72 hours

Rainfall: ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage		☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray		☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque			☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter		☐ Other
Deposits	☐ None	☒ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits		☒ Other LEAVES
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive			☐ Other
Biology	☒ None	☐ Insects	☐ Algae	☐ Fish	☐ Snails	☐ Mussels/ Barnacles ☐ Insect/ Algae ☐ Insect/ Snail	☐ Other

Water Flow: ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 46-47

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: DRY

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

San Diego Stormwater Copermittees

Land Use Types for Dry Weather Monitoring

(Adopted by the Dry Weather Monitoring Workgroup, April 20, 2004)

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   Single- and multi-family homes, mobile home parks, etc.

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   Single family homes located in rural areas with lot sizes of approximately 1 to 10 acres. Rural residential estates may have small orchards, fields or small storage buildings associated with the residential dwelling unit, etc.

2. **Commercial**

   Offices, schools, shopping centers, auto dealerships, government/civic centers, cemeteries, churches, libraries, post offices, fire/police stations, military use, jails, prisons, border patrol holding stations, dormitories, hotels, motels, resorts, and casinos, etc.

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   Orchards, vineyards, nurseries, greenhouses, flower fields, dairies, livestock, poultry, equine ranches, row crops and grains, pasture, fallow, etc.

4. **Industrial**

   Shipbuilding, airframe, aircraft manufacturing, industrial parks, manufacturing uses such as lumber, furniture, paper, rubber, stone, clay, and glass; auto repair services/recycling centers; warehousing, wholesale trade; mining, sand and gravel extraction, salt evaporation; junkyard, dumps/landfills; auto wrecking/dismantling and recycling centers, etc.

5. **Parks**

   Recreation areas and centers, neighborhood parks, wildlife and nature preserves, golf courses, accessible sandy areas along the coast or major water bodies allowing swimming and picnicking, etc.

6. **Open**

   Vacant and undeveloped lands, etc.

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

Trash Assessment Form

SITE ID: 8 DATE: 9/13/2010

LOCATION: SANTA CATALINA TRAILHEAD TIME: 1435

OBSERVER: B. GAMBLE

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L x W (FT): 10' x 2'

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☐ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☒ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ **Threat Human Health**	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ **Threat to Aquatic Health**	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments:_____

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	9	**Latitude**	(e.g., 33.41174)	Watershed	**Hydrologic Unit**	(e.g., 7.00) 904
Location	SANTA LUISA OUTFALL	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10) 904.61
Date	9/13/2010	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11) 904.61
Time	1420	**Observer**	B. GAMBLE		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only) ☐ Manhole ☒ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage		☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray		☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque			☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter		☐ Other
Deposits	☒ None	☐ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits		☐ Other
Vegetation	☐ None	☒ Limited	☐ Normal	☐ Excessive			☐ Other
Biology	☒ None	☐ Insects ☐ Algae	☐ Fish ☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail	☐ Other

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 43

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: DRY.

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

San Diego Stormwater Copermittees

Land Use Types for Dry Weather Monitoring

(Adopted by the Dry Weather Monitoring Workgroup, April 20, 2004)

1. **Residential**

   Residential (general)
   Single- and multi-family homes, mobile home parks, etc.

   Rural residential (For the County of San Diego and other appropriate Copermittees)
   Single family homes located in rural areas with lot sizes of approximately 1 to 10 acres. Rural residential estates may have small orchards, fields or small storage buildings associated with the residential dwelling unit, etc.

2. **Commercial**

   Offices, schools, shopping centers, auto dealerships, government/civic centers, cemeteries, churches, libraries, post offices, fire/police stations, military use, jails, prisons, border patrol holding stations, dormitories, hotels, motels, resorts, and casinos, etc.

3. **Agricultural**

   Orchards, vineyards, nurseries, greenhouses, flower fields, dairies, livestock, poultry, equine ranches, row crops and grains, pasture, fallow, etc.

4. **Industrial**

   Shipbuilding, airframe, aircraft manufacturing, industrial parks, manufacturing uses such as lumber, furniture, paper, rubber, stone, clay, and glass; auto repair services/recycling centers; warehousing, wholesale trade; mining, sand and gravel extraction, salt evaporation; junkyard, dumps/landfills; auto wrecking/dismantling and recycling centers, etc.

5. **Parks**

   Recreation areas and centers, neighborhood parks, wildlife and nature preserves, golf courses, accessible sandy areas along the coast or major water bodies allowing swimming and picnicking, etc.

6. **Open**

   Vacant and undeveloped lands, etc.

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

Trash Assessment Form

SITE ID: 9 DATE: 9/13/2010

LOCATION: SANTA LUISA OUTFALL TIME: 1420

OBSERVER: B. GAMBLE

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L x W (FT): 6'x4'

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ **Threat Human Health**	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ **Threat to Aquatic Health**	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments:_____

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

[X] Field Screening [ ] Confirmation For _____ [ ] IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) [X] MS4 [ ] Receiving Water

Site ID	10	**Latitude**	(e.g., 33.41174)	**Watershed**	**Hydrologic Unit** (e.g., 7.00)	904
Location	EAST SIDE RAILROAD TRACKS	**Longitude**	(e.g., -117.35213)		**Hydrologic Area** (e.g., 7.10)	904.61
Date	9/13/2010	**TB Page**			**Hydrologic Subarea** (Optional) (e.g., 7.11)	904.61
Time	1000	**Observer**	B. GAMBLE		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only): [X] Residential [ ] Commercial [ ] Industrial [ ] Agricultural [ ] Parks [ ] Open

Land Use (Secondary) (Optional, greater than 10%): [ ] Residential [X] Commercial [ ] Industrial [ ] Agricultural [ ] Parks [ ] Open [ ] None

Conveyance (Check one only): [ ] Manhole [ ] Catch Basin [ ] Outlet [X] Concrete Channel [ ] Natural Creek [ ] Earthen Channel [ ] Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather: [X] Sunny [ ] Partly Cloudy [ ] Overcast [ ] Fog

Tide: [X] N/A [ ] Low [ ] Incoming [ ] High [ ] Outgoing **Tide Height:** _____ ft.

Last Rain: [X] > 72 hours [ ] < 72 hours

Rainfall: [X] None [ ] < 0.1" [ ] > 0.1"

RUNOFF CHARACTERISTICS

Odor	[X] None	[ ] Musty	[ ] Rotten Eggs	[ ] Chemical	[ ] Sewage	[ ] Other
Color	[X] None	[ ] Yellow	[ ] Brown	[ ] White	[ ] Gray	[ ] Other
Clarity	[X] Clear		[ ] Slightly Cloudy	[ ] Opaque		[ ] Other
Floatables	[X] None	[ ] Trash	[ ] Bubbles/Foam	[ ] Sheen	[ ] Fecal Matter	[ ] Other
Deposits	[X] None	[ ] Sediment/Gravel	[ ] Fine Particulates	[ ] Stains	[ ] Oily Deposits	[ ] Other
Vegetation	[X] None	[ ] Limited	[ ] Normal	[ ] Excessive		[ ] Other
Biology	[X] None	[ ] Insects	[ ] Algae	[ ] Fish	[ ] Snails	[ ] Mussels/ Barnacles	[ ] Insect/ Algae	[ ] Insect/ Snail	[ ] Other

Water Flow: [ ] Flowing [ ] Ponded [X] Dry [ ] Tidal

Does the storm drain flow reach the Receiving Water? Yes No [X] N/A

Evidence of Overland Flow? [ ] Yes [X] No [ ] Irrigation Runoff [ ] Other: _____

Photo Taken [X] Yes [ ] No **Photo #** 17

Field Screening Samples Collected? [ ] Yes [X] No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? [ ] Yes [X] No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: DRY

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

San Diego Stormwater Copermittees

Land Use Types for Dry Weather Monitoring

(Adopted by the Dry Weather Monitoring Workgroup, April 20, 2004)

1. **Residential**

   Residential (general)
   Single- and multi-family homes, mobile home parks, etc.

   Rural residential (For the County of San Diego and other appropriate Copermittees)
   Single family homes located in rural areas with lot sizes of approximately 1 to 10 acres. Rural residential estates may have small orchards, fields or small storage buildings associated with the residential dwelling unit, etc.

2. **Commercial**

   Offices, schools, shopping centers, auto dealerships, government/civic centers, cemeteries, churches, libraries, post offices, fire/police stations, military use, jails, prisons, border patrol holding stations, dormitories, hotels, motels, resorts, and casinos, etc.

3. **Agricultural**

   Orchards, vineyards, nurseries, greenhouses, flower fields, dairies, livestock, poultry, equine ranches, row crops and grains, pasture, fallow, etc.

4. **Industrial**

   Shipbuilding, airframe, aircraft manufacturing, industrial parks, manufacturing uses such as lumber, furniture, paper, rubber, stone, clay, and glass; auto repair services/recycling centers; warehousing, wholesale trade; mining, sand and gravel extraction, salt evaporation; junkyard, dumps/landfills; auto wrecking/dismantling and recycling centers, etc.

5. **Parks**

   Recreation areas and centers, neighborhood parks, wildlife and nature preserves, golf courses, accessible sandy areas along the coast or major water bodies allowing swimming and picnicking, etc.

6. **Open**

   Vacant and undeveloped lands, etc.

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

Trash Assessment Form

SITE ID: 10 DATE: 9/13/2010

LOCATION: EAST SIDE RAILROAD TRACKS TIME: 1000

OBSERVER: B. GAMBLE

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L x W (FT): 20' x 10'

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ **Threat Human Health**	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ **Threat to Aquatic Health**	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments:_____

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	11	**Latitude**	(e.g., 33.41174)	Watershed	**Hydrologic Unit**	(e.g., 7.00) 904
Location	645 PACIFIC	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10) 904.61
Date	9/13/2010	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11) 904.61
Time	0855	**Observer**	B. GAMBLE		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only) ☐ Manhole ☒ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☐ Sunny ☐ Partly Cloudy ☒ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage		☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray		☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque			☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter		☐ Other
Deposits	☒ None	☐ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits		☐ Other
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive			☐ Other
Biology	☒ None	☐ Insects	☐ Algae	☐ Fish	☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail	☐ Other

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☐ Yes ☒ No **Photo #** 11-12

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: DRY

Revised 4/20/2004, 4/15/2005, 4/19/2006, 3/13/2008

San Diego Stormwater Copermittees

Land Use Types for Dry Weather Monitoring

(Adopted by the Dry Weather Monitoring Workgroup, April 20, 2004)

1. **Residential**

   Residential (general)
   Single- and multi-family homes, mobile home parks, etc.

   Rural residential (For the County of San Diego and other appropriate Copermittees)
   Single family homes located in rural areas with lot sizes of approximately 1 to 10 acres. Rural residential estates may have small orchards, fields or small storage buildings associated with the residential dwelling unit, etc.

2. **Commercial**

   Offices, schools, shopping centers, auto dealerships, government/civic centers, cemeteries, churches, libraries, post offices, fire/police stations, military use, jails, prisons, border patrol holding stations, dormitories, hotels, motels, resorts, and casinos, etc.

3. **Agricultural**

   Orchards, vineyards, nurseries, greenhouses, flower fields, dairies, livestock, poultry, equine ranches, row crops and grains, pasture, fallow, etc.

4. **Industrial**

   Shipbuilding, airframe, aircraft manufacturing, industrial parks, manufacturing uses such as lumber, furniture, paper, rubber, stone, clay, and glass; auto repair services/recycling centers; warehousing, wholesale trade; mining, sand and gravel extraction, salt evaporation; junkyard, dumps/landfills; auto wrecking/dismantling and recycling centers, etc.

5. **Parks**

   Recreation areas and centers, neighborhood parks, wildlife and nature preserves, golf courses, accessible sandy areas along the coast or major water bodies allowing swimming and picnicking, etc.

6. **Open**

   Vacant and undeveloped lands, etc.

Revised 4/20/2004, 4/15/2005, 4/19/2006, 3/13/2008

Trash Assessment Form

SITE ID: 11 DATE: 9/13/2010

LOCATION: 645 PACIFIC TIME: 0855

OBSERVER: B. GAMBOA

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L X W (FT): 4' x 3'

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ **Threat Human Health**	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ **Threat to Aquatic Health**	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments:_____

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	12	**Latitude**	(e.g., 33.41174)	**Watershed**	**Hydrologic Unit**	(e.g., 7.00) 905
Location	STEVEN'S CREEK OUTFALL	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10) 905.11
Date	9/13/2010	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11) 905.11
Time	1150	**Observer**	B. GAMBLE		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☒ Commercial ☒ Industrial ☐ Agricultural ☒ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☐ Outlet ☒ Concrete Channel ☒ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☒ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☒ Normal	☐ Excessive		☐ Other
Biology	☐ None	☒ Insects	☐ Algae	☒ Fish	☐ Snails	☐ Mussels/ Barnacles ☐ Insect/ Algae ☐ Insect/ Snail ☐ Other

Water Flow ☐ Flowing ☒ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☒ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 36

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	17.1	NH_3-N (mg/L)	0.6	NO_3-N (mg/L)	1.5	Ortho-PO_4 (mg/L)	1.5
pH (pH units)	7.93	TURB (NTU)	9.56	COND (mS/cm)	4.39	MBAS (mg/L)	0.25

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow	Ø	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: FLOW PONDED, NO FLOW FROM OUTFALL.

Revised 4/20/2004, 4/15/2005, 4/19/2006, 3/13/2008

San Diego Stormwater Copermittees

Land Use Types for Dry Weather Monitoring

(Adopted by the Dry Weather Monitoring Workgroup, April 20, 2004)

1. **Residential**

   Residential (general)
   Single- and multi-family homes, mobile home parks, etc.

   Rural residential (For the County of San Diego and other appropriate Copermittees)
   Single family homes located in rural areas with lot sizes of approximately 1 to 10 acres. Rural residential estates may have small orchards, fields or small storage buildings associated with the residential dwelling unit, etc.

2. **Commercial**

   Offices, schools, shopping centers, auto dealerships, government/civic centers, cemeteries, churches, libraries, post offices, fire/police stations, military use, jails, prisons, border patrol holding stations, dormitories, hotels, motels, resorts, and casinos, etc.

3. **Agricultural**

   Orchards, vineyards, nurseries, greenhouses, flower fields, dairies, livestock, poultry, equine ranches, row crops and grains, pasture, fallow, etc.

4. **Industrial**

   Shipbuilding, airframe, aircraft manufacturing, industrial parks, manufacturing uses such as lumber, furniture, paper, rubber, stone, clay, and glass; auto repair services/recycling centers; warehousing, wholesale trade; mining, sand and gravel extraction, salt evaporation; junkyard, dumps/landfills; auto wrecking/dismantling and recycling centers, etc.

5. **Parks**

   Recreation areas and centers, neighborhood parks, wildlife and nature preserves, golf courses, accessible sandy areas along the coast or major water bodies allowing swimming and picnicking, etc.

6. **Open**

   Vacant and undeveloped lands, etc.

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

Trash Assessment Form

SITE ID: 12 DATE: 9/13/2010

LOCATION: STEVEN'S CREEK OUTFALL TIME: 1150

OBSERVER: B. GAMBLE

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L x W (FT): 20' x 10'

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ **Threat Human Health**	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ **Threat to Aquatic Health**	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments:_____

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☐ Field Screening ☒ Confirmation For TOTAL COLIFORM, ENTERO ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☐ MS4 ☐ Receiving Water

Site ID	12	**Latitude**	(e.g., 33.41174)	**Watershed**	**Hydrologic Unit**	(e.g., 7.00)
Location	STEVEN'S CREEK OUTFALL	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10)
Date	9/21/2010	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11)
Time	10:20	**Observer**			**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☒ Commercial ☒ Industrial ☐ Agricultural ☒ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☐ Outlet ☒ Concrete Channel ☒ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☐ Sunny ☐ Partly Cloudy ☒ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☐ None	☒ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☐ None	☒ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☒ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☐ None	☐ Limited	☒ Normal	☐ Excessive		☐ Other
Biology	☐ None	☒ Insects ☐ Algae	☐ Fish ☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☐ Flowing ☒ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** _____

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: PONDED SAMPLE TAKEN FROM CREEK. LAB ANALYSIS FOR INDICATOR BACTERIA. TRANSIENT EVIDENCE NEAR SAMPLING STATION.

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

San Diego Stormwater Copermittees

Land Use Types for Dry Weather Monitoring

(Adopted by the Dry Weather Monitoring Workgroup, April 20, 2004)

1. **Residential**

   Residential (general)
   Single- and multi-family homes, mobile home parks, etc.

   Rural residential (For the County of San Diego and other appropriate Copermittees)
   Single family homes located in rural areas with lot sizes of approximately 1 to 10 acres. Rural residential estates may have small orchards, fields or small storage buildings associated with the residential dwelling unit, etc.

2. **Commercial**

   Offices, schools, shopping centers, auto dealerships, government/civic centers, cemeteries, churches, libraries, post offices, fire/police stations, military use, jails, prisons, border patrol holding stations, dormitories, hotels, motels, resorts, and casinos, etc.

3. **Agricultural**

   Orchards, vineyards, nurseries, greenhouses, flower fields, dairies, livestock, poultry, equine ranches, row crops and grains, pasture, fallow, etc.

4. **Industrial**

   Shipbuilding, airframe, aircraft manufacturing, industrial parks, manufacturing uses such as lumber, furniture, paper, rubber, stone, clay, and glass; auto repair services/recycling centers; warehousing, wholesale trade; mining, sand and gravel extraction, salt evaporation; junkyard, dumps/landfills; auto wrecking/dismantling and recycling centers, etc.

5. **Parks**

   Recreation areas and centers, neighborhood parks, wildlife and nature preserves, golf courses, accessible sandy areas along the coast or major water bodies allowing swimming and picnicking, etc.

6. **Open**

   Vacant and undeveloped lands, etc.

Revised 4/20/2004, 4/15/2005, 4/19/2006, 3/13/2008

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	13	**Latitude**	(e.g., 33.41174)	Watershed	**Hydrologic Unit**	(e.g., 7.00) 905
Location	VALLEY (N. BAKER IRON WORKS)	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10) 905.11
Date	9/13/2010	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11) 905.11
Time	1125	**Observer**	B. GAMBLE		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☒ Commercial ☒ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☒ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☒ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☒ Other LEAVES
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☒ None	☐ Insects	☐ Algae	☐ Fish	☐ Snails	☐ Mussels/ Barnacles ☐ Insect/ Algae ☐ Insect/ Snail ☐ Other

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 33

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: DRY.

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

San Diego Stormwater Copermittees

Land Use Types for Dry Weather Monitoring

(Adopted by the Dry Weather Monitoring Workgroup, April 20, 2004)

1. **Residential**

   Residential (general)
   Single- and multi-family homes, mobile home parks, etc.

   Rural residential (For the County of San Diego and other appropriate Copermittees)
   Single family homes located in rural areas with lot sizes of approximately 1 to 10 acres. Rural residential estates may have small orchards, fields or small storage buildings associated with the residential dwelling unit, etc.

2. **Commercial**

   Offices, schools, shopping centers, auto dealerships, government/civic centers, cemeteries, churches, libraries, post offices, fire/police stations, military use, jails, prisons, border patrol holding stations, dormitories, hotels, motels, resorts, and casinos, etc.

3. **Agricultural**

   Orchards, vineyards, nurseries, greenhouses, flower fields, dairies, livestock, poultry, equine ranches, row crops and grains, pasture, fallow, etc.

4. **Industrial**

   Shipbuilding, airframe, aircraft manufacturing, industrial parks, manufacturing uses such as lumber, furniture, paper, rubber, stone, clay, and glass; auto repair services/recycling centers; warehousing, wholesale trade; mining, sand and gravel extraction, salt evaporation; junkyard, dumps/landfills; auto wrecking/dismantling and recycling centers, etc.

5. **Parks**

   Recreation areas and centers, neighborhood parks, wildlife and nature preserves, golf courses, accessible sandy areas along the coast or major water bodies allowing swimming and picnicking, etc.

6. **Open**

   Vacant and undeveloped lands, etc.

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

Trash Assessment Form

SITE ID: 13 DATE: 9/13/2010

LOCATION: VAMER (N BAKER IRON WORKS) TIME: 1125

OBSERVER: B. GAMBLE

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L x W (FT): 4'x3'

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☐ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☒ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ **Threat Human Health**	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ **Threat to Aquatic Health**	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments:_____

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	14	**Latitude**	(e.g., 33.41174)	Watershed	**Hydrologic Unit**	(e.g., 7.00) 905
Location	GENEVIEVE AVE / STEVEN'S CREEK	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10) 905.11
Date	9/13/2010	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11) 905.11
Time	1110	**Observer**	B. GAMBLE		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☒ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☐ Outlet ☒ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage		☐ Other
Color	☐ None	☒ Yellow	☐ Brown	☐ White	☐ Gray		☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque			☐ Other
Floatables	☐ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter		☒ Other LEAVES
Deposits	☐ None	☐ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits		☐ Other
Vegetation	☐ None	☐ Limited	☒ Normal	☐ Excessive			☐ Other
Biology	☐ None	☐ Insects ☐ Algae	☒ Fish ☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail	☐ Other

Water Flow ☐ Flowing ☒ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 31-32

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	19.4	NH_3-N (mg/L)	0.2	NO_3-N (mg/L)	<0.25	Ortho-PO_4 (mg/L)	0.1
pH (pH units)	7.78	TURB (NTU)	6.25	COND (mS/cm)	5.26	MBAS (mg/L)	0.5

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: PONDED IN CREEK, NO FLOW. SAMPLE COLLECTED.

Revised 4/20/2004, 4/15/2005, 4/19/2006, 3/13/2008

San Diego Stormwater Copermittees

Land Use Types for Dry Weather Monitoring

(Adopted by the Dry Weather Monitoring Workgroup, April 20, 2004)

1. **Residential**

   Residential (general)
   Single- and multi-family homes, mobile home parks, etc.

   Rural residential (For the County of San Diego and other appropriate Copermittees)
   Single family homes located in rural areas with lot sizes of approximately 1 to 10 acres. Rural residential estates may have small orchards, fields or small storage buildings associated with the residential dwelling unit, etc.

2. **Commercial**

   Offices, schools, shopping centers, auto dealerships, government/civic centers, cemeteries, churches, libraries, post offices, fire/police stations, military use, jails, prisons, border patrol holding stations, dormitories, hotels, motels, resorts, and casinos, etc.

3. **Agricultural**

   Orchards, vineyards, nurseries, greenhouses, flower fields, dairies, livestock, poultry, equine ranches, row crops and grains, pasture, fallow, etc.

4. **Industrial**

   Shipbuilding, airframe, aircraft manufacturing, industrial parks, manufacturing uses such as lumber, furniture, paper, rubber, stone, clay, and glass; auto repair services/recycling centers; warehousing, wholesale trade; mining, sand and gravel extraction, salt evaporation; junkyard, dumps/landfills; auto wrecking/dismantling and recycling centers, etc.

5. **Parks**

   Recreation areas and centers, neighborhood parks, wildlife and nature preserves, golf courses, accessible sandy areas along the coast or major water bodies allowing swimming and picnicking, etc.

6. **Open**

   Vacant and undeveloped lands, etc.

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

Trash Assessment Form

SITE ID: 14 DATE: 9/13/2010

LOCATION: GENEVIEVE AVE/STEVEN'S CREEK TIME: 1110

OBSERVER: B. GAMBLE

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L x W (FT): 20' x 20'

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ **Threat Human Health**	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ **Threat to Aquatic Health**	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments:_____

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	15	**Latitude**	(e.g., 33.41174)	Watershed	**Hydrologic Unit**	(e.g., 7.00) 905
Location	309 SOLANA HILLS DR	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10) 905.11
Date	9/13/2010	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11) 905.11
Time	1055	**Observer**	B. GAMBLE		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only) ☐ Manhole ☒ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☒ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☒ Other LEAVES
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☒ None	☐ Insects	☐ Algae	☐ Fish	☐ Snails	☐ Mussels/ Barnacles ☐ Insect/ Algae ☐ Insect/ Snail ☐ Other

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal DAMP

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 29-30

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: CATCH BASIN DAMP - NO COLLECTABLE SAMPLE.

Revised 4/20/2004, 4/15/2005, 4/19/2006, 3/13/2008

San Diego Stormwater Copermittees

Land Use Types for Dry Weather Monitoring

(Adopted by the Dry Weather Monitoring Workgroup, April 20, 2004)

1. **Residential**

   Residential (general)
   Single- and multi-family homes, mobile home parks, etc.

   Rural residential (For the County of San Diego and other appropriate Copermittees)
   Single family homes located in rural areas with lot sizes of approximately 1 to 10 acres. Rural residential estates may have small orchards, fields or small storage buildings associated with the residential dwelling unit, etc.

2. **Commercial**

   Offices, schools, shopping centers, auto dealerships, government/civic centers, cemeteries, churches, libraries, post offices, fire/police stations, military use, jails, prisons, border patrol holding stations, dormitories, hotels, motels, resorts, and casinos, etc.

3. **Agricultural**

   Orchards, vineyards, nurseries, greenhouses, flower fields, dairies, livestock, poultry, equine ranches, row crops and grains, pasture, fallow, etc.

4. **Industrial**

   Shipbuilding, airframe, aircraft manufacturing, industrial parks, manufacturing uses such as lumber, furniture, paper, rubber, stone, clay, and glass; auto repair services/recycling centers; warehousing, wholesale trade; mining, sand and gravel extraction, salt evaporation; junkyard, dumps/landfills; auto wrecking/dismantling and recycling centers, etc.

5. **Parks**

   Recreation areas and centers, neighborhood parks, wildlife and nature preserves, golf courses, accessible sandy areas along the coast or major water bodies allowing swimming and picnicking, etc.

6. **Open**

   Vacant and undeveloped lands, etc.

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

Trash Assessment Form

SITE ID: 15 DATE: 3/19/2010

LOCATION: 309 SOLANA HILLS DR TIME: 1055

OBSERVER: B. GAMBLE

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L X W (FT): 6' x 5'

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ **Threat Human Health**	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ **Threat to Aquatic Health**	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments:_____

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	16	**Latitude**	(e.g., 33.41174)	Watershed	**Hydrologic Unit**	(e.g., 7.00) 905
Location	559 GLENCREST AVE.	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10) 905.11
Date	9/13/2010	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11) 905.11
Time	1035	**Observer**	B. GAMBLE		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only) ☐ Manhole ☒ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☒ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☒ Other LEAVES
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☒ None	☐ Insects ☐ Algae	☐ Fish ☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 25-26

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: DRY.

Revised 4/20/2004, 4/15/2005, 4/19/2006, 3/13/2008

San Diego Stormwater Copermittees

Land Use Types for Dry Weather Monitoring

(Adopted by the Dry Weather Monitoring Workgroup, April 20, 2004)

1. **Residential**

   Residential (general)
   Single- and multi-family homes, mobile home parks, etc.

   Rural residential (For the County of San Diego and other appropriate Copermittees)
   Single family homes located in rural areas with lot sizes of approximately 1 to 10 acres. Rural residential estates may have small orchards, fields or small storage buildings associated with the residential dwelling unit, etc.

2. **Commercial**

   Offices, schools, shopping centers, auto dealerships, government/civic centers, cemeteries, churches, libraries, post offices, fire/police stations, military use, jails, prisons, border patrol holding stations, dormitories, hotels, motels, resorts, and casinos, etc.

3. **Agricultural**

   Orchards, vineyards, nurseries, greenhouses, flower fields, dairies, livestock, poultry, equine ranches, row crops and grains, pasture, fallow, etc.

4. **Industrial**

   Shipbuilding, airframe, aircraft manufacturing, industrial parks, manufacturing uses such as lumber, furniture, paper, rubber, stone, clay, and glass; auto repair services/recycling centers; warehousing, wholesale trade; mining, sand and gravel extraction, salt evaporation; junkyard, dumps/landfills; auto wrecking/dismantling and recycling centers, etc.

5. **Parks**

   Recreation areas and centers, neighborhood parks, wildlife and nature preserves, golf courses, accessible sandy areas along the coast or major water bodies allowing swimming and picnicking, etc.

6. **Open**

   Vacant and undeveloped lands, etc.

Revised 4/20/2004, 4/15/2005, 4/19/2006, 3/13/2008

Trash Assessment Form

SITE ID: 16 DATE: 9/13/2016

LOCATION: 559 GLENCREST AVE TIME: 10:35

OBSERVER: B. LAMBE

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L x W (FT): 5'x6'

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ **Threat Human Health**	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ **Threat to Aquatic Health**	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments:_____

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	17	**Latitude**	(e.g., 33.41174)	Watershed	**Hydrologic Unit**	(e.g., 7.00) 905
Location	WELLS FARGO	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10) 905.11
Date	9/13/2010	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11) 905.11
Time	1500	**Observer**	B. GAMBLE		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☒ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☒ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor ☒ None ☐ Musty ☐ Rotten Eggs ☐ Chemical ☐ Sewage ☐ Other

Color ☒ None ☐ Yellow ☐ Brown ☐ White ☐ Gray ☐ Other

Clarity ☒ Clear ☐ Slightly Cloudy ☐ Opaque ☐ Other

Floatables ☒ None ☐ Trash ☐ Bubbles/Foam ☐ Sheen ☐ Fecal Matter ☐ Other

Deposits ☐ None ☒ Sediment/Gravel ☐ Fine Particulates ☐ Stains ☐ Oily Deposits ☒ Other LEAVES

Vegetation ☒ None ☐ Limited ☐ Normal ☐ Excessive ☐ Other

Biology ☒ None ☐ Insects ☐ Algae ☐ Fish ☐ Snails ☐ Mussels/ Barnacles ☐ Insect/ Algae ☐ Insect/ Snail ☐ Other

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 49-50

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: DRY.

Revised 4/20/2004, 4/15/2005, 4/19/2006, 3/13/2008

San Diego Stormwater Copermittees

Land Use Types for Dry Weather Monitoring

(Adopted by the Dry Weather Monitoring Workgroup, April 20, 2004)

1. **Residential**

   Residential (general)
   Single- and multi-family homes, mobile home parks, etc.

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   Single family homes located in rural areas with lot sizes of approximately 1 to 10 acres. Rural residential estates may have small orchards, fields or small storage buildings associated with the residential dwelling unit, etc.

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3. **Agricultural**

   Orchards, vineyards, nurseries, greenhouses, flower fields, dairies, livestock, poultry, equine ranches, row crops and grains, pasture, fallow, etc.

4. **Industrial**

   Shipbuilding, airframe, aircraft manufacturing, industrial parks, manufacturing uses such as lumber, furniture, paper, rubber, stone, clay, and glass; auto repair services/recycling centers; warehousing, wholesale trade; mining, sand and gravel extraction, salt evaporation; junkyard, dumps/landfills; auto wrecking/dismantling and recycling centers, etc.

5. **Parks**

   Recreation areas and centers, neighborhood parks, wildlife and nature preserves, golf courses, accessible sandy areas along the coast or major water bodies allowing swimming and picnicking, etc.

6. **Open**

   Vacant and undeveloped lands, etc.

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

Trash Assessment Form

SITE ID: 17 DATE: 9/13/2010

LOCATION: WELLS FARGO TIME: 1500

OBSERVER: B. GAMBLE

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L x W (FT): 6' x 4'

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ Optimal	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ Suboptimal	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ Marginal	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
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☐ Poor	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ Threat Human Health	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
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- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments:_____

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	18	**Latitude**	(e.g., 33.41174)	Watershed	**Hydrologic Unit**	(e.g., 7.00) 905
Location	AVOCADO PLACE	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10) 905.11
Date	9/13/2010	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11) 905.11
Time	1355	**Observer**	B. GAMBLE		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only) ☐ Manhole ☒ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other	
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other	
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other	
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other	
Deposits	☐ None	☒ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other	
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other	
Biology	☒ None	☐ Insects	☐ Algae	☐ Fish	☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail	☐ Other

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 40

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: DRY

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

San Diego Stormwater Copermittees

Land Use Types for Dry Weather Monitoring

(Adopted by the Dry Weather Monitoring Workgroup, April 20, 2004)

1. **Residential**

   Residential (general)
   Single- and multi-family homes, mobile home parks, etc.

   Rural residential (For the County of San Diego and other appropriate Copermittees)
   Single family homes located in rural areas with lot sizes of approximately 1 to 10 acres. Rural residential estates may have small orchards, fields or small storage buildings associated with the residential dwelling unit, etc.

2. **Commercial**

   Offices, schools, shopping centers, auto dealerships, government/civic centers, cemeteries, churches, libraries, post offices, fire/police stations, military use, jails, prisons, border patrol holding stations, dormitories, hotels, motels, resorts, and casinos, etc.

3. **Agricultural**

   Orchards, vineyards, nurseries, greenhouses, flower fields, dairies, livestock, poultry, equine ranches, row crops and grains, pasture, fallow, etc.

4. **Industrial**

   Shipbuilding, airframe, aircraft manufacturing, industrial parks, manufacturing uses such as lumber, furniture, paper, rubber, stone, clay, and glass; auto repair services/recycling centers; warehousing, wholesale trade; mining, sand and gravel extraction, salt evaporation; junkyard, dumps/landfills; auto wrecking/dismantling and recycling centers, etc.

5. **Parks**

   Recreation areas and centers, neighborhood parks, wildlife and nature preserves, golf courses, accessible sandy areas along the coast or major water bodies allowing swimming and picnicking, etc.

6. **Open**

   Vacant and undeveloped lands, etc.

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

Trash Assessment Form

SITE ID: 18 DATE: 9/13/2010

LOCATION: AVOCADO PLACE TIME: 1355

OBSERVER: B. GAMBLE

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L x W (FT): 5' x 3'

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ **Threat Human Health**	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ **Threat to Aquatic Health**	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments:

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	19	**Latitude**	(e.g., 33.41174)	**Watershed**	**Hydrologic Unit**	(e.g., 7.00) 905
Location	DEL STREET	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10) 905.11
Date	9/13/2010	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11) 905.11
Time	1045	**Observer**	B. GAMBLE		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☒ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☒ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other		
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other		
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other		
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other		
Deposits	☐ None	☒ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other		
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other		
Biology	☒ None	☐ Insects	☐ Algae	☐ Fish	☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail	☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 27-28

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow	< 0.1	gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: HAIRLINE TRICKLE - SAMPLE NOT COLLECTABLE

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

San Diego Stormwater Copermittees

Land Use Types for Dry Weather Monitoring

(Adopted by the Dry Weather Monitoring Workgroup, April 20, 2004)

1. **Residential**

   Residential (general)
   Single- and multi-family homes, mobile home parks, etc.

   Rural residential (For the County of San Diego and other appropriate Copermittees)
   Single family homes located in rural areas with lot sizes of approximately 1 to 10 acres. Rural residential estates may have small orchards, fields or small storage buildings associated with the residential dwelling unit, etc.

2. **Commercial**

   Offices, schools, shopping centers, auto dealerships, government/civic centers, cemeteries, churches, libraries, post offices, fire/police stations, military use, jails, prisons, border patrol holding stations, dormitories, hotels, motels, resorts, and casinos, etc.

3. **Agricultural**

   Orchards, vineyards, nurseries, greenhouses, flower fields, dairies, livestock, poultry, equine ranches, row crops and grains, pasture, fallow, etc.

4. **Industrial**

   Shipbuilding, airframe, aircraft manufacturing, industrial parks, manufacturing uses such as lumber, furniture, paper, rubber, stone, clay, and glass; auto repair services/recycling centers; warehousing, wholesale trade; mining, sand and gravel extraction, salt evaporation; junkyard, dumps/landfills; auto wrecking/dismantling and recycling centers, etc.

5. **Parks**

   Recreation areas and centers, neighborhood parks, wildlife and nature preserves, golf courses, accessible sandy areas along the coast or major water bodies allowing swimming and picnicking, etc.

6. **Open**

   Vacant and undeveloped lands, etc.

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

Trash Assessment Form

SITE ID: 19 DATE: 9/13/2010

LOCATION: DELL STREET TIME: 1045

OBSERVER: B. GAMBLE

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L x W (FT): 8' x 5'

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☑ Optimal	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ Suboptimal	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ Marginal	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ Submarginal	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ Poor	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ Threat Human Health	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ Threat to Aquatic Health	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments:_____

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	20	**Latitude**	(e.g., 33.41174)	**Watershed**	**Hydrologic Unit**	(e.g., 7.00) 905
Location	SOUTH CEDROS/VIA DE LA VALLE	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10) 905.11
Date	9/13/2010	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11) 905.11
Time	0755	**Observer**	B. GAMBLE		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☒ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☒ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☐ Sunny ☐ Partly Cloudy ☒ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other	
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other	
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other	
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other	
Deposits	☐ None	☒ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other	
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other	
Biology	☒ None	☐ Insects ☐ Algae	☐ Fish ☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail	☐ Other

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 1-2

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: CATCH BASIN DRY.

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

San Diego Stormwater Copermittees

Land Use Types for Dry Weather Monitoring

(Adopted by the Dry Weather Monitoring Workgroup, April 20, 2004)

1. **Residential**

   Residential (general)
   Single- and multi-family homes, mobile home parks, etc.

   Rural residential (For the County of San Diego and other appropriate Copermittees)
   Single family homes located in rural areas with lot sizes of approximately 1 to 10 acres. Rural residential estates may have small orchards, fields or small storage buildings associated with the residential dwelling unit, etc.

2. **Commercial**

   Offices, schools, shopping centers, auto dealerships, government/civic centers, cemeteries, churches, libraries, post offices, fire/police stations, military use, jails, prisons, border patrol holding stations, dormitories, hotels, motels, resorts, and casinos, etc.

3. **Agricultural**

   Orchards, vineyards, nurseries, greenhouses, flower fields, dairies, livestock, poultry, equine ranches, row crops and grains, pasture, fallow, etc.

4. **Industrial**

   Shipbuilding, airframe, aircraft manufacturing, industrial parks, manufacturing uses such as lumber, furniture, paper, rubber, stone, clay, and glass; auto repair services/recycling centers; warehousing, wholesale trade; mining, sand and gravel extraction, salt evaporation; junkyard, dumps/landfills; auto wrecking/dismantling and recycling centers, etc.

5. **Parks**

   Recreation areas and centers, neighborhood parks, wildlife and nature preserves, golf courses, accessible sandy areas along the coast or major water bodies allowing swimming and picnicking, etc.

6. **Open**

   Vacant and undeveloped lands, etc.

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

Trash Assessment Form

SITE ID: 20 DATE: 9/13/2010

LOCATION: S CEDROS/VIA DEL VALLE TIME: 0755

OBSERVER: B. GAMBLE

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L X W (FT): 8' x 4'

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☐ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☒ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ **Threat Human Health**	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ **Threat to Aquatic Health**	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments:_____

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	21	**Latitude**	(e.g., 33.41174)	**Watershed**	**Hydrologic Unit** (e.g., 7.00)	905
Location	605 MARSOLAN AVE	**Longitude**	(e.g., -117.35213)		**Hydrologic Area** (e.g., 7.10)	905.11
Date	9/13/2010	**TB Page**			**Hydrologic Subarea** (Optional) (e.g., 7.11)	905.11
Time	0800	**Observer**	B. GAMBLE		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☒ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☒ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☐ Sunny ☐ Partly Cloudy ☒ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☐ None	☐ Musty	☒ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☐ Clear		☒ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☐ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☒ Other LEAVES
Deposits	☐ None	☐ Sediment/Gravel	☒ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☒ None	☐ Insects ☐ Algae	☐ Fish ☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☐ Flowing ☒ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☒ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 3-5

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	18.0	NH_3-N (mg/L)	0.6	NO_3-N (mg/L)	<0.25	Ortho-PO_4 (mg/L)	0.8
pH (pH units)	7.87	TURB (NTU)	16.9	COND (mS/cm)	2.91	MBAS (mg/L)	0.25

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: PONDED WATER AT BOTTOM OF CATCH BASIN. APPEARS TO HAVE ORIGINATED FROM STREET DUE TO OVER-IRRIGATION (SEE PHOTOS). FIELD SCREENING & LAB SAMPLES COLLECTED.

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

San Diego Stormwater Copermittees

Land Use Types for Dry Weather Monitoring

(Adopted by the Dry Weather Monitoring Workgroup, April 20, 2004)

1. **Residential**

   Residential (general)
   Single- and multi-family homes, mobile home parks, etc.

   Rural residential (For the County of San Diego and other appropriate Copermittees)
   Single family homes located in rural areas with lot sizes of approximately 1 to 10 acres. Rural residential estates may have small orchards, fields or small storage buildings associated with the residential dwelling unit, etc.

2. **Commercial**

   Offices, schools, shopping centers, auto dealerships, government/civic centers, cemeteries, churches, libraries, post offices, fire/police stations, military use, jails, prisons, border patrol holding stations, dormitories, hotels, motels, resorts, and casinos, etc.

3. **Agricultural**

   Orchards, vineyards, nurseries, greenhouses, flower fields, dairies, livestock, poultry, equine ranches, row crops and grains, pasture, fallow, etc.

4. **Industrial**

   Shipbuilding, airframe, aircraft manufacturing, industrial parks, manufacturing uses such as lumber, furniture, paper, rubber, stone, clay, and glass; auto repair services/recycling centers; warehousing, wholesale trade; mining, sand and gravel extraction, salt evaporation; junkyard, dumps/landfills; auto wrecking/dismantling and recycling centers, etc.

5. **Parks**

   Recreation areas and centers, neighborhood parks, wildlife and nature preserves, golf courses, accessible sandy areas along the coast or major water bodies allowing swimming and picnicking, etc.

6. **Open**

   Vacant and undeveloped lands, etc.

Revised 4/20/2004, 4/15/2005, 4/19/2006, 3/13/2008

Trash Assessment Form

SITE ID: 21 DATE: 9/13/2010

LOCATION: 605 MARSOLAN AVE TIME: 0800

OBSERVER: B. GAMBOA

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L X W (FT): 6' x 3'

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ **Threat Human Health**	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ **Threat to Aquatic Health**	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments:_____

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	22	**Latitude**	(e.g., 33.41174)	**Watershed**	**Hydrologic Unit**	(e.g., 7.00) 905
Location	779 BARBARA AVE	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10) 905.11
Date	9/13/2010	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11) 905.11
Time	1015	**Observer**	B. GAMBLE		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only) ☐ Manhole ☒ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage		☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray		☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque			☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter		☐ Other
Deposits	☐ None	☒ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits		☐ Other
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive			☐ Other
Biology	☐ None	☒ Insects	☐ Algae	☐ Fish	☐ Snails	☐ Mussels/ Barnacles ☐ Insect/ Algae ☐ Insect/ Snail	☐ Other

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal DAMP

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 18-19

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: CATCH BASIN DAMP, NOT ENOUGH WATER FOR COLLECTABLE SAMPLE.

Revised 4/20/2004, 4/15/2005, 4/19/2006, 3/13/2008

San Diego Stormwater Copermittees

Land Use Types for Dry Weather Monitoring

(Adopted by the Dry Weather Monitoring Workgroup, April 20, 2004)

1. **Residential**

   Residential (general)
   Single- and multi-family homes, mobile home parks, etc.

   Rural residential (For the County of San Diego and other appropriate Copermittees)
   Single family homes located in rural areas with lot sizes of approximately 1 to 10 acres. Rural residential estates may have small orchards, fields or small storage buildings associated with the residential dwelling unit, etc.

2. **Commercial**

   Offices, schools, shopping centers, auto dealerships, government/civic centers, cemeteries, churches, libraries, post offices, fire/police stations, military use, jails, prisons, border patrol holding stations, dormitories, hotels, motels, resorts, and casinos, etc.

3. **Agricultural**

   Orchards, vineyards, nurseries, greenhouses, flower fields, dairies, livestock, poultry, equine ranches, row crops and grains, pasture, fallow, etc.

4. **Industrial**

   Shipbuilding, airframe, aircraft manufacturing, industrial parks, manufacturing uses such as lumber, furniture, paper, rubber, stone, clay, and glass; auto repair services/recycling centers; warehousing, wholesale trade; mining, sand and gravel extraction, salt evaporation; junkyard, dumps/landfills; auto wrecking/dismantling and recycling centers, etc.

5. **Parks**

   Recreation areas and centers, neighborhood parks, wildlife and nature preserves, golf courses, accessible sandy areas along the coast or major water bodies allowing swimming and picnicking, etc.

6. **Open**

   Vacant and undeveloped lands, etc.

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

Trash Assessment Form

SITE ID: 22 DATE: 9/13/2010

LOCATION: 779 BARBARA AVE TIME: 1015

OBSERVER: R. GAMBOA

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L X W (FT): 8' x 4'

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ Optimal	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ Suboptimal	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ Marginal	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ Submarginal	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ Poor	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ Threat Human Health	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ Threat to Aquatic Health	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments:

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	23	**Latitude**	(e.g., 33.41174)	Watershed	**Hydrologic Unit**	(e.g., 7.00) 905
Location	North Cedros / Lomas Santa Fe	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10) 905.11
Date	9/13/2010	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11) 905.11
Time	0830	**Observer**	B. GAMBLE		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☒ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☒ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☐ Sunny ☐ Partly Cloudy ☒ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☒ None	☐ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☒ None	☐ Insects	☐ Algae	☐ Fish	☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail	☐ Other

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☒ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 6-7

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: DRY.

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

San Diego Stormwater Copermittees

Land Use Types for Dry Weather Monitoring

(Adopted by the Dry Weather Monitoring Workgroup, April 20, 2004)

1. **Residential**

   Residential (general)
   Single- and multi-family homes, mobile home parks, etc.

   Rural residential (For the County of San Diego and other appropriate Copermittees)
   Single family homes located in rural areas with lot sizes of approximately 1 to 10 acres. Rural residential estates may have small orchards, fields or small storage buildings associated with the residential dwelling unit, etc.

2. **Commercial**

   Offices, schools, shopping centers, auto dealerships, government/civic centers, cemeteries, churches, libraries, post offices, fire/police stations, military use, jails, prisons, border patrol holding stations, dormitories, hotels, motels, resorts, and casinos, etc.

3. **Agricultural**

   Orchards, vineyards, nurseries, greenhouses, flower fields, dairies, livestock, poultry, equine ranches, row crops and grains, pasture, fallow, etc.

4. **Industrial**

   Shipbuilding, airframe, aircraft manufacturing, industrial parks, manufacturing uses such as lumber, furniture, paper, rubber, stone, clay, and glass; auto repair services/recycling centers; warehousing, wholesale trade; mining, sand and gravel extraction, salt evaporation; junkyard, dumps/landfills; auto wrecking/dismantling and recycling centers, etc.

5. **Parks**

   Recreation areas and centers, neighborhood parks, wildlife and nature preserves, golf courses, accessible sandy areas along the coast or major water bodies allowing swimming and picnicking, etc.

6. **Open**

   Vacant and undeveloped lands, etc.

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

Trash Assessment Form

SITE ID: 23 DATE: 9/13/2010

LOCATION: N CEDROS / CORNAS SANTA FE TIME: 0830

OBSERVER: B. GAMBUE

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L X W (FT): 6' x 5'

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☐ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☒ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ **Threat Human Health**	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ **Threat to Aquatic Health**	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments:_____

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	24	**Latitude**	(e.g., 33.41174)	**Watershed**	**Hydrologic Unit**	(e.g., 7.00) 905
Location	347 ACACIA ST	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10) 905.11
Date	9/13/2010	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11) 905.11
Time	0845	**Observer**	B. GAMBLE		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only) ☐ Manhole ☒ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☐ Sunny ☐ Partly Cloudy ☒ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☒ None	☐ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☒ None	☐ Insects ☐ Algae	☐ Fish ☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 10

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: DRY.

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

San Diego Stormwater Copermittees

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(Adopted by the Dry Weather Monitoring Workgroup, April 20, 2004)

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5. **Parks**

   Recreation areas and centers, neighborhood parks, wildlife and nature preserves, golf courses, accessible sandy areas along the coast or major water bodies allowing swimming and picnicking, etc.

6. **Open**

   Vacant and undeveloped lands, etc.

Revised 4/20/2004, 4/15/2005, 4/19/2006, 3/13/2008

Trash Assessment Form

SITE ID: 24 DATE: 9/13/2010

LOCATION: 347 ACACIA STREET TIME: 0845

OBSERVER: B. GAMBLE

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L X W (FT): 6' x 5'

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
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* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ **Threat Human Health**	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ **Threat to Aquatic Health**	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments:_____

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	25	**Latitude**	(e.g., 33.41174)	Watershed	**Hydrologic Unit**	(e.g., 7.00) 905
Location	SEASCAPE (OUTFALL)	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10) 905.11
Date	9/13/2010	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11) 905.11
Time	0915	**Observer**	B. GAMBLE		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☒ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☒ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☐ Sunny ☐ Partly Cloudy ☒ Overcast ☐ Fog

Tide ☐ N/A ☒ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☐ None	☒ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☐ Clear		☒ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☐ None	☐ Trash	☒ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☒ None	☐ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☒ None	☐ Insects ☐ Algae	☐ Fish ☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☒ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 13-14

Field Screening Samples Collected? ☒ Yes ☐ No

Water Temp (°C)	17.6	NH_3-N (mg/L)	0.6	NO_3-N (mg/L)	<0.25	Ortho-PO_4 (mg/L)	1.8
pH (pH units)	8.07	TURB (NTU)	52.2	COND (mS/cm)	3.11	MBAS (mg/L)	0.5

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow	1.5	gpm

COMMENTS: OUTFALL FLOWING, SAMPLE COLLECTED. FLOW DOES NOT REACH RW.

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

San Diego Stormwater Copermittees

Land Use Types for Dry Weather Monitoring

(Adopted by the Dry Weather Monitoring Workgroup, April 20, 2004)

1. **Residential**

   Residential (general)
   Single- and multi-family homes, mobile home parks, etc.

   Rural residential (For the County of San Diego and other appropriate Copermittees)
   Single family homes located in rural areas with lot sizes of approximately 1 to 10 acres. Rural residential estates may have small orchards, fields or small storage buildings associated with the residential dwelling unit, etc.

2. **Commercial**

   Offices, schools, shopping centers, auto dealerships, government/civic centers, cemeteries, churches, libraries, post offices, fire/police stations, military use, jails, prisons, border patrol holding stations, dormitories, hotels, motels, resorts, and casinos, etc.

3. **Agricultural**

   Orchards, vineyards, nurseries, greenhouses, flower fields, dairies, livestock, poultry, equine ranches, row crops and grains, pasture, fallow, etc.

4. **Industrial**

   Shipbuilding, airframe, aircraft manufacturing, industrial parks, manufacturing uses such as lumber, furniture, paper, rubber, stone, clay, and glass; auto repair services/recycling centers; warehousing, wholesale trade; mining, sand and gravel extraction, salt evaporation; junkyard, dumps/landfills; auto wrecking/dismantling and recycling centers, etc.

5. **Parks**

   Recreation areas and centers, neighborhood parks, wildlife and nature preserves, golf courses, accessible sandy areas along the coast or major water bodies allowing swimming and picnicking, etc.

6. **Open**

   Vacant and undeveloped lands, etc.

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

Trash Assessment Form

SITE ID: 25 DATE: 9/13/2010

LOCATION: SEASCAPE OUTFALL TIME: 0915

OBSERVER: R. GAMBLE

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L X W (FT): 2' X 8'

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ **Threat Human Health**	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ **Threat to Aquatic Health**	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments:

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☐ Field Screening ☒ Confirmation For BACTERIA INDICATORS ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☐ MS4 ☐ Receiving Water

Site ID	25	**Latitude**	(e.g., 33.41174)	Watershed	**Hydrologic Unit**	(e.g., 7.00)
Location	SEASCAPE (OUTFALL)	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10)
Date	9/15/2010	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11)
Time	11:55	**Observer**	B. GAMBLE		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☒ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☐ Catch Basin ☒ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☐ Sunny ☒ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☐ N/A ☐ Low ☒ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other	
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other	
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other	
Floatables	☐ None	☐ Trash	☒ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other	
Deposits	☒ None	☐ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other	
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other	
Biology	☒ None	☐ Insects ☐ Algae	☐ Fish ☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail	☐ Other

Water Flow ☒ Flowing ☐ Ponded ☐ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☒ No ☐ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** _____

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? ☒ Yes ☐ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow	1.0	gpm

COMMENTS: OUTFALL FLOWING, WATER DOES NOT REACH RW. COLLECTED SAMPLE FOR LAB ANALYSIS - CONFIRMATION FOR BACTERIA INDICATOR EXCEEDANCES.

Revised 4/20/2004, 4/15/2005, 4/19/2006, 3/13/2008

San Diego Stormwater Copermittees

Land Use Types for Dry Weather Monitoring

(Adopted by the Dry Weather Monitoring Workgroup, April 20, 2004)

1. **Residential**

   Residential (general)
   Single- and multi-family homes, mobile home parks, etc.

   Rural residential (For the County of San Diego and other appropriate Copermittees)
   Single family homes located in rural areas with lot sizes of approximately 1 to 10 acres. Rural residential estates may have small orchards, fields or small storage buildings associated with the residential dwelling unit, etc.

2. **Commercial**

   Offices, schools, shopping centers, auto dealerships, government/civic centers, cemeteries, churches, libraries, post offices, fire/police stations, military use, jails, prisons, border patrol holding stations, dormitories, hotels, motels, resorts, and casinos, etc.

3. **Agricultural**

   Orchards, vineyards, nurseries, greenhouses, flower fields, dairies, livestock, poultry, equine ranches, row crops and grains, pasture, fallow, etc.

4. **Industrial**

   Shipbuilding, airframe, aircraft manufacturing, industrial parks, manufacturing uses such as lumber, furniture, paper, rubber, stone, clay, and glass; auto repair services/recycling centers; warehousing, wholesale trade; mining, sand and gravel extraction, salt evaporation; junkyard, dumps/landfills; auto wrecking/dismantling and recycling centers, etc.

5. **Parks**

   Recreation areas and centers, neighborhood parks, wildlife and nature preserves, golf courses, accessible sandy areas along the coast or major water bodies allowing swimming and picnicking, etc.

6. **Open**

   Vacant and undeveloped lands, etc.

Revised 4/20/2004, 4/15/2005, 4/19/2006, 3/13/2008

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	26	**Latitude**	(e.g., 33.41174)	**Watershed**	**Hydrologic Unit**	(e.g., 7.00) 905
Location	248 SIERRA AVE	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10) 905.11
Date	9/13/2010	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11) 905.11
Time	0840	**Observer**	B. GAMBLE		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only) ☐ Manhole ☒ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☐ Sunny ☐ Partly Cloudy ☒ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other	
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other	
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other	
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other	
Deposits	☒ None	☐ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other	
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other	
Biology	☒ None	☐ Insects ☐ Algae	☐ Fish ☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail	☐ Other

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal DAMP

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 8-9

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: DAMP, NO SAMPLES COLLECTED.

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

San Diego Stormwater Copermittees

Land Use Types for Dry Weather Monitoring

(Adopted by the Dry Weather Monitoring Workgroup, April 20, 2004)

1. **Residential**

   Residential (general)
   Single- and multi-family homes, mobile home parks, etc.

   Rural residential (For the County of San Diego and other appropriate Copermittees)
   Single family homes located in rural areas with lot sizes of approximately 1 to 10 acres. Rural residential estates may have small orchards, fields or small storage buildings associated with the residential dwelling unit, etc.

2. **Commercial**

   Offices, schools, shopping centers, auto dealerships, government/civic centers, cemeteries, churches, libraries, post offices, fire/police stations, military use, jails, prisons, border patrol holding stations, dormitories, hotels, motels, resorts, and casinos, etc.

3. **Agricultural**

   Orchards, vineyards, nurseries, greenhouses, flower fields, dairies, livestock, poultry, equine ranches, row crops and grains, pasture, fallow, etc.

4. **Industrial**

   Shipbuilding, airframe, aircraft manufacturing, industrial parks, manufacturing uses such as lumber, furniture, paper, rubber, stone, clay, and glass; auto repair services/recycling centers; warehousing, wholesale trade; mining, sand and gravel extraction, salt evaporation; junkyard, dumps/landfills; auto wrecking/dismantling and recycling centers, etc.

5. **Parks**

   Recreation areas and centers, neighborhood parks, wildlife and nature preserves, golf courses, accessible sandy areas along the coast or major water bodies allowing swimming and picnicking, etc.

6. **Open**

   Vacant and undeveloped lands, etc.

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

Trash Assessment Form

SITE ID: 26 DATE: 9/13/2010

LOCATION: 248 SIERRA AVE TIME: 0840

OBSERVER: B. GAMBLE

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L x W (FT): 6' x 5'

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ **Threat Human Health**	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ **Threat to Aquatic Health**	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments:_____

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	27	**Latitude**	(e.g., 33.41174)	**Watershed**	**Hydrologic Unit**	(e.g., 7.00) 905
Location	SAN ANDRES (CITY LIMITS)	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10) 905.11
Date	9/13/2010	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11) 905.11
Time	1345	**Observer**	B. GAMBLE		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only) ☐ Manhole ☒ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☒ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☒ None	☐ Insects ☐ Algae	☐ Fish ☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae ☐ Insect/ Snail	☐ Other

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 39

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: DRY

Revised 4/20/2004, 4/15/2005, 4/19/2006, 3/13/2008

San Diego Stormwater Copermittees

Land Use Types for Dry Weather Monitoring

(Adopted by the Dry Weather Monitoring Workgroup, April 20, 2004)

1. **Residential**

   Residential (general)
   Single- and multi-family homes, mobile home parks, etc.

   Rural residential (For the County of San Diego and other appropriate Copermittees)
   Single family homes located in rural areas with lot sizes of approximately 1 to 10 acres. Rural residential estates may have small orchards, fields or small storage buildings associated with the residential dwelling unit, etc.

2. **Commercial**

   Offices, schools, shopping centers, auto dealerships, government/civic centers, cemeteries, churches, libraries, post offices, fire/police stations, military use, jails, prisons, border patrol holding stations, dormitories, hotels, motels, resorts, and casinos, etc.

3. **Agricultural**

   Orchards, vineyards, nurseries, greenhouses, flower fields, dairies, livestock, poultry, equine ranches, row crops and grains, pasture, fallow, etc.

4. **Industrial**

   Shipbuilding, airframe, aircraft manufacturing, industrial parks, manufacturing uses such as lumber, furniture, paper, rubber, stone, clay, and glass; auto repair services/recycling centers; warehousing, wholesale trade; mining, sand and gravel extraction, salt evaporation; junkyard, dumps/landfills; auto wrecking/dismantling and recycling centers, etc.

5. **Parks**

   Recreation areas and centers, neighborhood parks, wildlife and nature preserves, golf courses, accessible sandy areas along the coast or major water bodies allowing swimming and picnicking, etc.

6. **Open**

   Vacant and undeveloped lands, etc.

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

Trash Assessment Form

SITE ID: 27 DATE: 9/13/2010

LOCATION: SAN ANDRES (CITY LIMITS) TIME: 1345

OBSERVER: B. GAMBLE

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L x W (FT): 4'x3'

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ Optimal	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ Suboptimal	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ Marginal	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ Submarginal	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ Poor	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ Threat Human Health	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ Threat to Aquatic Health	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments:_____

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	28	**Latitude**	(e.g., 33.41174)	Watershed	**Hydrologic Unit**	(e.g., 7.00) 905
Location	SPINDRIFT WAY / AMERICAN LN	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10) 905.11
Date	9/13/2010	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11) 905.11
Time	1335	**Observer**	B. GAMBLE		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☒ None

Conveyance (Check one only) ☐ Manhole ☒ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☒ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☐ Other
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☒ None	☐ Insects ☐ Algae	☐ Fish ☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 37-38

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: DRY

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

San Diego Stormwater Copermittees

Land Use Types for Dry Weather Monitoring

(Adopted by the Dry Weather Monitoring Workgroup, April 20, 2004)

1. **Residential**

   Residential (general)
   Single- and multi-family homes, mobile home parks, etc.

   Rural residential (For the County of San Diego and other appropriate Copermittees)
   Single family homes located in rural areas with lot sizes of approximately 1 to 10 acres. Rural residential estates may have small orchards, fields or small storage buildings associated with the residential dwelling unit, etc.

2. **Commercial**

   Offices, schools, shopping centers, auto dealerships, government/civic centers, cemeteries, churches, libraries, post offices, fire/police stations, military use, jails, prisons, border patrol holding stations, dormitories, hotels, motels, resorts, and casinos, etc.

3. **Agricultural**

   Orchards, vineyards, nurseries, greenhouses, flower fields, dairies, livestock, poultry, equine ranches, row crops and grains, pasture, fallow, etc.

4. **Industrial**

   Shipbuilding, airframe, aircraft manufacturing, industrial parks, manufacturing uses such as lumber, furniture, paper, rubber, stone, clay, and glass; auto repair services/recycling centers; warehousing, wholesale trade; mining, sand and gravel extraction, salt evaporation; junkyard, dumps/landfills; auto wrecking/dismantling and recycling centers, etc.

5. **Parks**

   Recreation areas and centers, neighborhood parks, wildlife and nature preserves, golf courses, accessible sandy areas along the coast or major water bodies allowing swimming and picnicking, etc.

6. **Open**

   Vacant and undeveloped lands, etc.

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

Trash Assessment Form

SITE ID: 28 DATE: 9/13/2010

LOCATION: SPRUCE WY / AMERICAN LN TIME: 1335

OBSERVER: B. GAMBLE

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L x W (FT): 5' x 3'

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ **Threat Human Health**	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ **Threat to Aquatic Health**	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments:_____

San Diego Stormwater Copermittees
Dry Weather Monitoring Field Datasheet

☒ Field Screening ☐ Confirmation For _____ ☐ IC/ID Follow-Up For _____

GENERAL SITE DESCRIPTION (NAD 83 decimal degrees to 5th place) ☒ MS4 ☐ Receiving Water

Site ID	29	**Latitude**	(e.g., 33.41174)	**Watershed**	**Hydrologic Unit**	(e.g., 7.00) 905
Location	VALLEY AVE / VIA DE LA VALLE	**Longitude**	(e.g., -117.35213)		**Hydrologic Area**	(e.g., 7.10) 905.11
Date	9/13/2010	**TB Page**			**Hydrologic Subarea** (Optional)	(e.g., 7.11) 905.11
Time	1135	**Observer**	B GAMBLE		**Discharge Area** (Optional)	

Land Use (Primary) (Check one only) ☒ Residential ☐ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open

Land Use (Secondary) (Optional, greater than 10%) ☐ Residential ☒ Commercial ☐ Industrial ☐ Agricultural ☐ Parks ☐ Open ☐ None

Conveyance (Check one only) ☐ Manhole ☒ Catch Basin ☐ Outlet ☐ Concrete Channel ☐ Natural Creek ☐ Earthen Channel ☐ Curb/Gutter

ATMOSPHERIC CONDITIONS

Weather ☒ Sunny ☐ Partly Cloudy ☐ Overcast ☐ Fog

Tide ☒ N/A ☐ Low ☐ Incoming ☐ High ☐ Outgoing **Tide Height:** _____ ft.

Last Rain ☒ > 72 hours ☐ < 72 hours

Rainfall ☒ None ☐ < 0.1" ☐ > 0.1"

RUNOFF CHARACTERISTICS

Odor	☒ None	☐ Musty	☐ Rotten Eggs	☐ Chemical	☐ Sewage	☐ Other
Color	☒ None	☐ Yellow	☐ Brown	☐ White	☐ Gray	☐ Other
Clarity	☒ Clear		☐ Slightly Cloudy	☐ Opaque		☐ Other
Floatables	☒ None	☐ Trash	☐ Bubbles/Foam	☐ Sheen	☐ Fecal Matter	☐ Other
Deposits	☐ None	☒ Sediment/Gravel	☐ Fine Particulates	☐ Stains	☐ Oily Deposits	☒ Other LEAVES
Vegetation	☒ None	☐ Limited	☐ Normal	☐ Excessive		☐ Other
Biology	☒ None	☐ Insects ☐ Algae	☐ Fish ☐ Snails	☐ Mussels/ Barnacles	☐ Insect/ Algae	☐ Insect/ Snail ☐ Other

Water Flow ☐ Flowing ☐ Ponded ☒ Dry ☐ Tidal DAMP

Does the storm drain flow reach the Receiving Water? ☐ Yes ☐ No ☒ N/A

Evidence of Overland Flow? ☐ Yes ☒ No ☐ Irrigation Runoff ☐ Other: _____

Photo Taken ☒ Yes ☐ No **Photo #** 34-35

Field Screening Samples Collected? ☐ Yes ☒ No

Water Temp (°C)		NH_3-N (mg/L)		NO_3-N (mg/L)		Ortho-PO_4 (mg/L)	
pH (pH units)		TURB (NTU)		COND (mS/cm)		MBAS (mg/L)	

Analytical Lab Samples Collected? ☐ Yes ☒ No

FLOW ESTIMATION WORKSHEETS

Flowing Creek or Box Culvert

Width		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

Filling a Bottle or Known Volume

Volume		mL
Time to Fill		sec
Flow		gpm

Flowing Pipe

Diameter		ft
Depth		ft
Velocity		ft/sec
Flow		gpm

COMMENTS: CATCH BASIN DAMP. SAMPLE NOT COLLECTABLE.

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

San Diego Stormwater Copermittees

Land Use Types for Dry Weather Monitoring

(Adopted by the Dry Weather Monitoring Workgroup, April 20, 2004)

1. **Residential**

   Residential (general)
   Single- and multi-family homes, mobile home parks, etc.

   Rural residential (For the County of San Diego and other appropriate Copermittees)
   Single family homes located in rural areas with lot sizes of approximately 1 to 10 acres. Rural residential estates may have small orchards, fields or small storage buildings associated with the residential dwelling unit, etc.

2. **Commercial**

   Offices, schools, shopping centers, auto dealerships, government/civic centers, cemeteries, churches, libraries, post offices, fire/police stations, military use, jails, prisons, border patrol holding stations, dormitories, hotels, motels, resorts, and casinos, etc.

3. **Agricultural**

   Orchards, vineyards, nurseries, greenhouses, flower fields, dairies, livestock, poultry, equine ranches, row crops and grains, pasture, fallow, etc.

4. **Industrial**

   Shipbuilding, airframe, aircraft manufacturing, industrial parks, manufacturing uses such as lumber, furniture, paper, rubber, stone, clay, and glass; auto repair services/recycling centers; warehousing, wholesale trade; mining, sand and gravel extraction, salt evaporation; junkyard, dumps/landfills; auto wrecking/dismantling and recycling centers, etc.

5. **Parks**

   Recreation areas and centers, neighborhood parks, wildlife and nature preserves, golf courses, accessible sandy areas along the coast or major water bodies allowing swimming and picnicking, etc.

6. **Open**

   Vacant and undeveloped lands, etc.

Revised 4/20/2004. 4/15/2005. 4/19/2006, 3/13/2008

Trash Assessment Form

SITE ID: 29 DATE: 9/12/2010

LOCATION: Valley Ave/Via De La Valle TIME: 1135

OBSERVER: B. Gamble

PREVIOUS TRASH ASSESSMENT RATING (IF APPLICABLE): _____

ESTIMATED AREA OF ASSESSMENT L X W (FT): 6' x 4'

Amount and Extent of Trash	
EVALUATION OF TRASH INCLUDES*: ☒ MS4 ☐ RECEIVING WATER ☐ BOTH	
☒ **Optimal**	On first glance, no trash visible. Little or no trash (<10 pieces) evident when evaluated area is closely examined for litter and debris.
☐ **Suboptimal**	On first glance, little or no trash visible. After close inspection small levels of trash (~10-50 pieces) evident in evaluated area.
☐ **Marginal**	Trash is evident in low to medium levels (~51-100 pieces) on first glance. Evaluated area contains litter and debris. Evidence of site being used by people: scattered cans, bottles, food wrappers, blankets, or clothing present.
☐ **Submarginal**	Trash distracts the eye on first glance. Evaluated area contains substantial levels of litter and debris (>100- 400) . Evidence of site being used frequently by people: many cans, bottles, food wrappers, blankets, or clothing present.
☐ **Poor**	Site is significantly impacted by trash. Evidence of trash accumulation behind a constriction point or evidence of excessive dumping. Evaluated area contains substantial levels of litter and debris (>400 pieces).

* In areas where receiving water is accessible and adjacent to dry weather site, trash evaluation must include receiving water.

Site Evaluation for Threat to Human Health and/or Aquatic Health	
☐ **Threat Human Health**	Site poses a threat to human health via swimming, wading, or walking through the area. Trash and debris has the potential to contain chemicals that may bioaccumulate, transmit dangerous bacteria (e.g. medical waste, diapers, human waste), or has the potential for physical harm (sharps, entanglement, nails, etc...). Comments should be added for clarification.
☐ **Threat to Aquatic Health**	Site poses a threat to aquatic health or other wildlife (via contact, ingestion, entanglement, etc...) from the trash and debris present. Trash and debris such as small floatable material that is persistent and can be transported long distances may resemble food and may be ingested. Wire, plastic, fishing line, and other material that has the potential for entanglement. Oil and other visible chemicals or chemical containers falls in this category. Comments should be added for clarification.

- **Complete the following section for Submarginal, and Poor Evaluations ONLY**

TYPE	Ranking or Count by Type *	POTENTIAL ROUTE (CHECK UP TO 2)				POTENTIAL SOURCE (CHECK UP TO 2)						
		Dumping	Littering	Upstream	Unable to determine	Household	Construction	Commercial	Industrial	School	Transient	Unable to determine
Automotive												
Biohazard Waste												
Business Related												
Cigarette Butts												
Construction												
Fabric/Clothing												
Food Packaging												
Food Waste												
Household												
Shopping Carts												
Toxic												
Yard Waste												

* Only rank the types of trash PRESENT in evaluated area from 1 through 12 (1 is most prevalent – 12 is least prevalent). DO NOT rank types of trash that are not present in evaluated area.

Comments:_____

Appendix B
2010 Dry Weather Monitoring Analytical Laboratory Results

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SAN ELIJO JPA LABORATORY
2695 Manchester Avenue
Cardiff, California 92007
Phone (760) 753-6203 ext 39
FAX (760) 753-5935

Danny King
City of Solana Beach

DATE OF REPORT	September 20, 2010
DATE OF SAMPLE	**September 13,2010**
SAMPLED BY	Brett Gamble/Mikhail Ogawa Engineering
ANALYZED BY	SEJPA lab
PROJECT NAME	Solana Beach Dry Weather Monitoring

RESULTS TABLE

				SAMPLE ID:	Site#12	Site#14	Site#21	Site#25	Site#25	Site#12
				Time Collected:	11:50	11:10	8:10	9:05	11:55 on 9/15/10	10:20 on 9/21/10
ANALYSES	***METHOD**	**UNITS**	**RL**						resample	resample
Total Coliform	9221B	MPN/100ml	200		130000	3000	30000	>1,600,000	500,000	240000
Fecal Coliform	9221E	MPN/100ml	200		17000	400	1700	>1,600,000	500,000	50000
Enterococcus	9230B	MPN/100ml	20		17000	<20	2200	90000	800	7000
dissolved Pb	EPA200.7	mg/L	0.02		nd	nd	nd	nd		
dissolved Zn	EPA200.7	mg/L	0.005		nd	nd	0.027	0.044		
dissolved Cu	EPA200.7	mg/L	0.01		nd	nd	nd	0.01		
Dissolved Cd	EPA200.7	mg/L	0.005		nd	nd	nd	nd		
total Hardness	2340C	mg/L	10		580	670	460	620		
Chlorpyrifos	EPA8141	mg/L	0.952		nd	nd	nd	nd		
Diazinon	EPA8141	mg/L	0.952		nd	nd	nd	nd		
Oil & Grease	EPA1664A	mg/L	4.8		nd	nd	6.5	nd		

nd=none detected

*Standard Methods, 20th Edition

Ravy H. Chea
Senior Lab Analyst

A Laboratory Certified by the State of California Department of Health Services
Certificate No. 1104

Appendix C
2010 Dry Weather Monitoring Analytical Chain of Custody Forms

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SAN ELIJO JOINT POWERS AUTHORITY

CHAIN OF CUSTODY RECORD

SANITATION DISTRICT	DATE
SOLANA BEACH	9/13/2010

SAMPLERS (SIGNATURE) BRETT GAMBLE

DATE	TIME	SAMPLE LOCATION	SAMPLE TYPES: Grab	Composite	Water-Liq.	Solid	Other	Number of Containers	Routine (R) or Top Priority (TP)	ANALYSIS REQUESTED
9/13/10	0810	21	X		X				R	TOTAL, FECAL, ENTERO, DISSOLVED METALS (PB, CD, CU, ZN), TOTAL HARDNESS, OIL & GREASE, DIAZINON & CHLORPYRIFOS
	0905	25	X		X				R	
	1110	14	X		X				R	
	1150	12	X		X				R	~~SAMPLING~~

1		2		3		4	
RELINQUISHED BY (SIGNATURE)	DATE/TIME 9/13/10 12:15	RELINQUISHED BY (SIGNATURE)	DATE/TIME	RELINQUISHED BY (SIGNATURE)	DATE/TIME	RELINQUISHED BY (SIGNATURE)	DATE/TIME
RECEIVED BY	9/13/10 12:15	RECEIVED BY		RECEIVED BY		RECEIVED BY	

SAN ELIJO JOINT POWERS AUTHORITY

CHAIN OF CUSTODY RECORD

SANITATION DISTRICT	DATE
SOLANA BEACH	9/15/10

SAMPLERS (SIGNATURE) BRETT GAMBLE

DATE	TIME	SAMPLE LOCATION	SAMPLE TYPES: Grab	Composite	Water-Liq.	Solid	Other	Number of Containers	Routine (R) or Top Priority (TP)	ANALYSIS REQUESTED
9/15/10	11:55	SITE 25	X		X			1	R	TOTAL, FECAL, ENTERO

1		2		3		4	
RELINQUISHED BY (SIGNATURE)	DATE/TIME 9/15/10 12:15	RELINQUISHED BY (SIGNATURE)	DATE/TIME	RELINQUISHED BY (SIGNATURE)	DATE/TIME	RELINQUISHED BY (SIGNATURE)	DATE/TIME
RECEIVED BY	9/15/10 1220	RECEIVED BY		RECEIVED BY		RECEIVED BY	

SAN ELIJO JOINT POWERS AUTHORITY

CHAIN OF CUSTODY RECORD

SANITATION DISTRICT	DATE
SOLANA BEACH	9/21/2010

SAMPLERS (SIGNATURE) BRETT GAMBLE

DATE	TIME	SAMPLE LOCATION	SAMPLE TYPES: Grab	Composite	Water-Liq.	Solid	Other	Number of Containers	Routine (R) or Top Priority (TP)	ANALYSIS REQUESTED
9/21/10	10:20	SITE #12	X		X			1	R	TOTAL COLIFORM, FECAL COLIFORM, ENTERO'

1		2		3		4	
RELINQUISHED BY (SIGNATURE)	DATE/TIME 9/21/10 10:40	RELINQUISHED BY (SIGNATURE)	DATE/TIME	RELINQUISHED BY (SIGNATURE)	DATE/TIME	RELINQUISHED BY (SIGNATURE)	DATE/TIME
RECEIVED BY	9/21/10 10:47	RECEIVED BY		RECEIVED BY		RECEIVED BY	

Appendix D
2010 Dry Weather Monitoring Program Photos

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Photo 1. **DWM Site 1 damp at storm drain inlet. Photo taken during field screening on 13 September 2010.**



Photo 2. **DWM Site 2 dry catch basin inlet. Photo taken during field screening on 13 September 2010.**



Photo 3. DWM Site 3 damp at the outfall. Photo taken during field screening on 13 September 2010.



Photo 4. DWM Site 4 dry at catch basin inlet. Photo taken during field screening on 13 September 2010.



Photo 5. DWM Site 5 dry at storm drain inlet. Photo taken during field screening on 13 September 2010.



Photo 6. DWM Site 6 dry at storm drain inlet. Photo taken during field screening on 13 September 2010.



Photo 7. **DWM Site 7 damp at catch basin. Photo taken during field screening on 13 September 2010.**



Photo 8. **DWM Site 8 dry at storm drain inlet. Photo taken during field screening on 13 September 2010.**



Photo 9. **DWM Site 9 dry at storm drain inlet. Photo taken during field screening on 13 September 2010.**



Photo 10. **DWM Site 10 dry at concrete brow ditch. Photo taken during field screening on 13 September 2010.**



Photo 11. DWM Site 11 dry at inlet sampling site. Photo taken during field screening on 13 September 2010.



Photo 12. DWM Site 12 ponded at outfall sampling site. Photo taken during field screening on 13 September 2010.



Photo 13. DWM Site 13 dry within manhole at sampling site. Photo taken during field screening on 13 September 2010.



Photo 14. DWM Site 14 ponded at creek. Photo taken during field screening on 13 September 2010.



Photo 15. DWM Site 15 damp at storm drain inlet. Photo taken during field screening on 13 September 2010.



Photo 16. DWM Site 16 dry at storm drain inlet. Photo taken during field screening on 13 September 2010.



Photo 17. DWM Site 17 dry at storm drain inlet. Photo taken during field screening on 13 September 2010.

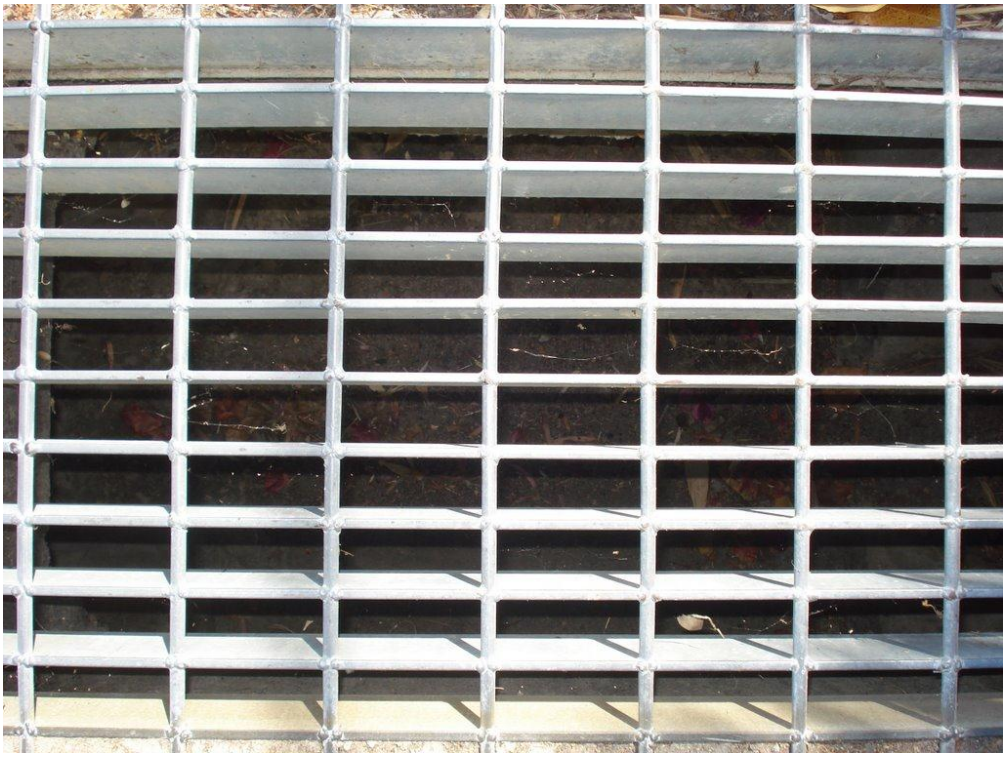

Photo 18. DWM Site 18 dry at storm drain inlet. Photo taken during field screening on 13 September 2010.



Photo 19. DWM Site 19 hairline trickle flow, sample not collectible. Photo taken during field screening on 13 September 2010.



Photo 20. DWM Site 20 dry at storm drain inlet. Photo taken during field screening on 13 September 2010.



Photo 21. DWM Site 21 ponded within storm drain inlet. Photo taken during field screening on 13 September 2010.



Photo 22. DWM Site 22 damp within storm drain inlet. Photo taken during field screening on 13 September 2010.



Photo 23. DWM Site 23 dry within storm drain inlet. Photo taken during field screening on 13 September 2010.



Photo 24. DWM Site 24 dry within storm drain inlet. Photo taken during field screening on 13 September 2010.



Photo 25. DWM Site 25 flowing at outfall sampling site. Photo taken during field screening on 13 September 2010.



Photo 26. DWM Site 26 damp within storm drain inlet. Photo taken during field screening on 13 September 2010.



Photo 27. DWM Site 27 dry within storm drain inlet. Photo taken during field screening on 13 September 2010.



Photo 28. DWM Site 28 dry within storm drain inlet. Photo taken during field screening on 13 September 2010.



Photo 29. DWM Site 29 damp within storm drain inlet. Photo taken during field screening on 13 September 2010.

CITY OF SOLANA BEACH

JURISDICTIONAL URBAN RUNOFF MANAGEMENT PROGRAM (JURMP) ANNUAL REPORT

SEPTEMBER 2011

Reporting Period:
July 1, 2010 to June 30, 2011

Respectfully Submitted to:
San Diego Regional Water Quality Control Board
In compliance with:
Order No. 2007-0001, NPDES Permit No. CAS0108758

CITY OF SOLANA BEACH
ANNUAL REPORT
STORM WATER PROGRAM
SEPTEMBER 2010

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ACKNOWLEDGEMENTS

The City of Solana Beach wishes to expressly thank each Copermittee Storm Water Program Manager/Coordinator and their staff for their efforts during the Regional Storm Water Management Committee meetings and the workgroups and their development and continued implementation of model program components, the sharing of ideas and willingness to cultivate program consistency throughout San Diego County as an effective means of improving water quality in the Region. The level of collaboration among agencies and across jurisdictional boundaries is unique and a credit to the professionalism and efforts of the San Diego County Copermittees.

The activities described in this report are not merely *written words on a page*, but are the result of *tremendous efforts* of City staff to integrate many new activities into their daily routines and tasks. The City's Fiscal Year 2010/2011 (FY 10/11) Storm Water Program Manager wishes to thank the City's Storm Water Team for their assistance, dedication and collaboration to make the City's FY 10/11 storm water program successful *and meaningful.*

Storm Water Team:

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City Manager/Fire Chief/Director of Public Safety, David Ott

Deputy City Manager, Wende Protzman

Operations Manager, Steve Kerr

City Inspector, Hector Ezquerro

Principle Engineer, Dan Goldberg

Director of Public Works/City Engineer, Mohammed Sammak

Community Services Director, Tina Christianson

Associate Engineer, Jim Greenstein

Associate Planner, Corey Johnson

Assistant Planner, Greg Hueners

Senior Engineering Technician, Robert Martinez

Management Analyst, Danny King

A big thank-you also to the Public Works Crew for all their hard work!

Lead Maintenance Worker, Danny Hernandez

Maintenance Worker, Bill Stedman

Maintenance Worker, Dave Thomas

Maintenance Worker, Josh Blea

CITY OF SOLANA BEACH
ANNUAL REPORT/ STORM WATER PROGRAM
SEPTEMBER 2010

TABLE OF CONTENTS

ACKNOWLEDGEMENTS ..... **ii**
Acronyms ..... **ix**
Executive Summary **2**
Certification Statement **6**
Chapter 1: Introduction **8**
1.1 Report Organization 8
1.2 Common Activities 9
1.3 Report Content 9
1.4 Program Goals 10
CHAPTER 2: Development Planning Component **13**
2.1 Assessment and Modification of General Plan 13
2.2 Project Approval and Environmental Review Process Modifications 14
2.2.1 Project Requirements 16
2.2.2 SUSMP 18
2.2.3 Low Impact Development (LID) 18
2.2.4 Treatment Control BMP Maintenance Tracking 19
2.2.5 Treatment Control BMP Maintenance Inspections 20
2.2.6 Priority Development BMP Verification Prior to Occupancy 21
2.2.7 Hydromodification Plan (HMP) 21
2.3 Education 21
2.4 New Activities and Improvement for FY 11/12 23
2.5 Summary 23
CHAPTER 3: Construction Component **26**
3.1 Introduction 26
3.2 Modification of Grading Ordinance 26
3.3 Modification of Construction and Grading Approval Process 27
3.3.1 SUSMP BMPs Installation and Tracking 27
3.4 Construction Site Inventory 28
3.5 Construction Follow-Up Activities: 33
3.6 Capital Improvement Projects Inventory 33
3.6.1 Significant CIP Project Narratives 36
3.7 Threat to Water Quality Prioritization 37
3.8 BMPs and Pollution Prevention Methods 38
3.9 Enforcement and Inspections 39
3.10 New Activities and Improvements in FY 11/12 45
3.11 Summary 46
Chapter 4: Municipal Component (Existing Development) **49**
4.1 Introduction 49

4.2 Inventory of Municipal Facilities 49
4.2.1 Inspection Frequency of Municipal Sites 50
4.2.2. Follow-up Activities 52
4.2.3 Implementation of Pesticides, Herbicides and Fertilizer BMPs 52
4.3 Pollutant Source Identification 53
4.4 Threat to Water Quality Prioritization 54
4.5 Pollution Prevention Methods 55
4.5.1 Proactive Approach to Pollution Prevention – JURMP Requirements 57
4.6 Pollution Prevention Strategy Effectiveness 68
4.7 New Activities and Improvements for FY 11/12 71
4.8 Summary 71

Chapter 5: Industrial And Commercial Component 75
5.1 Introduction 75
5.2 Industrial Facilities 76
5.2.1 Inventory of Industrial Facilities 76
5.2.2 Pollutant Source Identification 76
5.2.3 Threat to Water Quality Prioritization 78
5.2.4 Pollution Prevention Methods 78
5.2.5 Industrial Inspections 79
5.2.6 New Activities and Improvements for FY 11/12 79
5.2.7 Summary of Industrial Section 80
5.3 Commercial Facility 80
5.3.1 Inventory of Commercial Facilities 80
5.3.2 Pollutant Source Identification 86
5.3.3 2010 Dry Weather Monitoring Results 88
5.3.4 Threat To Water Quality Prioritization 88
5.3.5 Business Community Education Campaign 89
5.3.6 Pollution Prevention Methods 90
5.3.7 New Pollution Prevention Methods 91
5.3.8 Ensuring Implementation through Commercial Property Inspections 92
5.3.9 Enforcement 93
5.3.10 Mobile Businesses 94
5.3.11 New Activities and Improvements for FY 11/12 95
5.3.12 Summary 96

CHAPTER 6: Residential Component 99
6.1 Introduction 99
6.2 Pollution Prevention Methods 99
6.3 BMP Implementation 100
6.3.1 Hazardous Waste and Used Oil Collection and Recycling 100
6.3.2 Annual Bulky Item Clean-up Day and Coastal Clean-Up Day 103
6.3.3 24-hour Hotline 103
6.3.4 Pet Waste Bag Dispensers 104
6.3.5 Education and Outreach 104
6.4 Threat to Water Quality Prioritization 108
6.5 Implementation of BMPs 108
6.6 Enforcement Actions 109
6.7 New Activities and Improvement for FY 10/11 109
6.8 Summary 110

CHAPTER 7: Illicit Discharge Detection and Elimination Component 112

CHAPTER 8: Education Component....114
8.1 Introduction....114
8.2 Pollution Prevention through Education – Jurisdictional Activities....115
8.2.1 Staff Training....116
8.2.2 Annual Beach Cleanup Days....116
8.2.3 Storm Drain Tile Marker Installation....116
8.2.4 Local Community Events....117
8.2.5 School Programs....118
8.2.6 Marine Safety Department Educational Presentations....119
8.2.7 Summer Day Camp Presentations....119
8.2.8 Kids Korps Educational Presentations....119
8.2.9 Targeted Education for Underserved Community....120
8.2.10 Water Conservation....120
8.2.10 Educational Brochures....122
8.2.11 City Newsletter (Shorelines)....123
8.2.12 Website....123
8.2.13 Business Community....124
8.2.14 Special Events Permit....124
8.3 Pollution Prevention through Education – Regional Activities 125
8.3.1 Regional Monitoring....125
8.3.2 Model Programs....125
8.3.3 Linking to Regional Resources....126
8.4 Pollution Prevention through Education – Watershed Activities....126
8.5 New Activities and Improvements for FY 11/12....127
8.6 Summary....128
Chapter 9: Public Participation Component....132
9.1 Introduction....132
9.1.1 Chapter Content....133
9.2 Community Events....133
9.2.1 Fiesta Del Sol....133
9.2.2 Beach Clean Up Opportunities....134
9.2.3 Adopt-A-Beach Program....134
9.2.4 Beach Blanket Movie Night....135
9.2.6 Paws in the Park....135
9.2.7 Green Fair....136
9.3 City Council Meetings....136
9.4 Copermittee Meetings....136
9.5 Collaborative Community Partnerships....137
9.5.1 Solana Beach Clean and Green Community Committee....140
9.6 Other Opportunities....141
9.6.1 City Storm Water Hotline....141
9.6.2 Website....141
9.6.3 Local Media....142
9.7 New Activities and Improvements for FY 11/12....142
9.8 Summary....143
CHAPTER 10: Fiscal Analysis....145
10.1 Introduction....145
10.2 General Budget Information....145

10.3 Fiscal Analysis Methods 146
10.4 Fiscal Analysis Results 146
10.4.1 JURMP Expenditures 146
10.4.1.1 Administration 147
10.4.1.2 Development Planning 147
10.4.1.3 Construction 147
10.4.1.4 Municipal 147
10.4.1.5 Industrial and Commercial 147
10.4.1.6 Residential, Education, and Public Participation 148
10.4.1.7 Illicit Discharge Detection and Elimination 148
10.4.1.8 WURMP Expenditures 148
10.4.1.9 RURMP Expenditures 148
10.5 Funding Sources 149

CHAPTER 11: Effectiveness Assessment Component 151
11.1 Introduction 151
11.2 "A Framework for Assessing the Effectiveness of Jurisdictional Urban Runoff Management Programs" 151
11.3 Level 1: Compliance with Activity-Based Permit Requirements 153
11.4 Levels 2&3: Changes in Knowledge/Awareness and Behavioral Changes 153
11.5 Level 4: Load Reductions 169
11.6 Levels 5&6: Changes in Discharge and Receiving Water Quality 171
11.6.1 Dry Weather Monitoring Data 172
11.6.2 Coastal Water Quality 172

CHAPTER 12: Special Investigations 176
12.1 Introduction 176
12.2 Bacteria at Seascape Sur 176
12.2.1 Background 176
12.2.2 History 177
12.2.3 The 2002 Investigation 178
12.2.4 Additional Testing 179
12.2.5 Traveling Further Upstream 180
12.2.6 Brainstorming 182
12.2.7 Action Taken By Property Owners during FY 03/04 Annual Reporting Period 183
12.2.8 Progress in FY 04/05 185
12.2.9 Special Pilot Program FY 07/08 186
12.2.10 Timeline of Significant Actions 188
12.2.11 Where We Are Now 190
12.2.12 Future Activities 194
12.3 Summary 195

CHAPTER 13: Non-Emergency Fire Fighting 197

CHAPTER 14: JURMP Revisions 199

CHAPTER 15: Conclusion and Recommendations 201
15.1 Conclusion 201
15.1.1 2010/2011 Accomplishments 202
15.2 Recommendations 204

Appendix A: Construction BMP Brochure 207

Appendix B: Storm Water Plan Check Comment Form 209
Appendix C: Building Plan Check Routing Form 211
Appendix D: Rainy Season Reminder (Sample) 212
Appendix E: Public Project Pre-Con Meeting Agenda 214
Appendix F: Civil Penalty Matrix 216
Appendix G: General Construction "Good Neighbor" Brochure 222
Appendix H: Underground Utility District Special BMP Handout 224
Appendix I: Special Event Vendor BMP Guidelines 225
Appendix J: Mandatory Commercial Recycling Ordinance 226
Appendix K: Street Sweeping Materials Form 228
Appendix L: Smoking Ban Ordinance 229
Appendix M: Beach Blanket Movie Night Flyer 231
Appendix N: Special Events Permit Conditions of Approval 232
Appendix O: Fiesta Del Sol Flyer 2011 234
Appendix P: Effectiveness Assessment Table 235
Appendix Q: Leaf Blower Ban – Ordinance 399 238
Appendix R: Commercial Facility Litter Reduction Ordinance 241
Appendix S: Summer Camp Programs/Classes 244
Appendix T: 2010 Dry Weather Monitoring Program Results 245

ACRONYMS

Acronym	Description
BMP	Best Management Practices: minimum standards that everyone and every business must adopt to reduce or eliminate urban runoff. BMPs are part of all storm water programs.
DWMP	Dry weather monitoring program: the procedures, requirements and program to collect samples during the dry season each year. Samples are typically collected over a one-two day period and then sent to the lab for analysis.
HHW	Household Hazardous Waste
IC/ID	Illegal Connection and Illicit Discharge: the term used to discuss connections to the MS4 that are not approved (illegal) or non-storm water (illicit) discharges.
JURMP	Jurisdictional Urban Runoff Management Program
MEP	Maximum Extent Practical: A term used by the RWQCB, and Copermittees to refer to the "best efforts," or "as much as possible."
MS4	Municipal Separate Storm Sewer System: references the City's storm water drainage system and the City's wastewater conveyance system.
NPDES	National Pollution Discharge Elimination System: the Federal program created by the 1972 Clean Water Act that governs State water quality / storm water programs.
Permit	Order 2007-0001 issued by the RWQCB, which requires cities to adopt and implement the JURMP, WURMP, and SUSMP.
PPM	Pollution Prevention Measure: a method, procedure, and/or process to control, reduce, prevent, or eliminate pollution.
RWQCB	Regional Water Quality Control Board. The Board is a California board, but for the *purposes of this report,* RWQCB represents the local water quality board (San Diego Regional Water Quality Control Board).
SUSMP	Standard Urban Storm water Mitigation Plan: a plan as to how the City will alter its review of construction plan (public and private) and estimate the extent of pollutant contributions from the site; the plan must specify BMPs that the City will require.
WURMP	Watershed Urban Runoff Management Program: programs that focus on urban water runoff from a larger point-of-view, which is the entire watershed (a watershed is also referred to as a hydrological unit). Programs must specify how cities will work together on planning urban projects and solving water quality problems.
WWMP	Wet weather monitoring program: the procedures, requirements and program to collect samples during the wet season each year. Samples are collected on a monthly basis, depending on weather.

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

During reporting period Fiscal Year 2010/2011 (FY 10/11), the City worked with the other Copermittees to continue developing model programs and implementing all the established requirements of Permit No. R9-2007-0001 (Permit). This was the third complete year of implementation of the City's new Jurisdictional Urban Runoff Management Program (JURMP) that was developed and submitted in March, 2008 to comply with the new Permit, Order R9-2007-0001. This Annual Report (Report) incorporates the changes recommended by Regional Board Staff after review of last year's Annual Report, and complies with the requirements of each section of the Permit.

This is the third full year implementing the new JURMP, in compliance with the Permit regulations. The new activities will be discussed in their respective chapters of this Report, with some chapters modified or removed. The City began the process of developing the new programs in cooperation with the other Copermittees, and any new programs that were actually implemented in this reporting period will be discussed in this Annual Report.

The City is confident that it has implemented all programs required of them during the five year permit cycle of Order 2001-01. The City is also actively working on developing and implementing improved programs for the next five year permit cycle in compliance with Order R9-2007-0001. During the last five year permit cycle, the City created a storm water team consisting of staff from various departments, implemented all of the components of the JURMP and trained all pertinent Staff as to the expectations of the Permit.

Accomplishments to prevent and reduce pollution, eliminate contamination and improve water quality include the following:

- *The City successfully implemented comprehensive educational, inspection and enforcement procedures for municipal, commercial, residential, industrial and construction component activities as described in the City's JURMP.*
- *The City monitors a dedicated Storm Water Hotline and email address to receive complaints, questions, and general information 24 hours a day, seven days a week, 365 days a year.*

- *The City maintains an inventory of all municipal, commercial and industrial properties in the City, including prioritization of those that pose a threat to water quality.*
- *The City inspected the minimum amount of high priority businesses as stated in the new JURMP and notified all high-priority businesses of specific BMPs related to each type of business.*
- *The City collaborated with neighboring jurisdictions within their respective watersheds to develop educational brochures, surveys, and host community events and distributed hundreds of brochures to residents and the business community.*
- *The City continues to modify plan-check review processes to include a requirement for Erosion Control Plans, BMPs, and runoff mitigation alterations in project proposals and/or construction activities.*
- *The City participated in the 2010/2011 San Diego County Wet Weather Monitoring Program.*
- *The City continues to enforce a smoking ban at all local beaches and parks, the first jurisdiction in the nation to do so. In addition, the City strengthened its tobacco ordinance to ban smoking in all public parks, restaurants and buildings.*
- *The City provided several opportunities for public participation including educational workshops/classes, community events, Copermittee meetings and Household Hazardous Waste home pick-up and permanent drop-off collection sites.*
- *The City continues to implement the new "Environmental" review to ALL building/grading permit applications to ensure every project that gets approved by the City is reviewed for storm water management.*
- *The City Council lowered the grading threshold from 200 cubic yards to 50 cubic yards for all projects within the City. This caused more projects to be assessed by the City engineers to implement pre, during, and post construction BMPs.*
- *The City co-sponsored the sixth annual "Beach Blanket Movie Night" that provided residents a night of free movies and environmental education. The City had a booth co-sponsored by the Solana Center for Environmental Innovation that contained educational materials and games for attendees, and the films shown were dedicated to environmental protection of our ocean resources.*
- *The City authorized a part-time Code Enforcement Officer to continue weekend and off-hour patrols for storm water violations.*

- *The City added storm water specific language and reporting duties to new "standard" street sweeping contract to be used in all current and future contracts.*
- *The City modified its Municipal Code to comply with the new requirements of the Permit.*
- *The City implemented the new model SUSMP.*
- *The City participated in the development and implementation of the new Low Impact Development (LID) and Hydromodification Plan (HMP).*
- *The City developed and implemented the post-construction BMP verification, tracking and inspection program.*

CERTIFICATION STATEMENT

CERTIFICATION STATEMENT

I certify that the work performed, and the report prepared herein, was conducted under the supervision and guidance of the City of Solana Beach Public Works/ Engineering Department to meet the requirements of the *Waste Discharge Requirements for Discharges of Urban Runoff from the Municipal Separate Storm Sewer Systems (MS4s) Draining the Watersheds of the County of San Diego, the Incorporated Cities of San Diego County, the San Diego Unified Port District, and the San Diego County Regional Airport Authority* (NPDES No. CAS0108758). I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

M. Sammak 9/28/11

Mohammed Sammak, P.E. **Date**
Director of Public Works/City Engineer
City of Solana Beach



CHAPTER 1
Introduction

CHAPTER 1: INTRODUCTION

The City of Solana Beach (hereinafter, referred to as "City") has prepared this report in compliance with Order No. R9-2007-0001, NPDES Permit No. CAS0108758, *Water Discharge Requirements for Discharges of Urban Runoff From Municipal Separate Storm Sewer Systems Draining Watersheds of the County of San Diego, the Incorporated Cities of San Diego County and The San Diego Unified Port District and the San Diego County Regional Airport Authority* (hereinafter referred to as "Permit"). The California Regional Water Quality Control Board, San Diego Region (hereinafter, referred to as "RWQCB") issued the new Permit to all "Copermittees" (all cities in San Diego County, the County of San Diego, the Airport Authority and the Port District) in January, 2007.

Under the Permit, each Copermittee is required to submit an Annual Report in September of each year describing its jurisdictional program for the previous fiscal year (July 1 to June 30). The purpose of the report is to document to the RWQCB the City's progress and program accomplishments during the reporting period.

The Permit, first adopted on February 21, 2002 and subsequently updated in March, 2008, requires Copermittees to implement a comprehensive storm water program (Jurisdictional Urban Runoff Management Program [JURMP]) and submit a copy of the program to the RWQCB. The implementation of this program occurred during the reporting period covering July 1, 2010 to June 30, 2011 for this 2011 Annual Report. This Annual Report will cover the fourth year of implementation under Permit Order No. 2007-0001, but the third full year of implementation of the new JURMP.

1.1 Report Organization

This Report contains a description of all activities conducted to meet the requirements of the Permit. The information will be discussed in chapters applicable to each component of the JURMP, which occurred during this reporting period.

The organization of this report follows the outline of the new JURMP and includes the following sections:

- Development Planning Component
- Construction Component

- Municipal (Existing Development) Component
- Industrial and Commercial (Existing Development) Component
- Residential (Existing Development) Component
- Illicit Discharges Detection and Elimination Component
- Education Component
- Public Participation Component
- Fiscal Analysis Component
- Effectiveness Assessment Component
- Special Investigations
- Non-Emergency Fire Fighting
- JURMP Revisions
- Conclusions and Recommendations

1.2 Common Activities

The City participated with the Copermittees in several common activities (workshops, educational program component elements, model programs, etc.) that allowed for a sharing of resources and knowledge, which will provide a more cohesive message to the community. The common activities are described in the Copermittee Unified Urban Runoff Management Program (URMP) Annual Report, submitted with this report by the County of San Diego and incorporated herein by reference.

1.3 Report Content

The content of this report includes the activities associated with implementing the storm water program (JURMP). The development of the City's JURMP required the City to inventory and prioritize its municipal facilities, commercial and industrial businesses, develop a method to educate the business and residential community about the new requirements, evaluate existing municipal ordinances, and adopt new laws if needed to ensure enforcement action was available, develop a method for educating agency staff, and develop a commercial, industrial and construction site inspection program. Each subsequent year of Permit implementation requires the City to revisit these items and update as necessary. This Report contains those updates, where applicable.

The content of this report will include discussions about the programs and activities that occurred during this reporting period (July 1, 2010 to June 30, 2011). The City presumes that RWQCB staff recognizes that significant activity may occur subsequent to the end of the reporting period for this report. As a

result, throughout this report a summary of post-reporting period activities will be discussed (where appropriate) to assist the RWQCB in understanding the City's efforts to reduce urban runoff and pollution and to comply with the Permit.

1.4 Program Goals

The primary goal of the City's JURMP is to reduce or eliminate pollutant discharges into the City's MS4 (municipal separate sewer storm system) and receiving water bodies, including the Pacific Ocean, thus improving the quality of water in the City, neighboring jurisdictions, and region-wide.

The City recognizes that a *scientifically measurable* change in water quality is a long-term goal that would require many years of data collection, research and analysis, extending beyond the life of the current Permit (which expires in 2012). As a result, the City's program includes short-term goals expected to focus the City's program on permit compliance as well as water quality improvements. The following summarizes the City's past and current short-term annual program goals:

FY 02/03: Integration of WURMP(s), SUSMP and JURMP activities

FY 03/04: Complete assessment of JURMP (using regional strategy)

FY 04/05: Complete overall assessment of Regional Programs JURMP, WURMP and SUSMP; prepare for new Permit from RWQCB

FY 05/06: Assessment of JURMP, WURMP and SUSMP in preparation of new Permit anticipated to be adopted in early 2007. This involves the assessment of water quality data to focus on the sources of high priority pollutants locally as well as watershed and regionally.

FY 06/07 Further assessment of JURMP, WURMP and SUSMP to effectively develop new programs for incorporation in the new JURMP, WURMP and SUSMP that will be required by the new Permit (adopted January 2007). The complete program will be assessed to determine the effectiveness of existing programs and to develop better, more efficient programs to include in the next Permit cycle.

FY 07/08 Development and implementation of new JURMP to comply with Permit Order No. 2007-0001. The new Permit includes additional and improved requirements from those included in Order No. 2001-01. Although the City continued the implementation of Order 2001-01 during FY 07/08, significant time and resources were spent developing the new programs included in Order 2007-0001.

FY 08/09 Continue developing the new programs and activities under Permit Order No. 2007-0001, such as the Low Impact Development (LID) and Hydromodification Plan (HMP). In addition, track all SUSMP project post-construction BMPs and develop inspection protocol for annual inspections.

FY 09/10 Continue implementation of the new JURMP to further reduce and eliminate pollutant discharges into the City's MS4 system. The focus of new water quality regulations are shifting to development and implementation of Total Maximum Daily Loads (TMDLs), which the City will actively participate in. The City will continue to be involved in the LID, HMP and new SUSMP requirements development for future implementation.

FY 10/11 Continue implementation of the JURMP to further reduce and eliminate pollutant discharges into the City's MS4 system. The focus of new water quality regulations are shifting to development and implementation of Total Maximum Daily Loads (TMDLs), which the City will actively participate in. The City will continue to implement the LID, HMP and new SUSMP requirements on priority projects. The City will continue assessing the Storm Water Program to determine if there are any other areas where the utilization of specialized consultants will bring a higher value to the community while at the same time assisting Staff with Permit compliance as resources continue to dwindle during these tough economic times. Currently, Staff utilizes outside consultants to assist with:

- Commercial/Industrial facility inspections
- Dry Weather Monitoring Program
- Department specific specialized Staff trainings

All aspects of the Permit are under review by Staff to determine the most effective and efficient means of compliance. The City is fortunate to have a voter approved NPDES fee, so funding is not a problem, but Staff's resources are. So, outsourcing certain aspects of the storm water program may be a benefit to the City as well as the community.

FY 11/12 Continue implementation of the JURMP to further reduce and eliminate pollutant discharges into the City's MS4 system. The City will continue to implement the LID, HMP and new SUSMP requirements on priority projects. Continued use of outside consultants to assist with commercial/Industrial facility inspections, dry Weather Monitoring Program, and department specific specialized Staff trainings. Continue updating commercial/industrial inventory as new businesses are established. Continue educating the public about the importance of eliminating storm water runoff from residences, businesses, construction sites, and public facilities. Preparation for new permit requirements.

CHAPTER 2
Development Planning Component

CHAPTER 2: DEVELOPMENT PLANNING COMPONENT

In accordance with Permit Section D.1, this section of the report describes the City's efforts to reduce Development Project discharges of pollutants from the MS4 to the Maximum Extent Practicable (MEP); to prevent Development Project discharges from the MS4 from causing or contributing to a violation of water quality standards; and to manage increases in runoff discharge rates and durations from Development Projects that are likely to cause increased erosion of stream beds and banks, silt pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force.

In each Annual Report to the RWQCB, this section will include new modifications to the City's General Plan (if any), review process for new and redevelopment projects, inventory of current public and private projects and activities associated with the Standard Urban Storm Water Mitigation Plan (SUSMP). Activities conducted post-reporting period may be included if the activity is deemed essential to understanding the City's efforts at reducing urban runoff or permit compliance.

The JURMP (Section 4.0: Development Planning Component) describes the City's plans to integrate new project review processes to require mitigation of urban runoff. In addition, the City adopted the new model SUSMP in February, 2008.

2.1 Assessment and Modification of General Plan

Effective land use planning can provide important water quality protections by controlling the type and placement of activities allowed in critical areas, and by providing a framework within which site-specific control measures may be identified and imposed during land development and redevelopment activities. As such, the General Plan is crucial to the long-term success of its water quality and environmental programs.

There were *no changes* to the General Plan during this reporting period. However, the City is currently working on the General Plan update. It has been included in the City Council's FY 2010/2011 Workplan and is a priority project. Updates will be given in subsequent annual reports.

2.2 Project Approval and Environmental Review Process Modifications

The City is tasked with ensuring that land uses in Solana Beach comply with City codes, the General Plan, City Council policies, Engineering standards and State law requirements. Approval of projects through the discretionary review process is generally, but not always, required prior to issuing grading, building and right-of-way permits. The City's Municipal Code (Code) requires compliance with storm water regulations for all discretionary approvals and ministerial permits. The Planning, Engineering, Environmental, Building and Fire Departments review all building plans that are submitted to the City. The Engineering and Environmental Departments administer all aspects of design and construction for public improvement projects. The Planning Department administers the environmental review (Initial Studies, Negative Declarations, EIRs, etc.) of both public and private projects.

The City has reviewed its General Plan and Municipal Codes and determined that the General Plan meets the requirements of Order No. 2007-0001. The following is a short list of recent improvements to the project review process that ensures all projects are reviewed and properly address storm water concerns:

FY 05/06 - Every applicant who inquires about a particular project at the City Hall counter was given a copy of the City's Construction BMP Brochure (Appendix A). This is being done to ensure that every person will have received a copy of the City's educational guide, often times more than once.

FY 05/06 - Any project that increases the impervious area of a site by a minimum of 1,000 square feet must complete a Storm Water Plan Check Comment Form (Appendix B). This sheet requires a variety of information to ensure that there will be no additional run-off as a result of the project. The first requirement is the preparation of an Erosion Control Plan. Also, the applicant must demonstrate that the project *does not increase storm water runoff*. Lastly, the applicant must demonstrate that they are implementing and maintaining all precautionary measures necessary to ensure that pollutant discharges from the site *will be reduced to the maximum extent practicable*. All additional storm water must be completely contained and treated onsite. This is not required by the Permit, but the City believes that it would be prudent to address this issue on such a small scale because of the relative abundance of these smaller projects within the jurisdiction and the lack of larger scale projects that would otherwise be dealt with through the SUSMP process. Instead of ignoring these projects all together, the City felt it would be in its best interests to review these "minor" projects to

ensure that most new construction and redevelopment would address these storm water concerns.

FY 06/07 - City continued to evaluate its project approval process and made some modifications to the process for approving new and redevelopment projects. The plan check routing sheet was further modified to include additional information regarding storm water management. The intent of the modifications is to ensure that pollutants and runoff from development will be reduced to the maximum extent practicable (MEP) standard and/or will not contribute to an exceedance of receiving water quality objectives.

FY 06/07 - Project Applicants (Applicants) are required to submit a detailed project application, which addresses a variety of concerns, including urban runoff and environmental impacts. The project application provides an opportunity for City staff to determine whether or not the project will be exempt from the California Environmental Quality Act (CEQA) process. If the project is subject to CEQA, the environmental impacts of the project must be reviewed and depending on the potential impacts, a more substantial environmental impact report (EIR) may be required.

FY 07/08 - The plan check routing sheet was further modified to include another section titled *Environmental* (Appendix C). This section was included to ensure that *all* plans submitted would be reviewed for storm water implications, no matter how small or relatively insignificant. Previously, plans would be routed through the Engineering Department and if the Engineering Technician determined that it warranted further review, the plans would be passed through to the Environmental Programs Manager. The process was modified to ensure that all plans would be reviewed just in case something was missed or overlooked. The City believes that plan review is essential to ensuring storm water compliance, so we are doing everything possible to make sure it is done thoroughly and accurately.

FY 08/09 – The City implemented a complex and highly efficient computer database (BEACH) that greatly improved the internal plan review process. This database was developed by a local resident and was tailored to the specific needs of the City's departments. The database was built after extensive comment and review from the various departments to maximize the efficiency and streamline the process, while at the same time incorporating all the necessary information for each department. This process and subsequent database has greatly improved the Environmental plan review process by

ensuring that all comments of the Environmental review are addressed prior to initial permit issuance, as well as final permit occupancy. This will be explained in further detail later in the Report and has been a tremendous success.

In addition to the CEQA review process, all applicants must obtain a permit from the California Coastal Commission (CCC) because the City does not have a Local Coastal Plan. The City also has strict environmental standards requiring compliance and governing land-use planning and construction.

The application includes some of the following questions:

- Financial interest of all parties who own, or intend to own the property.
- Proof that all owners of record within 300 feet of the exterior boundaries of the property have been notified of the intent to develop (this allows opportunity for public participation in the process).
- Present use of property and proposed development description (commercial, residential, mixed use, etc.).
- Current floor area ratio (FAR), this allows review of the proposed change in impervious to pervious surface area. The City has a strict FAR and prohibits development within 40 feet of the western edge of the coastal bluffs.
- Proposed area to be graded (this allows the Engineering Department to assess potential erosion and runoff).
- Environmental condition of property (vegetation, drainage, noise, etc.) and neighboring properties.
- Business Applicants are required to submit information pertaining to the types of hazardous materials and whether or not industrial wastewater will be discharged in the property *and/or* off the property.

2.2.1 Project Requirements

As mentioned above, applicants are required to submit plans for all new and redevelopment of private properties to both the Planning and Engineering departments prior to approval. The Engineering Department (which includes Environmental Review) reviews the project's grading and construction plans for a

project's potential pollutant contribution to urban runoff. The City Engineering Department also determines the appropriate pre, during and post BMP requirements for each project and attaches the Storm Water Plan Check Comment form to the project plans and returns the plans to the applicant for modification, if required. Applications may be required to submit one or more of the following:

- An Erosion Control Plan (which requires BMPs to manage storm water and non-storm water discharges from the site at all time and shall emphasize sediment control).

- Evidence that the project will not increase storm water runoff.

- Storm Water and Non-Storm Water Runoff Control (this requirement address long-term control of runoff and may require structural modifications to direct discharges into permeable areas such as landscaping).

In addition, all grading projects are required at a minimum to include the following:

- Source control BMPs for all projects expecting to generate runoff.

- Implementation of site design/landscape measures to reduce and slow runoff, minimize impervious to previous ratio, maximize infiltration and promote alternative driveways and parking lots to include pervious land surfaces (as described in detail in the City's JURMP).

- Implementation of buffer zones for natural water bodies, where feasible and if not, trees, lighting and access restrictions are required.

Industrial applicants are also required to provide evidence of coverage under the California General NPDES Permit for Storm Water Discharges Associated with Industrial Activities.

Applicants are required to be in compliance with the City's current grading and storm water management ordinances, inspection requirements, general requirements for construction activities during the wet and dry season and implementation of appropriate BMPs to control erosion and runoff.

2.2.2 SUSMP

The City participated with other Copermittees in the development of the original model Standard Urban Storm Water Mitigation Plan (SUSMP), which was approved by the RWQCB on June 13, 2002. The Solana Beach City Council adopted the City's SUSMP on December 3, 2002, which was submitted to the RWQCB on December 13, 2002. The City also participated in the development of the new SUSMP in accordance with the new Permit. The City Council adopted the updated model SUSMP in February 2008.

The SUSMP addresses post-construction urban runoff pollution from new development and redevelopment projects that are designated as "priority projects" under the Permit. Most of the criterion that specifies which projects will be priority projects will not be applicable to the majority of City projects. The reason for this is that the City of Solana Beach is more than 95% "built-out" and primarily a residential community with small commercial properties. As a result, the City made few modifications to the Model SUSMP that was developed collectively by the Copermittees for its SUSMP. Over time, City staff will evaluate the effectiveness of the SUSMP and discuss changes, if necessary, in this section of the Annual Report.

During this reporting period, the City of Solana Beach had *no SUSMP projects submitted or approved*. The majority of the development in Solana Beach consists of single-family construction and remodeling projects.

The City's Planning Department (also referred to as Community Development Department) is well aware of the SUSMP requirements and is consistently on the lookout for potential projects that may fall under the SUSMP requirements. The Engineering Department handles all of the BMP review for the City, however, the Planning Department is the first department to review applicant plans. Often times for larger projects, meetings are held between City Staff and the applicants well before the plans are submitted. At this time, Planning Staff works with the applicants to ensure the project complies with the SUSMP regulations. This helps to avoid costly delays in the project timeline by ensuring the applicant is aware of the SUSMP requirements and incorporates them into the project prior to submittal. It's a very proactive approach that has proven successful on all large projects in the City, not just SUSMP projects.

2.2.3 Low Impact Development (LID)

LID is one of the most significant new requirements of the Permit. The Permit

states that each Copermittee shall develop and require each Priority Development Project to implement LID BMPs which will collectively minimize directly connected impervious area and promote infiltration. The City's new JURMP describes the LID site design BMPs required at each Priority Development Project. The LID requirements were developed by the Copermittees during this reporting period, which promoted consistency throughout the region for the development community. The City has now incorporated the LID requirements into the development review process. There has not been a project subject to the SUSMP or LID requirements in the City to date, but there are a few planned for the future including the following CIP projects:

- Highway 101 Corridor Revitalization Project
- La Colonia Park and Community Center Renovation

City Staff will continue to monitor these projects to ensure compliance of the new requirements.

2.2.4 Treatment Control BMP Maintenance Tracking

The City has developed a database to track and inventory approved treatment control BMPs and treatment control BMP maintenance for Priority Development Projects within the City. The database contains all necessary information as required by the new Permit. In addition, the City has developed a program to verify that approved treatment control BMPs are operating effectively and have been adequately maintained. The City's current treatment control BMP inventory is listed below. Not all projects are a result of the SUSMP process because they were built prior to the requirements; however the City still lists them in their inventory and inspects annually.

Table 2-1 Private Project Treatment Control BMP Inventory

Address	Type of Project	Type of BMP(s) Installed	Maintenance Agreement	Inspection Date
533 Lomas Santa Fe	Boys and Girls Club Remodel/ Construction	CDS Unit (1), Storm Chamber Infiltration Basins (2), Drainage Inserts (2)	Yes	6/30/11

420 Steven's Avenue	Office Building Construction	CDS Units (3)	Yes	6/30/11
667 San Rodolfo	Shopping Center Remodel	CDS Unit (1)	Yes	6/30/11
634 Steven's Ave	Commercial Building Construction	Bio-Swale	No	6/30/11
601 North Cedros Ave	Single Family Sub-Division (23 Units)	CDS Unit (1)	No – City Maintained	6/30/11
641 Valley Ave	Mixed Use Comm/Res	Bio-Swale, pervious concrete	No	6/30/11
715 Valley Ave	Park	Bio-Swale	No - City Maintained	6/30/11
111 South Sierra Ave	Park	CDS Unit, Low Flow Diverter	No- City Maintained	6/30/11
749 Genevieve St	Parking Lot >15 spaces	Bio-Swale, Pervious Pavers	No	6/30/11

2.2.5 Treatment Control BMP Maintenance Inspections

According to the City's JURMP, annual inspections will be completed on an annual basis prior to October 1st. City Staff conducted the annual inspections of the projects listed above as required by the Permit prior to October 1st (6/30/11). Due to the relatively small amount of projects, Staff plans to inspect all treatment control BMPs annually, regardless of their frequency priority. City Staff sent out Verification Letters to all sites prior to the inspections. *The City is happy to report that all properties were in full compliance during the first inspection.*

2.2.6 Priority Development BMP Verification Prior to Occupancy

Although there were no priority development projects approved during this reporting period, the City does have a BMP verification process set up to ensure all BMPs are installed prior to occupancy. This process is not only conducted for priority development projects, but grading and building projects that require post construction BMPs (small infiltration pits, roof drains to landscaping, etc) as well. As mentioned in previous Annual Reports, the building permit routing sheet that goes to each department reviewing the plans was modified to include check boxes in the "Environmental Review" section. These check boxes are for projects that require a post construction BMP of any kind, and if they are checked for any project, the Building Department will not issue final occupancy permits until the Environmental section is complete. This includes an inspection either during construction for BMPs underground (to ensure they were installed prior to being covered by landscaping) or final inspection if the BMPs can be identified at the end of the project. It is the responsibility of the contractor to notify the Environmental staff for inspection or the "pink card" will not be signed and the final Permit will not be issued. City Staff has required contractors to dig up and remove landscaping in order to show that the BMP was actually installed according to the plans if the contractor failed to properly notify Staff for an inspection. This ensures that all post-construction BMPs are installed prior to the final permit being issued for occupancy.

2.2.7 Hydromodification Plan (HMP)

The HMP was finalized and adopted by the Regional Board in July 2010. As mentioned in last year's Annual Report, Staff does not anticipate that any projects in Solana Beach will be subject to the new HMP requirements. The City participated in the development of the HMP and has paid our share for the development costs, realizing that this is a regional issue and as a Copermittee we have a responsibility to assist the other Copermittees in complying with the Permit requirements. If any project is subject to the HMP, it will be reported in this section of each Annual Report.

2.3 Education

Municipal Staff Education

The City of Solana Beach is a very intimate, cooperative group. All departments work very well with one another because they are forced to work together on a daily basis to serve the relatively small community. This makes training and education a much easier task.

The previous formation of the storm water team brought together the directors of all the different departments Planning, Engineering, Public Works, City Manager's, Public Safety (Fire and Marine Safety, Code Enforcement), Environmental, City Attorney's and City Inspector and provided them a forum to discuss storm water issues, keep everybody in the loop on ongoing issues and develop solutions collectively. In turn, the directors would educate their respective employees on the specific tasks they were to perform. This was a very effective and efficient way to educate the Municipal Staff when the Permit was first adopted and the JURMPs were initially being implemented.

City staff welcomes additional training opportunities and often seeks outside training to keep up with new storm water issues. In addition, Staff welcomes presentations from consultants regarding the latest technologies in the protection of water resources, including techniques to reduce erosion, bacteria and other COCs in urban runoff. Specific trainings are listed in their appropriate sections throughout this Report.

Owner / Developer Education

The City, along with the other North County Copermittees, developed a Construction BMP Brochure (Appendix A) which describes the construction storm water regulations and required BMPs. The BMPs are generic with a simple diagram of a "typical" construction site, which has been very well received by the development community. It is simple and easy to understand, and City staff makes certain developers and contractors know every site is different and has unique characteristics. These brochures are distributed at the counter, at pre-construction meetings and in the field during inspections.

In addition, the City sends a "Rainy Season Reminder" (Appendix D) to all current and active private projects within the City as a tool to educate and remind project owners and developers about the need to strictly adhere to the erosion control requirements during the rainy season. These letters are sent out in the beginning of October as a "friendly reminder" that they need to ensure their sites are in compliance before the rain events start, or risk increased enforcement actions.

Inspections are another opportunity staff utilizes to educate owners and developers about City and State runoff and erosion requirements. During inspections, the City Inspector notes problem areas and requires mitigation compliance immediately. If an owner or developer fails to comply, increased enforcement including fines can be levied and the City Inspector has the

authority to halt construction activities with a Stop Work notice.

The City has implemented similar procedures for public projects as those utilized for private projects. During mandatory pre-construction meetings (for all grading and public projects) the requirements for erosion control and runoff management are discussed. In addition, City staff notifies the primary contractor that they are ultimately responsible for all actions of their subcontractors, and violations of the City's storm water requirements will result in enforcement actions.

2.4 New Activities and Improvement for FY 11/12

The City will continue implementing the activities described in the Development Planning Component of the City's JURMP. In addition, to the development and implementation of the new SUSMP, LID and HMP requirements, the focus for FY 11/12 will include the continued implementation and education of planning/engineering Staff, builders, residents, and the community at-large as to how regulations of the SUSMP, LID and potentially HMP will impact construction.

The BEACH database will continue to be implemented and updated during this reporting period with improvements and advancements made as necessary. The goal is to modify the database to include maintenance and inspections records so that all information on a particular project will be contained in one electronic location. Currently, these maintenance records are being kept in an Excel spreadsheet, but the BEACH database will ultimately be the most effective and efficient location for all project records.

In an effort to control costs and create a more effective stormwater management program, the City has combined the City Inspector and the Stormwater Programs Manager into one new position titled Assistant Civil Engineer. This is an important step for the city because the Assistant Civil Engineer knows specifically what BMPs and stormwater mitigation efforts to look for during construction inspections and site visits.

2.5 Summary

The City has successfully implemented the Development Planning Component of the JURMP. Some of the key accomplishments include:

- Education of planning Staff, owners/developers and the community regarding changes in planning processes.

- Implementation of new procedures to ensure new and redevelopment projects do not contribute to an exceedance in water quality standards.
- Addition of Environmental section of permit routing sheet to ensure *all* plans/projects are reviewed by Environmental Specialist for storm water issues. Addition of post-construction BMP tracking and inspection box on routing sheet to ensure all BMPs are installed according to approved plans.
- Increased cooperation between City departments in implementing SUSMP requirements.
- Developed and implemented new post-construction BMP inventory and inspection tracking database.
- Developed and implemented new BEACH database to store all pertinent information regarding parcels in Solana Beach. This includes environmental fields that are used during plan review and permit issuance as well as housing all the necessary information for post-construction BMP tracking and maintenance.
- Creation of new Assistant Civil Engineer position which combines storm water program management and construction inspections.

CHAPTER 3
Construction Component

CHAPTER 3: CONSTRUCTION COMPONENT

3.1 Introduction

In accordance with Permit Section D.2, this section of the report describes the City's efforts to reduce construction site discharge of pollutants from the MS4 to the MEP and prevent construction site discharges from the MS4 from causing or contributing to a violation of water quality standards.

In each Annual Report to the RWQCB, this section will include modifications to the City's inventory of active construction sites (private and public), modifications to the City's policies or Municipal Code with respect to construction activities, and modifications to identified potential threats to water quality. In addition, this section of each Annual Report will include results from the City's efforts to require BMPs at construction sites and program accomplishments. Also, a summary of activities conducted post-reporting period may be included if the activity is deemed essential to understanding the City's efforts at reducing urban runoff or Permit compliance.

During this reporting period, the City conducted an evaluation of its construction practices and inventoried existing construction sites in an effort to understand potential sources of pollution, threats to water quality, and to develop a plan to mitigate or eliminate urban runoff and pollution from these construction sites by requiring BMPs.

3.2 Modification of Grading Ordinance

There were *no significant modifications* of the Grading Ordinance during this reporting period as a result of new requirements in the Permit. As reported in previous annual reports, Chapter 15.54 (Excavating and Grading) was modified on February 13, 2008 to include the new requirements of the Permit. The amendments updated and strengthened the City's regulations regarding storm water pollution controls. The two main areas of impact in the updated ordinance dealt with two new concepts (Hydromodification Plan (HMP) and Low Impact Development (LID)). As mentioned previously, Hydromodification is a state mandate that requires all local jurisdictions to regulate erosion control and other land-shaping impacts from storm water runoff on priority projects.

Low Impact Development is a new requirement included in the new storm water permit. It deals with using various techniques to channel storm water runoff and

the pollution it contains away from the storm water conveyance system and into landscaping and other on-site features to limit the amount of pollution escaping from individual parcels.

Previously, the last significant modification to the City's grading ordinance occurred June 30, 2005 in which the grading threshold was lowered from 200 cubic yards to 50 cubic yards for all construction projects. This resulted in much smaller projects which would not normally be scrutinized for storm water management, would now be required to go through the grading permit process. This gave City Staff more discretion on smaller projects to require storm water mitigation, and with it, gave Staff more power to enforce the installation and/or site design modifications that would not have been required if a grading permit were not necessary.

3.3 Modification of Construction and Grading Approval Process

The modifications to the City's processes for project approvals are described in detail in the previous chapter of this report (Chapter 2). Although Chapter 2 specifically addresses Development Planning, the discussion included a description of various processes that project applicants must proceed with in order to obtain approval of their construction plans. Chapter 2 also describes the improvements made to the plan check database BEACH as well as the increased education efforts City staff has made to ensure Permit compliance.

The Storm Water Plan Check Comment Form (see Appendix B) may require the applicant to submit an Erosion Control Plan, proof that the project does not increase runoff from the property and/or implementation of structural changes to redirect runoff onto impervious surfaces.

3.3.1 SUSMP BMPs Installation and Tracking

The City continued implementation of the updated SUSMP process during this reporting period, however there were *no projects that required the SUSMP process review.*

The City does not anticipate many projects that will fall under the SUSMP guidelines, since the City is 95% "built out." However, any project that may be proposed that fall under the guidelines will be put through the process. Planning Staff and Engineering Staff have been trained and are aware of the SUSMP requirements, and will implement the program when appropriate.

As reported in previous Annual Reports, a significant improvement to the building permit routing sheet was the addition of the *Environmental* review section (Appendix C). As noted previously in this Report, the routing sheet was modified to ensure *all* permit applications were thoroughly reviewed by Environmental Staff. This is significant because no projects will slip through the cracks, and all will be required to address storm water concerns. In addition, as mentioned above, the routing sheet also contains an area to mark if the project requires the installation of post-construction BMPs. Final permit approval and building occupancy will not be granted until a final inspection confirms the BMPs were installed correctly, according to the approved plans.

3.4 Construction Site Inventory

This section of the Annual Report will include an inventory of construction sites active during this reporting period. Given that the reporting period for these Annual Reports ends prior to the submittal of the report, the inventory will most likely be slightly outdated by the time the report is reviewed by the RWQCB. However, the City maintains an inventory of current construction project sites, which is always available for review.

The construction inventory is updated periodically, but at a minimum monthly, to ensure all active projects are included and inspected according to the frequency set forth in the JURMP. The update process consists of reviewing the Building Department files of active sites. In the past, the inventory was updated as soon as a building permit was approved. However, it was discovered that often times, construction activities would not commence for many months after permit issuance. This led to a significant amount of wasted time and resources for limited City Staff to visit multiple sites where there were no construction activities occurring. Since the City's Building Department Staff is required to be onsite when the project begins, review of their files is the most appropriate and accurate manner to update the construction inventory. Review of the Building Department files is now possible due to the fact that they are now housed at the City of Solana Beach City Hall. This is a major improvement over the last few years when the files were located at the City of Encinitas City Hall, along with Building Department Staff.

As shown on Table 3-1, there are currently thirteen construction sites that required a grading permit active within the City. In addition, City Engineers are in constant discussions with private project property owners during the plan check process to ensure their projects include an Erosion Control Plan, modify drainage

alterations to re-route runoff to pervious surface areas, proof that the project would not result in an increase in runoff from the site or other various structural BMPs, and require all projects to control and mitigate all run-off before it reaches the City's MS4 system. Table 3-2 shows all construction projects that have a potential to discharge pollutants but did not require a grading permit. These projects had extensive plan review by City Staff and storm water/erosion control conditions placed on them even though a grading permit was not required. Table 3-3 shows all Capital Improvement Projects (CIP) and their priority and inspection frequencies.

The City had no projects subject to the HMP or requiring advance treatment during this reporting period. In addition, there were no projects over 1 acre in size, which is very common considering most projects are in-fill and redevelopment projects.

Table 3-1 Construction Site Inventory Grading Projects 2010/2011

Project Name and Location	Inspection Frequency	Type of Construction	Start Date	Project Status	Project Size	Watershed	FY 10/11 Active Wet Season / # Inspections	FY 10/11 Active Dry Season / # Inspections	FY 10/11 Total # Inspections
235 S. Granados	Medium	Single Family Home	Jul-10	Completed July 2011	< 1 acre	San Dieguito	28 Weeks / 10 Inspections	24 Weeks / 6 Inspections	16
427 Barbara	Medium	Single Family Home	Jul-10	Completed July 2011	< 1 acre	Carlsbad	28 Weeks / 14 Inspections	24 Weeks / 12 Inspections	26
211/231 Pacific	Medium	Seawall	Dec-10	Ongoing	< 1 acre	Carlsbad	20 Weeks / 8 Inspections	8 Weeks / 2 Inspections	10
461 Marview	Medium	Single Family Home	Feb-11	Ongoing	< 1 acre	Carlsbad	12 Weeks / 6 Inspections	8 Weeks / 4 Inspections	10
620 San Julio	Medium	Grading	Feb-11	Completed April 2011	< 1 acre	San Dieguito	4 Weeks / 2 Inspections	0 Weeks / 0 Inspections	2
233-237 N. Rios	Medium	3 Condo Grading	Feb-11	Completed May 2011	< 1 acre	Carlsbad	10 Weeks / 4 Inspection	2 Weeks / 1 Inspection	5
1067 Cerro Verde	Medium	Grading	Aug-11	Ongoing	< 1 acre	San Dieguito	0 Weeks / 0 Inspections	0 Weeks / 0 Inspections	0
624 Mar Vista	Medium	Single Family Home	Sep-11	Ongoing	< 1 acre	Carlsbad	0 Weeks / 0 Inspections	0 Weeks / 0 Inspections	0
920 Avocado	Medium	Single Family Home	Jul-11	Ongoing	<1 acre	San Dieguito	0 Weeks / 0 Inspections	4 Weeks / 2 Inspections	2
524 Pacific	Medium	Single Family Home	Jul-11	Ongoing	< 1 acre	Carlsbad	0 Weeks / 0 Inspections	0 Weeks / 0 Inspections	0
505 Ford	Medium	Single family Home	Aug-11	Ongoing	< 1 acre	Carlsbad	0 Weeks / 0 Inspections	0 Weeks / 0 Inspections	0
225 Stevens	Medium	Parking Lot/Playground Reconfiguration	Aug-11	Ongoing	< 1 acre	San Dieguito	0 Weeks / 0 Inspections	0 Weeks / 0 Inspections	0
708-710 Midori	Medium	Retaining Walls	Aug-11	Ongoing	< 1 acre	Carlsbad	0 Weeks / 0 Inspections	0 Weeks / 0 Inspections	0

Table 3-2 Construction Site Inventory Small Private Projects 2010/2011

Project Name and Location	Inspection Frequency	Type of Construction	Start Date	Project Status	Project Size	Watershed	FY 10/11 Active Wet Season / # Inspections	FY 10/11 Active Dry Season / # Inspections	FY 10/11 Total # Inspections
222 Barbara	Low	Addition/Remodel	Sep-11	Ongoing	< 1 acre	San Dieguito	0 Weeks / 0 Inspections	0 Weeks / 0 Inspections	0
245 Barbara	Low	Family Room and Balcony	NA	Not started	< 1 acre	Carlsbad	0 Weeks / 0 Inspections	0 Weeks / 0 Inspections	0
302 Barbara	Low	Addition/Remodel	NA	Not started	< 1 acre	Carlsbad	0 Weeks / 0 Inspections	0 Weeks / 0 Inspections	0
533 Canyon	Low	Addition/Remodel	Feb-11	Ongoing	< 1 acre	Carlsbad	12 Weeks / 4 Inspections	8 Weeks / 4 Inspections	8
606 W. Circle	Low	Addition/Remodel	June-11	Ongoing	< 1 acre	Carlsbad	0 Weeks / 0 Inspections	4 Weeks / 2 Inspections	2
260 E. Cliff	Low	Addition/Remodel	June-11	Ongoing	< 1 acre	Carlsbad	0 Weeks / 0 Inspection	1 Weeks / 1 Inspection	1
631 Glenmont	Low	Addition/Remodel	Sep-11	Ongoing	< 1 acre	Carlsbad	0 Weeks / 0 Inspections	0 Weeks / 0 Inspections	0
514 N. Granados	Low	Addition/Remodel	Jun-09	Ongoing	< 1 acre	Carlsbad	28 Weeks / 10 Inspections	20 Weeks / 6 Inspections	16
762 N. Granados	Low	Addition/Remodel	Jun-10	Ongoing	<1 acre	Carlsbad	28 Weeks / 10 Inspections	18 Weeks / 6 Inspections	16
15877 Highland	Low	Addition/Remodel	Nov-10	Ongoing	< 1 acre	San Dieguito	24 Weeks / 6 Inspections	8 Weeks / 4 Inspections	10
403 Marview	Low	Single Family Garage	May-10	Ongoing	< 1 acre	San Dieguito	28 Weeks / 6 Inspections	20 Weeks / 6 Inspections	12
501 Mar Vista	Low	Demolition Single Family Home	Apr-10	Ongoing	< 1 acre	Carlsbad	28 Weeks / 6 Inspections	20 Weeks / 6 Inspections	12
614 Mar Vista	Low	Addition/Remodel	Nov-10	Ongoing	< 1 acre	Carlsbad	24 Weeks / 6 Inspections	8 Weeks / 3 Inspections	9
639 Mar Vista	Low	Addition/Remodel	Aug-10	Ongoing	< 1 acre	Carlsbad	28 Weeks / 10 Inspections	16 Weeks / 6 Inspections	16
326 S.	Low	Demolition Single	Sep-11	Ongoing	< 1 acre	San Dieguito	0 Weeks / 0	0 Weeks / 0	0

Nardo		Family Home					Inspections	Inspections	
133 Pacific	Low	Addition/Remodel	Oct-10	Ongoing	< 1 acre	Carlsbad	28 Weeks / 14 Inspections	8 Weeks / 3 Inspections	17
221 S. Rios	Low	Demolition Single Family Home	May-11	Ongoing	< 1 acre	San Dieguito	0 Weeks / 0 Inspections	6 Weeks / 1 Inspections	1
635 N. Rios	Low	Addition/Remodel	Aug-11	Ongoing	< 1 acre	Carlsbad	0 Weeks / 0 Inspections	0 Weeks / 0 Inspections	0
468 Santa Alicia	Low	Addition/Remodel	June-11	Ongoing	< 1 acre	San Dieguito	0 Weeks / 0 Inspections	2 Weeks / 1 Inspections	1
412 Santa Bartola	Low	Addition/Remodel	Nov-10	Ongoing	< 1 acre	San Dieguito	24 Weeks / 10 Inspections	8 Weeks / 4 Inspections	14
1304 Santa Luisa	Low	Addition/Remodel	Mar-11	Ongoing	< 1 acre	Carlsbad	6 Weeks / 4 Inspections	8 Weeks / 2 Inspections	6
916 Santa Queta	Low	Addition/Remodel	Mar-11	Ongoing	< 1 acre	Carlsbad	6 Weeks / 4 Inspections	8 Weeks / 2 Inspections	6
537 Santa Victoria	Low	Addition/Remodel	Sep-11	Ongoing	< 1 acre	Carlsbad	0 Weeks / 0 Inspections	0 Weeks / 0 Inspections	0
630 Seabright	Low	Single Family Development	Feb-11	Ongoing	< 1 acre	Carlsbad	10 Weeks / 4 Inspections	8 Weeks / 2 Inspections	6
748 E. Solana Circle	Low	Addition/Remodel	Feb-11	Ongoing	< 1 acre	San Dieguito	10 Weeks / 4 Inspections	8 Weeks / 2 Inspections	6

3.5 Construction Follow-Up Activities:

The City is very aggressive with its construction inspections and follow-up, and unless otherwise stated, all follow-up corrective activities were properly addressed and corrected within seven (7) working days. Many times the corrections are made immediately, however the City's policy is to allow the responsible party seven days to correct the violation. That being said, if there is an immediate threat to public health or safety, the City can, and will, require immediate corrective actions.

As stated above, the City takes a very pro-active approach toward construction projects. Plans are heavily scrutinized and discussions with the contractors often happen before the project even begins. The City has found that initiating contact with the contractor before the project begins and maintaining contact throughout the construction process leads to continued compliance with storm water regulations. Since the City of Solana Beach is relatively small, the City's inspector has the ability to visit sites almost daily, and at a minimum weekly. Due to this high level of supervision, sites remain in compliance with storm water BMPs. That being said, there are instances where accidents do take place, most often when concrete trucks and pumpers are involved.

It is important to note that there were no significant violations from construction sites during this reporting period. There were minor issues that Staff encountered during inspections such as open trash dumpsters, minor sediment tracking or BMPs that were improperly installed or needed replacing, but there were no citations issued. Staff believes that the proactive approach to construction inspections, pre construction meetings and constant contact in the field from the Assistant Civil Engineer and EsGil Inspector all helped to keep the construction sites in compliance. Also, due to the lengthy drought the region is experiencing, there were relatively few rain events that occurred.

3.6 Capital Improvement Projects Inventory

In addition to the inventory for private projects, City staff believes it is equally important to discuss public Capital Improvement Projects (CIPs) under construction.

CIPs are held to the same *or stricter* standards for reducing runoff as private projects. BMPs, Erosion Control Plans, and structural changes to reduce or mitigate runoff pre, during and post-construction are required. Most, if not all, CIPs in Solana Beach are constructed by private contractors selected through the standard public construction bid process. Contractors are informed *prior to submitting a bid,* that the City requires adherence to RWQCB standards, Permit and City storm water regulations. To ensure compliance, the city inspector

conducts a daily inspection of each CIP site during construction. Stop Notices are issued if the contractor fails to comply with any storm water / erosion control regulations.

Additionally, the Assistant Civil Engineer is included in pre-construction meetings that are required for *all* public projects. A line item discussing NPDES regulations and requirements is standard for all public project agendas (Appendix E). This is another way to ensure that all contractors are aware of the requirements before the project begins, and to help with possible enforcement actions, if necessary.

In FY 10/11, the City Inspector did not issue any Stop Notices to contractors for failing to comply with storm water/erosion control regulations.

Table 3-3 below shows the inventory of CIP projects during FY 10/11. The City had three projects, and placed all of the projects in the high priority category. This was done to ensure that the City's projects would be inspected at a very high frequency in order to ensure compliance at all times. For the other CIP projects, the City's Inspector was onsite daily to monitor the site.

Table 3-3 Construction Site Inventory Capital Improvement Projects 2010/2011

Project Name and Location	Inspection Frequency	Type of Construction	Start Date	Project Status	Project Size	Watershed	FY 10/11 Active Wet Season / # Inspections	FY 10/11 Active Dry Season / # Inspections	FY 10/11 Total # Inspections
Steven's Ave Emergency Storm Drain Repair	High	Storm Drain Repair	Jun-10	Completed Oct-10	<1 acre	San Dieguito	2 Weeks / 2 Inspections	14 Weeks / 14 Inspections	16
Fletcher Cove Community Center Phase I ADA Improvements	High	Concrete Work	Sep-10	Completed Dec-10	< 1 acre	Carlsbad	12 Weeks / 60 Inspections	4 Weeks / 20 Inspections	80
Fletcher Cove Community Center Phase II Building Construction	High	Building Construction	Feb-11	Completed Aug-11	< 1 acre	Carlsbad	12 Weeks / 40 Inspections	16 Weeks / 80 Inspections	120

3.6.1 Significant CIP Project Narratives

In this section, some additional narrative has been added to some of the more significant CIP projects, and to explain some other projects that weren't necessarily planned construction activities, but ones that were either emergency, preventative or experimental that occurred during this reporting period. Staff feels that these projects significantly show the City's proactive approach to protecting the local environment.

Sewer Assessment and Repair Program

The City embarked on a significant project to video and inspects the entire sewer system infrastructure during this reporting period. The City Council authorized approximately $150,000 towards this assessment and repair program with the intent to prevent any failures in the City's infrastructure. The City hired consultants to video the entire length of the sewer pipes and develop an assessment report to categorize the infrastructure into priority replacement projects. The City repaired all high priority areas on the western side of the City (west of I-5) and has begun repair on the eastern side during FY 2010/2011. This is a very aggressive and proactive program that demonstrates the City's commitment to no sewer spills in the City.

Marine View Slope Maintenance

The City has a very steep slope on the east side of I-5 on Marine View Avenue that has been a problem area for large-scale erosion. The slope is now bare with no vegetation, and gullies have been cut out over the years by large rain events. These rain events produce a significant amount of erosion, and the City has attempted many solutions over the years, with minimal success. Staff has attempted to work with specialized erosion control consultants, but has been told by them all that there are no solutions for this particular problem. The slope is too large, steep and has too many ruts and gullies for the standard erosion control BMPs, such as hydroseeding, matting and even bonded fiber matrix. The City has installed a reinforced silt fence at the bottom that has to be replaced after every rain event, and takes up a lot of Staff resources.

Staff was approached by a local erosion control company in August 2009 to become a pilot project for a new hydroseed formula called "Rhino Snot." Staff agreed to use the product on the Marine View Slope, and it held up remarkably well during the rainy season. The product was placed on a portion of the slope

and prevented erosion throughout the entire rainy season. It worked so well that Staff has scheduled for the application to be done on the entire slope the first week of October, 2010. Staff will be monitoring the location throughout this rainy season and hopes to have found a long-term solution. The City does have a large-scale CIP project planned for this slope, and received bids for this project at the end of the reporting period. Work on this project is expected to begin in early Fall 2011. The results of this project will be reported on in next year's Annual Report.

3.7 Threat to Water Quality Prioritization

In accordance with Permit Section F.2.e., the City describes the criterion for designation of construction projects as high, medium, or low priority, in its JURMP. *There are **no changes** to report in the City's criterion for determining a project's impact or threat to water quality.* The City's prioritization criterion meets the requirements of the new Permit, so no changes were needed.

Of the active projects currently under construction, *there are no changes to report with respect to the potential threat to water quality*. The only projects that would fall under the high priority would be significant redevelopment projects, which there were none of during this reporting period. The City is closely monitoring two potential projects that may fall under the high priority in the next reporting period, pending permit approval. It is important to note that City Staff is currently working with the prospective developers to ensure they integrate beneficial storm water designs (LID) during the design phase. The following projects are being closely monitored by City Staff:

1) Multiple plans have been submitted to the City to build a hotel/restaurant and condos on the east side of Highway 101 at the northern tip of the City (commonly referred to as the Magellan site), however it has been met with some opposition within the community and a compromise is being sought. Plans still have not been adopted by the City Council at the time of this report. If a project is accepted for development in that area during the next reporting period, it will be a high priority project subject to the SUSMP process because of its proximity to the San Elijo Lagoon, a 303 (d) listed water body.

2) Another *potential* high priority project that is being discussed is a large multi-use residential/commercial development on what is currently the North County

Transit District's (NCTD) train station property. This proposed project has also come under heavy scrutiny from the public and no plans have been approved by the City. If a project is approved for development on this site during the next reporting period, it will be a high priority SUSMP project because of its size and pollutant potential.

The City's Capital Improvement Projects (list available upon request) will be considered at least a medium priority for several reasons. First, priority categories may only result in a change in the frequency of oversight and since the City Inspector visits each public construction site on a daily basis, it eliminates the need for delineation in priority. Second, given the City's proximity to the Pacific Ocean, all erosion, sediment and runoff control practices are important and are expected to be very beneficial to the community. Therefore, the designation of "medium or high priority" improves the likelihood that CIPs will not contribute to an exceedance of water quality standards. It doesn't make sense to categorize a CIP project as low priority since the City holds itself to a higher standard than what the Permit requires.

3.8 BMPs and Pollution Prevention Methods

As noted in the City's JURMP, the City requires general and specific BMPs for construction sites. With the modifications in the development review process, the City is able to require site design, source control and treatment BMPs prior to construction. Owners and developers are provided a BMP Construction Brochure (see Appendix A), and they meet with Engineering Staff to develop methods to ensure that runoff is not increased as a result of their proposed project. The City believes that working with the contractors during the plan development (when applicable) and approval process is the most critical time period to ensure that appropriate BMPs (structural, pre-and post-development) are built into the project *before* pollutants are allowed to enter the storm drain conveyance system.

BMP Selection

The City does not require a specific or certain type of BMP (except for SUSMP projects) for all projects similarly designed. Instead, Staff evaluates each project on its own merit and determines if modifications to the plans are required to control erosion and/or reduce runoff. City Staff works together with property owners and developers to find satisfactory solutions to project problems.

Pollution Prevention Methods (PPM)

Construction limitations – the City limits construction during the wet season when construction plans warrant and when it is feasible. Implementation of this PPM reduces the potential for pollution.

Education – the City sends out letters to all active public and private construction projects prior to the wet season as a reminder of the importance of implementing the required BMPs (see City JURMP for a description) and the importance of taking precautions during storm events (Appendix D). Additionally, a BMP Construction Brochure is attached to all permit approvals and distributed at City Hall Engineering and Planning counters to all prospective developers and interested members of the community.

Inspections – as discussed below and elsewhere in this report, the Assistant Civil Engineer visit construction sites and keep a record of BMP implementation and effectiveness. When a developer does not comply with the City's request to modify practices to reduce runoff or erosion, a Stop Work can be issued and fines may be levied.

3.9 Enforcement and Inspections

Enforcement of the City's Municipal Code is conducted by the City's Code Enforcement Department. The Assistant Civil Engineer conducts inspections of construction site BMPs, but if enforcement actions above verbal warnings and written NOVs are necessary, Code Enforcement Officers are notified.

Code Compliance

The City has developed procedures to track and monitor citations issued to property and business owners, visitors, and developers. These procedures include the implementation of an Administrative Fine process which was adopted by the City Council on June 18, 2002. This process allows Code Enforcement Officers to issue administrative citations and penalties beginning at $100 and rising up to $1,000 for each violation per day that the violation(s) occur; this applies to both public and private construction sites.

In addition to the administrative fine process, the City adopted a Civil Penalty Matrix (Matrix). This is a very significant tool that has greatly enhanced the

efficiency and consistency of enforcement for storm water violations. The City felt it was necessary to develop a matrix to evaluate each violation in the field, and to respond to them in a consistent and appropriate manner. The Matrix was designed so that anybody in the field who witnesses a violation can apply the parameters of the Matrix to decide the appropriate way to respond. This greatly enhanced the efficiency of the storm water program, as not all violations require multiple Staff to respond or, if a fine was necessary, Staff did not have to wait for approval from upper management to issue it. This would sometimes take as long as month, but with the Matrix, this could happen instantaneously in the field.

The Matrix was modeled after the City of San Diego's Civil Penalty Matrix. The Matrix was modified for the type of violations most often encountered in Solana Beach, but the foundations are very similar. The Matrix breaks down the violation into two categories, Environmental Significance and Compliance Significance. These categories are further broken down into Moderate, Major, and Severe. According to the type of violation and the history of the violator, the penalties will be placed in the appropriate section of the Matrix. This ensures that all violations are treated consistently, and the feelings of the investigating officer do not interfere, so the enforcement actions do not vary. This, according to our Code Enforcement Department, is extremely important if a fine gets challenged in court. The Matrix has been in use for over five years, and a fine has not been successfully challenged yet. The Matrix was developed in cooperation between the City's Environmental Specialist and Code Enforcement Officer, further demonstrating the great working relationship between City Departments.

The Matrix is used for all violations, not just construction related offenses. It can be applied to municipal, commercial, and residential offenses. For the complete Civil Penalty Matrix, see Appendix F.

Site Inspections

All construction sites that have a potential to discharge pollutants are inspected by the Assistant Civil Engineer, including public and private development projects. All development projects in the City are inspected in accordance to the JURMP.

The sites are inspected at the rate of frequency established in the JURMP. At a minimum, each site that is determined to have a high inspection frequency

priority will be inspected at least every two weeks during the rainy season (October 1st through April 30th). Medium inspection frequency priority projects are to be inspected at least monthly during the rainy season. Low inspection frequency priority construction sites will be inspected on an as-needed basis during the rainy season. All construction sites will be inspected for storm water management compliance on an as needed basis during the dry season.

The Assistant Civil Engineer devotes time out of her schedule to visually monitor all construction sites. This has been very successful in preventing pollution from leaving construction sites, as most problems are fixed before any illegal discharge leave the property. Since there are not too many projects in the City, this type of monitoring is highly successful, as private project managers and City Staff communicate very effectively.

If any potential violations are noticed during either the visual inspections or on-site inspections, City Staff will stop and talk with the property owner/contractor, write a letter, request Code Compliance to issue a citation, issue a "stop work notice" or a combination of these activities. The City's Civil Penalty Matrix, discussed previously is also used for construction related violations.

In addition, City Staff conducts informal visual inspections at all medium and high priority construction sites prior to a rain event to ensure all BMPs are installed correctly and working properly. A follow-up informal visual site inspection is then conducted during and/or after the rain event to monitor how effective the installed BMPs were and if any modifications need to be done. Construction sites are constantly evolving and require constant monitoring, which the City Staff understands and enforces.

All inspections conducted during this reporting period addressed the required inspection steps to determine full compliance. There were no sites that required multiple follow-up inspections or reporting to the RWQCB, as all were either in compliance at the time of inspection or made the necessary corrections after the initial inspection and were in compliance during the follow-up inspection.

Enforcement of BMPs

During inspection of construction sites, City Staff verifies that appropriate BMPs have been installed correctly and are working effectively (sediment is on-site,

erosion control methods in place, runoff mitigated or not leaving property, etc.). In addition, City Staff has the authority to immediately require new BMPs if erosion control, runoff, or other activity is taking place that contributes pollutants into the City's MS4.

During this reporting period, the City staff conducted inspections of all CIPs and mandatory inspections of private projects within the City's jurisdiction and did not need to report any non-compliant sites to the RWQCB. Any site that was determined to be out of compliance was immediately notified and the problems were resolved within the time frame specified by the City.

Educational Activities

The educational activities conducted for construction sites consisted mainly of verbal conversations between the contractor/developer and City Staff. Because of the relatively few projects in the City, it is possible and practical to discuss issues during the pre-construction meeting and on-site with the contractors. Also, they are given the Construction BMP brochure prior to the start of the project and ongoing inspections/meetings occur throughout the project. The City believes that it is much more effective to talk with the contractor face-to-face about storm water issues and, since we are a small city, it has been and continues to be very effective.

An educational brochure (Appendix G) was recently developed by the City that focuses on general construction site requirements relating to all City codes. The brochure, titled "Construction Site Supervision in Solana Beach: Code Requirements and Good Neighbor Practices," was requested by the City Council as a general educational tool to be distributed to all contractors. This has been very well received by the development community because it addresses everything from construction hours to permitting to storm water BMPs. This is another example of the City's proactive approach to community education.

Another tool that was developed and is currently being implemented is the Construction BMP Brochure (Appendix A). This was developed by the North County Storm Water Program to provide a single message and consistent requirements to all contractors/developers in the region, regardless of where they are doing work. This brochure was meant to supplement each individual cities educational outreach to ensure that the development community was receiving a

consistent message regarding proper construction practices. This brochure has been very well received by the development community and in Solana Beach has replaced the Construction BMP Guide as the primary educational tool distributed to the development community.

As discussed previously, the inclusion of the *Environmental* section to the building permit routing sheet has afforded the City another opportunity to educate the applicant/contractor on the storm water regulations. Every project that has the potential to discharge pollutants to the MS4, regardless of size or type, is reviewed by the Environmental Programs Manager and commented on.

Another educational tool utilized by the City is the City's newsletter "Shorelines." The newsletter is updated and distributed four times per year and is eagerly anticipated by the community. A variety of storm water topics are touched upon in each edition, including construction. These articles are usually focused on education for single-family residential projects since often times these are done by smaller contractors that may not have the knowledge that larger developers do. In addition, the City wants to educate the property owners of the regulations and let them know that they are ultimately responsible for the actions of their contractors, including violations. Often times, City Staff discovers that the property owners are the best allies to have because they don't want to be held responsible, so they ensure their contractors are adhering to the regulations. It's been a very effective tool in storm water management throughout the community.

These smaller projects hold a much higher priority in our City because of the lack of larger projects; so educating the individual homeowners is extremely vital. Also, the City has found that the smaller projects have the most potential violations, as most are owner/contractor situations where they are not aware of the storm water regulations. The larger projects often have erosion control specialists and employees who are required to attend storm water education classes. The newsletter is included as Appendices and described in later chapters of this Report.

Special Project BMP Education

An effective tool that has been recently developed and continues to be implemented is the development of specialized BMP notices for specific types of specialized construction activities. For example, a large scale effort is being

made to underground overhead power lines for view impact reductions around the City. These were special projects that did not go through the normal permitting process. Therefore, these plans would not have been reviewed by the normal parties, and since the City is dedicated to storm water protection, City Staff developed a special "Undergrounding Utility District Construction Best Management Practices" handout (Appendix H). This was a one page handout to be included in every permit application submitted by those participating in this program. Since the process of undergrounding utilities involves moving a large amount of dirt, the City felt it prudent to take this extra precaution to ensure the proper BMPs are in place.

If any special projects in the future require project specific BMPs, the City is dedicated to developing materials to distribute to the applicants.

Post Construction BMP Inventory and Inspection

Another significant new requirement in the Permit mandates that the City must develop an inventory of all post construction BMPs and conduct annual inspections for Priority Development Projects (SUSMP). The City now has the ability to ensure that all post construction BMPs are installed and maintained by the contractor and/or property owner. The *Environmental* review section on the routing sheet contains a section that can be marked for inspection required prior to installation or prior to final approval of the project. This was done to ensure post construction BMPs required on the plans are actually installed and ensures maintenance through a special agreement that is recorded on the property through the County of San Diego. The City found in some cases that the post construction BMP(s) are often buried in the ground before inspection, thereby making it impossible to inspect and ensure it was properly installed according to the approved plans. So, the City revised the routing sheet to include a box that, when checked, puts the onus on the contractor to call for an inspection during the installation to ensure it is actually being done. This way, it can be more efficiently documented and inspection required before the permit gets final approval. In addition, this allows the Assistant Civil Engineer the ability to document in a spreadsheet the type of BMP, location and inspection frequencies as the plans are being reviewed. This will assist City Staff with post construction inspection documentation requirements prior to the start of the project.

Construction and Demolition Debris Recycling Ordinance

In January 2008, the City Council adopted a Construction and Demolition Debris Recycling Ordinance (C&D Ordinance). This ordinance requires all demolition projects and construction projects over a valuation of $100,000 to submit an approved Waste Management Plan (WMP) detailing how the contractor will recycle at least 50% of the waste generated from the project. The contractor will not receive final permit approval until they have proven at least 50% of the waste was recycled.

This is an extremely significant accomplishment for the City and its clean water efforts. According to the National Association of Home Builders (NAHB) Research Center, building a 1,700 square foot home requires:

- 9,700 board feet of lumber
- 750 copper wire
- 2,500 square feet of insulation
- 6,484 square feet of drywall
- 170 feet of copper pipe
- 55 gallons of paint
- 55 cubic yards of concrete

This is a significant amount of waste that would normally end up in the local landfills, or worse, illegally dumped in the environment. This ordinance requires contractors to recycle their used materials, guaranteeing that it does not pollute the environment. This is another example of the progressiveness of the community as a whole when it comes to protecting the environment.

3.10 New Activities and Improvements in FY 11/12

City Staff will continue to review all plans, enforce BMP (site, source and treatment) installation, conduct inspections and keep an accurate inventory of the private and public projects and post construction BMPs. The City is committed to working with the other cities within its respective watersheds (Carlsbad and San Dieguito) to ensure compliance with all storm water regulations and continue to develop watershed educational information.

The primary focus for FY 11/12 will be the continued development and implementation of the LID, HMP and SUSMP programs. These are major program components and the City is committed to working with the other Copermittees to develop a high quality work product that can be implemented

region-wide. These three components are extremely important in maintaining and enhancing the water quality in the region as more and more land is developed. Training of appropriate City Staff on these new requirements will be a priority to ensure successful implementation of the new programs. In addition, Staff is currently reviewing its documents and handouts to ensure they are up to date and accurate with the new requirements.

City Staff is currently reviewing its construction inspection protocol and changes might be made in the upcoming reporting period. As reported above, the current construction inspections are being conducted by the Assistant Civil Engineer. The City is analyzing the current practice and due to potential upcoming staffing changes (retirements, reorganization); changes might be on the horizon. The City is assessing whether or not construction inspections should be continued in-house, or if contracting out those services to a specialized consultant would benefit the City and the community. The City's recent successes with contracting out the commercial/industrial inspections, Dry Weather Monitoring Programs services and Staff trainings have made the City take a hard look at other service areas as well. There is also the possibility that a part-time Code Enforcement Officer will be hired with the focus of construction inspections. This analysis is occurring at the time of the writing of this report and more information will be given in next year's Annual Report.

3.11 Summary

The City has been effective at implementing a plan-check process that has resulted in the implementation of BMPs, site design modifications, structural changes and runoff mitigation activities in project proposals and/or construction activities. Both public and private construction projects are subject to the City's strict standards, which provide a consistent approach to reducing urban runoff from construction activities. The City has effectively integrated the new stricter standards of the Permit, including the SUSMP, into its plan-check review process. The City has also developed project specific construction BMPs for large-scale specialized construction activities such as the Undergrounding Utility Districts that are forming around the community.

The City will continue to actively analyze the construction program and make necessary improvements/modifications to ensure the protection and enhancement of the local water quality. An example of the City's commitment

was the addition of the Environmental review section of the permit routing sheet. The City felt that some smaller projects, although not specifically required to be plan reviewed and inspected by the Permit, may have the potential to be overlooked. Therefore, now *all* plans are reviewed by the Assistant Civil Engineer and necessary changes can be made before plans are approved. Also, the reduced grading ordinance modification demonstrates the City's commitment to reviewing as many projects as possible and integrating storm water management requirements to projects that would have been overlooked in the past.

The City, along with the other regional Copermittees, developed and is now implementing the two significant new requirements, the HMP and LID. These two programs are significant additions that will require City Staff to work with the other Copermittees to implement regional programs to address runoff from construction projects. These new programs also include an educational component, which the City is currently developing in conjunction with the region. The City is committed to participating with the regional Copermittees to develop and implement these respective programs, even though the HMP is not expected to affect any projects within the City. The City values itself as an active Copermittee, and allocated funds to the HMP development, even though it is highly unlikely to affect any projects within the City's jurisdiction.

CHAPTER 4
Municipal Component

CHAPTER 4: MUNICIPAL COMPONENT (EXISTING DEVELOPMENT)

4.1 Introduction

In accordance with Permit Section F.3.a, this section of the report describes the City's efforts to prevent or reduce pollutants in runoff from municipal land use areas and activities.

In each Annual Report to the RWQCB, this section will include modifications to the City's inventory of municipal facilities, pollutant source identification and potential threats to water quality. In addition, this section of each Annual Report will include results from the City's efforts to implement BMPs at municipal facilities, program accomplishments and activities. Also, a summary of activities conducted post-reporting period may be included if the activity is deemed essential to understanding the City's efforts at reducing urban runoff or Permit compliance.

Municipal facilities and areas within the City of Solana Beach include public parks, public buildings, streets, roads, and parking lots, a public works yard, and the MS4 system. During this reporting period, the City once again conducted a comprehensive re-evaluation of its municipal sites to understand potential sources of pollution, threats to water quality, and to develop a plan to mitigate or eliminate urban runoff and pollution from its facilities by implementing Best Management Practices (BMPs). This was accomplished through inspections of all public facilities.

4.2 Inventory of Municipal Facilities

During this reporting period, in response to the requirements of the Permit and in an effort to improve the quality of water in the region, the City once again inventoried its municipal sites and activities. Table 4-1 presents the City's municipal facilities, by prioritization level. *There are no changes in the City's inventory of municipal sites from those submitted to the RWQCB in the City's last Annual Report.*

The City's municipal facilities include five public buildings (City Hall, Fire Station, Marine Safety Center and the community centers at La Colonia Park and

Fletcher Cove), one Public Works Yard, six public parking lots, City streets and roads, the Municipal Separate Storm Sewer System (MS4) and the beach (which consists of four access locations: Del Mar Shores, Seascape Sur, Tide Beach Park, and Fletcher Cove).

Table 4-1 Existing Municipal Facilities, By Priority Level

Facility Name	Facility Address	Type of Activity	Priority
Public Works Department	1764 Highland Drive	Materials storage, fleet parking, administration	High
North Seascape Sur Surf Park	Public beach access west of Highway 101	Public beach	High
Roads, streets	Citywide	Circulation	High
MS4 System	City-wide	Storm-water conveyance system	High
Fletcher Cove Parking Lot	North end of Plaza St.	Parking	High
Distillery Parking Lot	Sierra and Lomas Santa Fe		
Solana Beach and Tennis Club	West end of Dahlia St.		
Seascape Sur Parking Lot	Seascape Sur Easement		
Del Mar Shores Parking Lot	Sierra Ave. near Del Mar Terrace		
Del Mar Beach Club East Parking Lot	Sierra Ave. east of Del Mar Beach Club Dr.		
City of Solana Beach Fire Department	500 Lomas Santa Fe	Public Building - Fire Station, fleet and fire equipment storage	Medium
City of Solana Beach City Hall	635 S. Highway 101	Public Building -Administrative	Low
Marine Safety Department, Fletcher Cove	111 S. Sierra Ave.	Public Building Administrative, marine safety equipment storage	Low
Fletcher Cove Community Center	111 S. Sierra Ave.	Public Building – Community Center	Low
La Colonia Park and Community Center	715 Valley Ave	Public Park and Building – Community Center, administrative, park	Low
Tide Beach Park	302 Solana Vista Drive	Public beach	Low
Del Mar Shores	190 Del Mar Shores	Public beach	Low

4.2.1 Inspection Frequency of Municipal Sites

The City inspects all of its municipal sites listed above on a continuous basis. The inspections address all the required inspection steps to determine full compliance. Every winter, prior to the wet season, the Public Works Yard (Yard)

is given a complete inspection and all Public Works employees are given a complete storm water refresher training seminar. Also, the Public Works Crew is put through a practice run of the Wet Weather Triggered Action Plan to prepare for the upcoming wet season. At this annual inspection, the current inventory of the storm water BMPs kept on-site (gravel bags, bio-filter rolls, straw rolls, etc) is documented and additional supplies are ordered if necessary. Visual inspections are conducted on a daily basis by the Public Works Crew.

As required by Permit Section J.3.a (3) (c) xix, the City confirms that the municipal inspections addressed all required inspection steps to determine full compliance.

Here are the specific dates and numbers of inspections for the City's municipal areas:

Public Works Yard: Weekly facility visual inspections by City Staff. Compliance inspection conducted last year on June 1, 2011.

Roads and Streets: Daily visual inspections by City Staff. Every street is swept at least once per month. Main arterial streets and collector roads are swept twice per month. These frequencies are set based on Permit requirements and the size and frequency of use by vehicles on a daily basis.

Parking Lots: Weekly visual inspections by City Staff. Every City parking lot is swept once per month. In addition, the Fletcher Cove Park parking lot is swept weekly during the summer months due to an increase in use during the summer.

MS4 System: Weekly visual inspections by City Staff. Highest priority catch basins cleaned annually (those with accumulated debris inside). All 309 catch basins and 15 unimproved channels were inspected and 26 catch basins were cleaned. Approximately 5 cubic yards of debris was removed from the MS4 system during this reporting period.

Fire Department: Daily visual inspection by City Staff. Compliance inspection was conducted on June 1, 2011.

City Hall: Daily visual inspection by City Staff. Compliance inspection was conducted on June 1, 2011.

Marine Safety: Daily visual inspection by City Staff. Compliance inspection was conducted on June 1, 2011.

La Colonia Community Center: Daily visual inspection by City Staff. Compliance inspection was conducted on June 1, 2011.

Beaches: Daily visual inspection by City Staff (Marine Safety Department).

4.2.2. Follow-up Activities

There were no follow-up activities required as a result of the municipal inspections. Due to the education, knowledge and constant monitoring by City Staff, no violations were detected during the compliance inspections.

All municipal facilities are implementing the necessary BMPs and all employees are properly trained. The Public Works Yard required no corrective action as everything remained in compliance. The Wet-Weathered Action Plan was successfully implemented and the employees were trained again and had a practice run prior to the beginning of the wet season.

4.2.3 Implementation of Pesticides, Herbicides and Fertilizer BMPs

As reported in last year's Annual Report, the City used to house a small amount of pesticides, herbicides and fertilizers at the Public Works Yard. However, City Staff no longer handles any pesticides, herbicides or fertilizers and does not store any of this material onsite. Instead, all applications are conducted by the City's contracted landscaping company and no material is stored at City facilities. This greatly reduces a high priority pollutant source and eliminates the potential for a release into the City's MS4.

In addition, the City has recently switched to using only organic pesticides, herbicides and fertilizers on City property. This change was approved by the City Council and additional funds are allocated to implement the program. The City is extremely proud of this transition, as the chemically produced materials can create significant water quality degradation. This major transition (including financially) was approved and encouraged by the City Council, which reflects the environmentally conscientious attitude of the community.

4.3 Pollutant Source Identification

To assist the City in determining the source of pollutants in its receiving water bodies, and/or the receiving water bodies of neighboring jurisdictions, the municipal facilities were also identified by Watershed in the City's JURMP*. There are no changes to report in the municipal facility by watershed classification.*

During this reporting period, Staff continued to evaluate the possible types of pollution that could be generated from each municipal facility. The evaluation included the following:

- Type of materials stored or used on site
- Activities conducted on site
- Proximity to conveyance system, or environmentally sensitive areas
- Any additional activities that may affect water quality such as additional storage or new materials kept on-site

Results from the evaluation indicate that most City facilities are a low threat to water quality. Parking lots, streets and roads, and the Public Works Yard are the highest priority of municipal facilities as they could introduce pollutants into the conveyance system, which could impact water quality.

The City is committed to implementing BMPs that will reduce pollutants from parking lots, streets and roads and, in particular, the Public Works Yard. The City has installed and maintains a BioClean filter in one of the upstream catch basins that lead to the problem Seascape Sur storm drain outfall. In addition, the City installed a curb inlet screen at the same catch basin upstream from Seascape Sur to prevent debris, and possible pollutants, from entering the catch basin.

As reported in last year's Annual Report, an additional BMP catch basin inlet screen was installed in the opposite catch basin across the street as a pilot test project. This inlet screen automatically opens up during a rain event to prevent flooding, but remains in place during dry weather periods. The sturdy screen also contains a filter in the basket behind the screen to further filter out pollutants prior to entering the Seascape Sur storm drain. These two BMPs will be studied and sampling results analyzed to determine if they are effective BMPs for the problem pipe. The results will be described in more detail in Chapter 12 (Special Investigations)

The Public Works Yard is visually inspected daily and BMPs are maintained and

reinforced as needed. In addition, the City utilizes results from its dry-weather-monitoring program to determine if pollutants are entering the system from its municipal facilities.

The City's 2010 Dry-Weather-Monitoring Program (DWMP) was completed by the City in September 2010. The results indicated a continuing concern at Seascape Sur, which has been an ongoing problem in the City (see discussion in Chapter 12, Special Investigations), where elevated levels of bacteria were detected. An investigation into the identification of the pollutant source is ongoing, and the City is looking into alternative ways to address the situation. No municipal facilities were found to be contributing the pollutants.

The City utilized the information from the 2002-2010 DWMPs and the criteria established by the Permit (Order 2007-0001) to further develop its 2011 Dry-Weather-Monitoring Program. The results of the 2011 program will not be available until after this reporting period, but if any exceedances are detected, follow-up actions will be taken immediately. The results of the 2011 DWMP will be included in Chapter 7 (IDDE) of this Report, which will be submitted separately in December 2011 as agreed to by the RWQCB Staff.

4.4 Threat to Water Quality Prioritization

The City utilized the criteria prescribed in Permit Section F.3.a. (3)(a) and (b) to prioritize the facilities based on their potential Threat To Water Quality (TTWQ) from storm water runoff. In addition, dry-weather monitoring data and previous complaint records were included in the evaluation. As noted in the City's JURMP, results from the 2010 DWMP indicated that there were no illegal discharges or illicit connections associated with existing municipal facilities. However, the City still classified its public parking lots, MS4 system, streets and roads and the Public Works Yard as *high priority* using the criteria of the Permit. Also noted in the JURMP, the City classified the beach at Seascape Sur as a *high priority* because results from historic dry-weather monitoring and Coastal Monitoring programs indicated elevated levels of bacteria (see Chapter 12, Special Investigations).

The Fire Station facility was the only municipal site classified as medium-priority, due to the types of materials stored onsite (although always indoors). The City Hall building, the Community Center at La Colonia Park, Tide Beach Park,

Fletcher Cove Community Center and the Marine Safety Center facility were classified as low priority primarily due to the activities conducted at those sites.

There are no changes to report in the City's prioritization of its municipal facilities.

It should be noted that in the 2003 Annual Report, the results of the 2003 Wet Weather Monitoring Program revealed very high levels of the pesticide Diazinon within the watershed. The City focused its efforts on reducing the use of Diazinon within the City and by municipal landscaping contractors through educational activities. The City is happy to report that Diazinon was not found in any of the samples analyzed by the lab for current dry weather programs. This is consistent with the overall trend region-wide showing that Diazinon levels have been steadily decreasing. The City can now focus on other pesticides or high priority pollutants in the ongoing effort to improve water quality in the region. This is a success story that can be celebrated by the entire region, proving the validity of the storm water program as a whole.

4.5 Pollution Prevention Methods

As described throughout the Municipal Component Section of the JURMP, the City has established pollution prevention methods that focus on municipal operations, including operation and maintenance of its MS4 system with the goal of preventing and reducing pollutants in runoff. The following is a list of some of the methods in place to accomplish this goal:

- Annual inspection and cleaning of the City's MS4 system
- Routine street sweeping (schedule is on the City's web site and available upon request)
- Sediment and erosion control methods (applications of Visqueen, materials coverage, silt fences, etc.)
- Facility and ground maintenance conducted in a manner that would not contribute pollutants to a conveyance systems and expected to reduce pollutant runoff during storm events
- The use of bio-filter roll(s) as a PPM at municipal facilities
- The installation and maintenance of permanent treatment BMPs at City facilities (Two CDS units, pervious pavement, Sand Trap and a large Bioswale)

- Maintenance of the MS4 including routine inspections, annual cleaning and proper disposal of captured materials
- Spill response procedures (street and road spills, facility spills)
- Household Hazardous Waste Collection (Note: the City participated in a reciprocal use agreement with the Cities of Vista, Poway and Escondido for use by Solana Beach residents to recycle their household waste materials.) The City also offers a door-to-door program, described later in the Report.
- Installation and maintenance of two catch basin inlet filters and debris screens at ongoing problem areas directly upstream from Seascape Sur beach outfall.

In the City's JURMP, the above pollution prevention methods were expanded for implementation at all City municipal facilities, depending on the type of activities conducted at each facility. To assist in developing appropriate BMPs, the facilities were categorized into the following types:

- Landscape and recreational facilities
- Roads and streets maintenance
- Public buildings
- Public Works Yard
- Parking facilities
- Storm Drain Conveyance System (MS4)

Specific BMPs were then developed for each category type identified and presented in the City's JURMP. For example, BMPs for the Public Works Yard (JURMP, Section 6) include:

- Materials storage alterations
- Visual inspections
- Improved operations and maintenance
- Good housekeeping procedures
- Preventative maintenance
- Spill prevention
- Sediment and erosion control
- Employee training
- Vehicle and equipment maintenance operation alterations

- Waste disposal and recycling
- Vehicle equipment and washing
- Storage tanks
- Outside storage

During this reporting period, the City implemented pollution prevention methods (BMPs) for each facility type based on what was presented in the City's JURMP. Municipal facilities were inspected by City Staff to ensure the implementation of BMPs was occurring.

4.5.1 Proactive Approach to Pollution Prevention – JURMP Requirements

Because of the City's proximity to the Pacific Ocean, Staff has been proactive in its approach to urban runoff and pollutant mitigation and reduction, not only during this reporting period but also prior to the implementation of the JURMP.

Annual Inspection and Cleaning of Storm Drain System

The City conducts an annual inspection of its storm drain system – citywide. Public Works staff inspects all 309 catch basins in the City and prioritize each based on the severity of sedimentation and trash build-up in accordance to the Permit**.** All catch basins that contain trash or sediment build-up in excess of the Permit requirements are cleaned using a Vactor truck. During this reporting period, the City inspected all 309 catch basins and 15 unimproved channels. Thirty (30) catch basins had accumulated debris and all 30 were cleaned, resulting in 5 cubic yards of material removed from the storm drain system (which includes open channels, etc.). The material, primarily sediment and debris, was properly disposed of at the San Elijo Wastewater Reclamation Facility.

Special Events Vendor BMP Requirements

The City developed a "Special Events Vendor BMP Guidelines" (Appendix I) for all events that require a Special Events Permit. The guidelines include BMPs for food vendors, event coordinators and event workers. The guidelines include BMPs such as:

- Protecting all adjacent catch basins
- Required trash and recycling containers
- Portable restroom secondary containment
- No dumping into storm drains

- Proper clean-up practices (No water)

These requirements are all included in the Special Events Permit. For larger events, such as the City sponsored Fiesta Del Sol and Beach Blanket Movie Night, the City holds multiple meetings prior to the event with the organizers and all issues are discussed. The organizers are required to submit their BMP plans to the City, and City Staff monitors the events throughout their entirety. The City schedules post-event street sweeping through its street sweeping contractor for all major events.

Pet Waste Bag Dispensers

The City actively installs Pet Waste Bag Dispensers and maintains the dispensers to encourage proper pet waste disposal. Several years ago, the City placed these dispensers and signs along both sides of Sierra Avenue to encourage their use to prevent pollutants from entering the MS4 (Sierra Avenue is the street closest to the beach, and runs parallel west of Highway 101). The City implemented this BMP in response to results from its dry weather and coastal outfall monitoring, which indicated the presence of fecal bacteria at Seascape Sur. In an effort to educate the community about pet waste, the City periodically includes discussions about its pet regulations, which prohibits dogs in some locations of the City and on all beaches, in its community newsletter and recreation guide *Shorelines.* In addition, City Staff meets with property managers of the condominiums along Sierra Avenue to educate them on storm water regulations and solicit their help in educating their residents.

The City has taken a proactive approach to installing pet waste dispensers at various locations throughout the city, including the Coastal Rail Trail and Fletcher Cove Park. This shows the City's proactive approach to protecting the integrity of the local waterways. This practice of requiring pet waste dispenser's at all new public projects will continue as it has been widely received by the community.

As part of the Public Works Department routine tasks, the pet bag dispensers are refilled daily. The amount of material that is prevented from entering the City's MS4 system as a result of this PPM is unknown and there is no acceptable method of estimating it, however, the City's Public Works Crew refilled approximately 1,807 bags per week during this reporting period. Here is how it compares to previous reporting periods:

- FY 09/10 – 1,385 per week
- FY 08/09 – 1,380 per week
- FY 07/08 – 1,116 per week
- FY 06/07 – 1,298 per week
- FY 05/06 – 775 per week
- FY 04/05 – 625 per week
- FY 03/04 – 550 per week

The pet waste bags cost approximately $0.04 per bag, which resulted in an annual cost of $3,760 for FY 10/11.

Solana Center for Environmental Innovation

The City is proud to be associated with the Solana Center for Environmental Innovation (formerly Solana Recyclers), hereinafter referred to as Solana Center. Due in large part to the efforts of this group, the City was the first city in San Diego County to have a comprehensive *curbside* recycling program. In addition, to help educate the community, the Solana Center routinely writes articles for the City *Shorelines*. Also, Solana Center administers the City's Used Oil Recycling Program, providing education for schools, community groups and City events on the proper disposal of used oil. For a complete listing of articles written in the *Shorelines,* please see Chapter 6, Residential Component. Finally, Solana Center Staff provides classroom presentations to Solana Beach schools educating the children on storm water issues and water quality. The presentations are free for the schools (paid for by the City) and are extremely popular. For a list of the presentations, see Chapter 8 (Education Component).

Recycling Efforts

The City takes a very proactive role in promoting recycling efforts throughout the community. In previous Annual Reports, the City would include in this section the diversion rates as reported to the California Integrated Waste Management Board (CIWMB). However, the CIWMB changed the way diversion rates are calculated and reported, so recycling percentages are no longer given. Instead, jurisdictions are given a "target" disposal rate for pounds/per person/per day based on historical disposal and recycling amounts. This can roughly be translated to recycling percentages, but as long as the City meets its designated disposal rate, it's considered 50% diversion (recycling) under AB 939. The City's 2010 diversion rate is as follows:

- Target – 8.9 pounds per person per day

- Actual – 6.0 pounds per person per day

As you can see from the results, the City is significantly below the target rate, meaning the community is doing a tremendous job diverting waste from the landfills through means such as recycling, conservation, composting, etc. The City is extremely proud of the progress and results of its recycling efforts.

A significant effort to increase the already stellar recycling rates throughout the community was undertaken during this reporting period. The City recognized that the residential sector of the community was thoroughly committed to recycling and the results reflected this. This is due in large part to the City's transition to automated single-stream recycling a few years ago, which made it extremely convenient for residents to recycle. However, the results showed that commercial sector was not doing as well. The City analyzed its current Municipal Code to review its current requirements and identified some key areas to strengthen to help increase the commercial recycling rates. On May 12, 2010, the City Council adopted a new mandatory commercial recycling ordinance (Appendix J) requiring *all* commercial establishments to have a recycling program. The City anticipates this new requirement will have a positive impact on the overall recycling rates once fully implemented.

As reported in pervious Annual Reports, the City Council adopted a Construction and Demolition Debris Recycling Ordinance in January 2008. This ordinance is discussed in more detail in the Construction Component of this Report, however it's important to mention because it once again demonstrates the City's proactive and aggressive commitment to recycling and environmental protection.

Hazardous Materials Management Team

The City's Fire Department contracts with San Diego County Hazardous Materials Management Division and established an Emergency Response Program to contain hazardous materials that result from automobile accidents, spills, illegal dumping or any other activities within the City of Solana Beach. Generally, the County's Hazardous Materials Team handles recovery and disposal of the materials, although work crews from the City's Public Works Department also contain some small spills and are on call 24 hours a day, 7 days a week to respond to all spills that occur within City limits. All Public Works Staff has been trained to handle spills in the appropriate manner, to reduce and/or eliminate potential impacts to the City's MS4 and receiving waters.

Storm Drain Inventory and Stenciling

The City has inventoried all of its storm drain conveyance structures (inlets and catch basins). The inventory list includes addresses, cross streets and is available in GIS format. This information was then utilized to implement a program that affixed a stenciled tile at each location that reads, *"No Dumping! This drains to the ocean."* The City has successfully completed application of the tiles at *every* storm drain inlet and catch basin throughout the City. In addition, the City requires all new or re-development projects that install a storm drain curb inlet or catch basin to include a stencil or tile. The City constantly monitors the catch basins and if a tile is broken or has been removed, another one is immediately installed.

The City also participated with the non-profit group I Love A Clean San Diego (ILACSD) to sponsor an ongoing Tile Stenciling Program in which the City provides volunteers with a GIS map of all catch basins in the City and a box of tiles so they can compass the City and replace any tiles that are damaged or missing. This was a highly successful program/partnership that the City will continue to ensure all catch basins have tiles permanently affixed to them.

Street Sweeping

The City already had a comprehensive street sweeping program prior to the Permit and the implementation of the JURMP. The residential streets are swept once each month, while major arterial streets and collector roads are swept twice per month. In response to the comments received from the RWQCB on the FY 02/03 annual report, the City developed a form to characterize and measure the amount of material collected by the street sweeper (Appendix K). The driver of the street sweeper completes the form after every trip and it is verified by the appropriate Public Works employee.

As reported in the City's FY 2005/06 Annual Report, the City was having significant problems with its contracted street sweeping company. The contractor was not performing up to contract specifications, and the City was having a difficult time getting the proper reports from the drivers. A contractual battle ensued and documentation was not submitted. The City eventually relieved the street sweeping company of their duties and selected another contractor. The new contractor has been much more effective and responsive.

This reporting year, the amount of debris collected by the street sweeper totals 212 cubic yards, which is slightly more than last year's amount of 207 cubic yards. The relatively consistent amount of debris collected by the street sweeper can be attributed to the fact that most of the debris consists of organic materials, including leafs and green waste. There is relatively no trash collected, which is a good indication that the City, and community's, efforts at trash and litter reduction are successful. The City will continue to monitor the street sweeping debris to see if there are certain areas where trash is more prevalent and litter reduction campaigns can be implemented. However, at this time, most of the debris is organic green waste materials.

To demonstrate the City's commitment to documenting the amount of debris collected by the street sweeper and to ensure that all activities were conducted in compliance with the storm water regulations, the City included specific language in its new street sweeping contract. This language will be used in every subsequent street sweeping contract to ensure all contractors are adhering to all storm water regulations, which was a comment made by the RWQCB in its JURMP Annual Report review.

As mentioned above, and now required by the new Permit, the City sets sweeping frequencies based on the type of street; the larger, more frequently used by vehicles, are swept more often. The streets are classified based on SANDAG's Vehicle Miles Traveled (VMT) parameters. The lesser traveled streets, like residential streets, are swept once per month. Parking lots are swept as needed, but at a minimum once per year. The other higher frequency traveled streets such as arterials and collectors are swept twice per month. A complete schedule can be found on the City's website or upon request.

The Permit requires the Copermittees to identify the total distance of curb-miles of improved streets, and highways for high, medium, and low sweeping frequencies.

<u>High Priority (twice per month):</u>
Lomas Santa Fe – 4.06 miles
Highway 101 – 3.89 miles
South Sierra – 1.62 miles
Stevens/Valley – 3.29 miles
Cedros – 2.63 miles

Medium Priority (once per month):
All residential streets – 90.71 miles

Low Priority (once per month):
Parking Lots – 12 total lots, 59,750 square feet

These streets were cleaned on the set schedule listed above.

The Permit also requires Copermittees to identify the total distance of curb miles swept.

The City sweeps all (100%) streets at least monthly. The high priority streets are swept twice per month. Parking lots are swept as needed, but at a minimum once per year as identified in the JURMP. The total distance swept per year is:

High Priority: 402.74 miles per year
Medium Priority: 1,088.52 miles per year
Low Priority: 717,000 square feet per year

Spill Prevention

The City's Public Works Department maintains on-site at the Public Works Yard, a 55-gallon drum and specially equipped vacuum to handle small hazardous materials spills. The drum and vacuum are small enough to travel with the work crews and have been utilized to contain oil from an automobile accident, spillage of work-related materials (paint and debris), and collection of minor hazardous materials. In the event the material exceeds the amount that can be collected by the work crews, the City's Fire Department initiates its spill response plan (discussed above). Currently, City work crews do not have the resources to weigh the amount of material collected or to track and document the amount of material collected. Significant spills for which the work crews responded to are discussed in Chapter 7: Illicit Discharges Detection and Elimination.

Staff Trainings

As reported in previous Annual Reports, the staff trainings used to occur at the monthly citywide Staff meetings. However, these trainings had to be general in nature because of all the varying departments and staff that attended. During this

reporting period, staff decided to take a more proactive approach and implement a department specific training focusing on the sections of the Permit that pertained to their respective duties. Staff felt that more focused, detailed trainings would be a much more effective approach, and this turned out to be extremely successful. During this reporting period, the City did not have any specific stormwater trainings. However, a few are scheduled for the upcoming year and will be reported on in next year's report including:

1. Sewer spill prevention and spill mitigation
2. Storm water issues relating to public works

The City will continue to look for other opportunities to educate their staff on storm water related issues throughout next year's reporting period.

Storm Water Hotline

To assist the public in directing their calls for complaints and service, the City maintains and responds to a 24-hour storm water hotline telephone recording (858) 720-4424. When the number was first established, it was checked twice each day. However, to facilitate a quicker, more effective response time, the City now links all calls to the direct extension of the City's Assistant Civil Engineer. Therefore, all calls that are made to the City regarding storm water issues will be handled immediately. This has been proven very successful, as the issues are addressed immediately. This leads to much quicker responses, which result in more efficient spill response and enforcement actions. The City informs the public about the hotline number at City Council meetings, on flyers and handouts at workshops, on business cards, on educational materials and during inspections.

Materials Storage

Although only minor quantities of hazardous materials are stored at municipal facilities (as noted in the City's JURMP), the City stores those materials indoors when feasible. Only non-hazardous materials, such as Class 2 gravel, temporary stockpiles of topsoil, etc., are stored outdoors for short periods of time. When this does occur, City Staff ensures all storm water BMPs are installed around the piles and they are covered, if necessary, to ensure no discharges occur from the Public Works Yard.

Sediment and Erosion Control

The City's Public Works Department augmented the City's supply of Visqueen as a method to reduce or prevent sediment and erosion control. The Visqueen is utilized at the Public Works Yard on the sand and soil that is kept on-site. In addition, the work crews utilize bio-filter rolls to prevent runoff. As added insurance, the City's Operations Manager always orders extra erosion control BMPs before the wet season to store on-site for emergency situations. Most of these practices were instituted as a result of suggestions made by the RWQCB during their inspection in August 2002.

Storm Drain Inlet/Catch Basin Insert

The City is currently participating in an ongoing experimental application of two catch basin inserts in one problem location at Seascape Sur. The inserts are being studied to determine its effect on the elevated levels of bacteria found downstream at the storm drain outlet. Early results from the pilot program show a slight reduction in the bacteria levels at the outfall and the catch basin filters have been extremely effective in eliminating large quantities of trash and organic matter from the MS4 system. Public Work Crews empty the filters on a weekly basis and routinely remove about half a trash bag full of debris.

Smoking Ban on Public Beaches and Parks

In 2003, the City of Solana Beach jumped to the forefront of pollution prevention on a nation-wide scale. The City was the first in the nation to ban smoking at its public beaches and parks. The Ordinance (Ordinance 316, see Appendix L) bans smoking at all public beaches and parks, and is actively enforced by the Marine Safety Department and Code Enforcement Department. The public has been very responsive to this ordinance, and the City has had many requests from other jurisdictions, as far away as Australia. The City appears to be a trend setter, as the City of Los Angeles and other Orange County cities followed suit with their own ordinances a few years ago, and most other cities in San Diego County have recently implemented their own local bans. This is a significant pollution prevention action the City has undertaken, as cigarette butts are routinely found as the most abundant type of debris collected in beach clean-ups. The impact on the local beaches will be extremely beneficial, and the City is proud to be the trend setter in another environmental arena (the City was the first jurisdiction in San Diego County to provide curbside recycling).

During this reporting period, the City approved an enhanced No Smoking Ordinance that extends further than the one listed above. On August 7th, 2009, a much more stringent ordinance was adopted by the City Council that extended the ordinance to include the following no smoking areas:

- All enclosed or unenclosed dining areas and bars
- Street Fairs
- Farmer's markets
- On, near or around the Coastal Rail Trail
- Within 20 feet of all entry ways and all enclosed areas available to and customarily used by the general public and all businesses patronized by the public
- Tot lot and Playground areas

This will, without a doubt, significantly reduce the amount of smoking outdoors in Solana Beach, and therefore reduce the amount of cigarette butts that end up in our MS4 and receiving waters. The City is excited to start implementing this ordinance and reduces the amount of pollution that comes with smoking.

Another significant pollution prevention action the City has taken, although post-reporting period is the recent adoption of a new commercial litter abatement ordinance. On September 8, 2010, the City Council adopted Ordinance 419, which requires, among other things, all commercial businesses to develop and implement a litter reduction plan. This plan must include at least daily inspections/cleanups around their businesses up to 200 feet. This should significantly prevent litter/debris from entering the City's MS4 as it would require employees to inspect sidewalks, gutter, streets and open space up to 200 feet surrounding the property, and remove any litter they encounter.

Recycling/Trash Containers

The City, and community, places a high priority on recycling, as evidence by the extremely high recycling diversion rate, discussed previously in this Report. The City has made a conscientious effort to increase the amount of public recycling containers over the last few years. As discussed in previous annual reports, the City has focused on placing dual trash/recycling containers at all popular public locations throughout the City, including parks, beach accesses and the Coastal Rail Trail. The City receives an annual grant through the Department of

Conservation as well as an annual grant through the Regional Solid Waste Association, and these funds have been used to purchase and install the dual trash/recycling containers throughout the community. This has dramatically increased the amount of public recycling, and the City anticipates continuing this program in the coming years.

Not only is the City focusing on implementing a public recycling program, but as previously mentioned, the City implemented a large scale residential recycling program. The City, along with its waste hauler Waste Management, converted the traditional source separated recycling program to a streamlined, single stream commingled recycling program. This has been a huge success as the residential recycling rates have dramatically increased by 20%.

Plastic Bag Advertising Ban

Another progressive action the City Council took was passing an ordinance banning the use of plastic bags for advertising. The ordinance bans the popular style of advertising used by companies in which they use small plastic bags full of rocks because often times it is unsolicited and the bags never get picked up, eventually ending up in the City's MS4. This emerging type of advertising is typically conducted by small residential and commercial support businesses such as landscapers, pool cleaners, housekeepers, and handyman type services. This is another example of the City taking a proactive approach to litter in the MS4. Plastic is the number one pollutant found in the ocean worldwide.

Ensuring Implementation

To ensure that the PPMs are implemented, City staff meets periodically with all Department Directors to review the BMPs, Permit requirements and program expectations. Department Directors are responsible for ensuring that their Staff carries out the BMPs for their facilities. The City Engineer meets every Wednesday with the Operation Manager and his public works crew at the Public Works Yard for safety meetings. It was decided that at these meetings, storm water issues, including BMPs, should be discussed and the Yard will be inspected to ensure compliance. The Assistant Civil Engineer will also conduct random compliance inspections. During this reporting period, there were no violations observed at the City's municipal facilities and all appropriate BMPs were being properly installed and maintained.

4.6 Pollution Prevention Strategy Effectiveness

One of the issues that the City faces is developing an appropriate process to determine the effectiveness of the pollution prevention methods and strategies, (BMPs). The City is committed to developing a consistent approach that could be agreed upon by all Copermittees. It is important to collect data and analyze results in a consistent manner – county/region wide – in order to be able to share results and draw conclusions across agencies, particularly given that water is not restricted by jurisdictional boundaries.

To address this issue, the Copermittees met several times in the fall of 2002 and in 2003 to work out a more appropriate strategy. A guidance document was prepared by the Copermittees and submitted to the RWQCB on October 16, 2003, titled *"A Framework for Assessing the Effectiveness of Jurisdictional Urban Runoff Management Programs".* This guideline presents a comprehensive assessment strategy that initially focuses on programmatic assessments and moves toward water quality-based assessments to determine program effectiveness. More specifically, it addresses six levels of assessment:

Compliance with Activity-based Permit Requirements

- Changes in Knowledge/Awareness
- Behavioral Changes
- Load Reductions
- Changes in Discharge Quality
- Changes in Receiving Water Quality

The City implemented this assessment program during the last reporting period, which is described in more detail in the Effectiveness of JURMP Assessment Component of this report.

Compliance with Maintenance Activities

Tables 4-2 and 4-3 below outline the MS4, sewer system and permanent City BMPs maintenance schedules. The City has an extremely aggressive

maintenance program to ensure the systems are clean and functioning properly.

Table 4-2 MS4 Maintenance Activities 20102011

Type	Frequency	Date	Total Number (and Distance)	Number Inspected (and Distance)	Comments
Inspection and Cleaning of MS4	Annual	Ongoing between May-October	309 catch basins– 14.5 Miles of MS4	309 catch basins-0.5 Miles of MS4 pipe inspected	All catch basins inspected, 0.5 miles of pipe inspected (Seascape Sur) 26 catch basins were found with accumulated debris and 26 cleaned, 5 cubic yards removed
Inspection and Cleaning of Unimproved Storm Drains (Brow Ditches, Channels, etc)	Monthly	The 30th of every month	15 – 0.8 miles of Unimproved Storm Drains (Brow Ditches, Channels, etc)	15 – 0.8 Miles of Unimproved Storm Drains (Brow Ditches, Channels, etc)	All unimproved storm drains inspected on the 30th of every month and cleaned as needed.
Inspection and Cleaning of Sewer Lines	Annually (entire City)	Ongoing	Entire System	Entire System	The entire sewer system is inspected and cleaned annually, and 1/3 of the system is televised annually

The tables above represent the inspection and cleaning activities related to the City's MS4 and sewer system. As you can see, the City conducts the annual inspections of the entire MS4 as the Permit requires, but goes above and beyond the inspection and cleaning requirements with monthly unimproved storm drain (brow ditches, channels, etc) inspections and cleaning of the entire sewer system annually. The unimproved storm drains are handpicked by City Staff on an as needed basis as a result of the inspections. The City also has an aggressive sewer videoing program that televises one-third of the system each year, identifying possible leaks, infiltration into the City's MS4, grease build-up and root intrusions that may lead to sewer spills. This is an extremely aggressive sewer

maintenance program, which reflects the commitment the City has to maintaining a healthy system and preventing spills into the environment.

In addition, the City has designated sewer “hot spots” that are cleaned quarterly (every three months). These “hot spots” are areas with historical problems such as heavy grease buildup, root intrusion, and flat lines that may need increased cleaning to prevent sewer backups. The program includes an aggressive “root foaming” procedure in areas with historical root intrusion problems.

Table 4-3 Municipal Treatment Control BMP Maintenance Activities 2010/2011

BMP Type	Location	Frequency	Total Number	Number Inspected	Comments
Low Flow Diverter	Fletcher Cove Park	Monthly	1	1	Low Flow Diverter is cleaned once per month and inspected daily
Sand Trap	Fletcher Cove Park	Monthly	1	1	Sand Trap is cleaned monthly
CDS Units	Fletcher Cove Park and North Rios Avenue	Monthly	2	2	The CDS units are cleaned monthly
Sewer Siphon	San Elijo Lagoon	Monthly	1	1	The siphon is cleaned monthly
Bio-Swale	La Colonia Park	Annually	1	1	The Bio-Swale is cleaned annually prior to rainy season and inspected weekly

The City has an aggressive maintenance program for all City-maintained permanent BMPs. The monthly maintenance frequency for the Sand Trap and CDS units are much higher than suggested by the manufacturer. The daily inspections of the Low Flow Diverter are conducted to ensure it is functioning at all times and redirecting the urban runoff away from the beach and into the sewer system.

4.7 New Activities and Improvements for FY 11/12

The City anticipates continuing to implement programs aimed at meeting the requirements of the Municipal Component as specified in the JURMP. The focus will be on continuing the cooperation among different departments, ensuring municipal facilities are in compliance with the Permit, and collaborating with other Copermittees. The Department Directors were required to integrate more responsibilities into positions in order to implement the Watershed Urban Runoff Management Programs (WURMP), Standard Urban Storm Water Mitigation Plan (SUSMP), Hydromodification (HMP) program and the Low Impact Development (LID) program. Because of our team approach, this transition occurred rather seamlessly. The Planning Department and Engineering Department worked closely together in implementing the respective requirements.

As mentioned previously in this Report, the new JURMP document was adopted in March 2008. This contained new elements that will require additional/modified requirements/duties of different Departments within the City. Additional Staff trainings were conducted to ensure that all Staff activities are in compliance with the new Permit and some job duties will have to be altered. Since the new Permit has now been adopted, the majority of the City's efforts will be spent implementing programs to meet the requirements of the new Permit. These changes will have to be implemented on the fly, and will require all Departments within the City to work collaboratively to accomplish the goals within the new Permit. The City is confident that the infrastructure of the City as a whole will allow for a relatively seamless transition to the requirements of the new Permit. Some of the new programs include:

- Minimum street sweeping and priority requirements
- Post-Construction BMP verification, tracking and inspections
- SUSMP implementation
- Low Impact Development (LID) development and implementation
- Hydromodification Plan (HMP) development and implementation

4.8 Summary

The City has been successful at implementing the Municipal Component of the

JURMP, establishing BMPs for its municipal facilities and providing informative and meaningful Staff trainings. The City made significant advancements in the manner in which its storm water program is integrated into the routine tasks of various Staff and has developed an effective interdepartmental working relationship. The Environmental Programs Manager position has greatly enhanced the coordination and implementation of the Permit, as well as other environmental programs (solid waste, Used Oil Recycling, HHW, etc.)

Highlights of some of the accomplishments of the City's Municipal Program Component include:

- Implementation of two comprehensive WURMPs
- Creation of an effective municipal inspection process, all municipal facilities were inspected regardless of priority
- Implementation of storm water issues and inspections of Public Works Yard at weekly safety meetings between the City Engineer and Public Works Operations Manager and Staff
- Annual inspection and cleaning of the City's MS4 system resulting in 5 cubic yards of debris diverted from receiving water bodies
- Continued implementation of street sweeping tracking form that allows the City to evaluate the effectiveness of the street sweeping program (212 cubic yards collected).
- Provision of public pet waste bag dispensers (98,000 bags were utilized by the community during this year at a total cost of $3,920 (4 cents per bag)
- Addition of new trash/recycling receptacles in high traffic areas of City to promote recycling and prevent trash/litter from entering storm drain system
- Enforcement and enhancement of Smoking Ban on Public Beaches and Parks Ordinance which has significantly reduced amount of pollution on local beaches and parks
- Implementation of weekly task for Public Works Crew to conduct weekly storm water inspections at the Public Works Yard
- Implementation of scheduled cleaning of Fletcher Cove Sand Trap and CDS unit monthly
- Maintenance of Bioswale at La Colonia Community Center
- Maintenance of City-owned CDS unit at North Rios on a monthly basis
- Maintenance of two filter baskets at upstream catch basins of Seascape

Sur outfall on a weekly basis

- Routine scheduled inspection and maintenance of unimproved channels on a monthly basis and after all rain events
- Routine scheduled inspection of Fletcher Cove Low Flow Diverter to ensure it is functioning properly on a daily basis
- Implementation of unique public/private plastic bag recycling program, resulting in the recycling of over 475,000 bags to date

CHAPTER 5
Industrial/Commercial Component

CHAPTER 5: INDUSTRIAL AND COMMERCIAL COMPONENT

5.1 Introduction

In accordance with Permit Section D.3.b, this section of the report describes the City's efforts to prevent or reduce industrial and commercial discharges of pollutants into the MS4 to the MEP. In compliance with the Permit, the City evaluated businesses within the City and categorized them as commercial or industrial, as noted in JURMP sections 7.0 (Industrial and Commercial Component).

In each Annual Report to the RWQCB, this section will include modifications to the City's inventory of industrial and commercial facilities, pollutant source identification and potential threats to water quality. In addition, this section of each Annual Report will include results from the City's efforts to implement and enforce BMPs at industrial and commercial sites, related accomplishments and activities. Also, a summary of activities conducted post-reporting period may be included if the activity is deemed essential to understanding the City's efforts at reducing urban runoff or permit compliance.

During the last reporting period (July 1 2009 to June 30, 2010), the City conducted a complete evaluation of the commercial and industrial facilities doing business within the City. Facilities were identified as industrial and commercial sites based on criteria required by the Permit, which included activities conducted on-site and also included a site visit for verification. The City prepared an inventory of the facilities in order to understand potential sources of pollution, threats to water quality, and to develop a plan to mitigate or eliminate urban runoff and pollution from the facilities by implementing Best Management Practices (BMPs). The City's complete inventory is listed in the JURMP.

As a result of the new Permit, this chapter now combines two previous Chapters from the old Permit. To keep consistency and for ease of readability, the following sections in this chapter separate the two components, so each can be analyzed according to their respective requirements.

5.2 Industrial Facilities

5.2.1 Inventory of Industrial Facilities

There is currently one industrial site operating within the City (Baker Iron Works). Table 5-1 presents the City's industrial facility, including its prioritization level. *There is no change in the City's inventory of industrial sites from those submitted in last year's Annual Report.*

Table 5-1 Existing Industrial Facilities

Facility Name	Address Number	Street Name	Zip Code	Hydrologic Area	SIC Code	NAICS Code	Principal Products/ Services	Potential Pollutants								Tributary to 303 (d) Listed and Generating Pollutants for Which the Water Body is Impaired	Threat to Water Quality
								Bacteria	Gross Pollutants	Heavy Metals	Nutrients	Oil & Grease	Organics	Pesticides	Sediment	Trash	
Baker Iron Works	710	Valley	92075	905.11	3441	332312	Iron Works/ Metal Fabr.		X	X		X	X		X	X	Yes	High

5.2.2 Pollutant Source Identification

To assist the City in identifying potential sources of pollutants in its receiving water bodies, and/or the receiving water bodies of neighboring jurisdictions, City Staff evaluated the possible types of pollution that could be generated from each industrial facility. The evaluation included the following:

- Type of materials stored or used on site
- Activities conducted on site
- Proximity to conveyance system, or environmentally sensitive areas
- Watershed location

Results from the evaluation concluded that the City's only industrial facility could be a potential source of pollutants (Baker Iron Works).

The conclusion that Baker Iron Works could be a potential source of pollutant discharge was due to the fact that the facility generally uses metal materials in the fabrication of structural devices. Some of their work is performed and stored outdoors and is potentially exposed to storm water, and runoff from the property can potentially enter the City's conveyance system. However, the City has worked closely with Baker Iron Works to minimize the potential for pollutants to

run off their property and into the City's MS4 system. Baker Iron Works has been more than willing to work with the City to ensure compliance with the Permit, and has completed numerous tasks suggested by the City. These include:

- Permanently covering all stock piles of metal materials kept outside to shield it from rain events.

- Routine cleaning of the yard as needed but no less than weekly with a magnetic device to pick up all loose metal shavings.

- Moving all chemicals indoors to ensure that they are protected from the weather and will not run off the property and into the City's MS4 system.

- Training all staff on proper storm water BMPs and general housekeeping for all activities that may impact the City's MS4 system.

- Installation of low flow sump/infiltration structure at the northwest corner of the facility to handle all low flows from the entire facility. The low flows will enter a small drain that extends across the driveway and enters into a small infiltration well structure to prevent the water from entering the MS4. This structure has worked very well in eliminating all low flows from leaving the site. Baker Iron Works employees routinely monitor and maintain the infiltration well to ensure proper functionality.

- Permanently sealing a trench drain near the office building that previously drained directly to the street. The result is that the runoff bypasses the drain and travels into the low flow sump/infiltration structure mentioned above.

The results of the 2010 dry weather program indicate that no related pollutants were found downstream from this industrial facility. This is consistent with the 2001-2009 dry-weather-monitoring program results which also indicated that no related pollutants were found downstream from this facility. The City will continue to inspect and monitor these locations in the future to further ensure that they are not contributing to downstream pollution. In addition, Baker Iron Works has agreed to forward all results from their required water quality monitoring under the Statewide General Industrial Permit to City staff, upon request, for review during rain events.

The City utilized the information from the 2010 dry-weather-monitoring program, the criteria established by the Permit, and the evaluation of the potential sources of pollutants (discussed in this chapter and Section 7 of the City's JURMP) to develop its 2011 dry weather monitoring program. Similar to last year, one site downstream and one site upstream from Baker Iron are selected for testing. The City will continue to monitor runoff downstream from this facility as long as it is in operation.

5.2.3 Threat to Water Quality Prioritization

In the City's JURMP, the industrial site was classified as a high, medium or low priority, based on its potential threat to water quality from storm water runoff. The classification utilized criteria prescribed in Permit Section F.3.a. (3)(a), (b).

There are no changes to report in the City's classification of its industrial facility from last year's Annual Report. Baker Iron Works is still classified as a high priority industrial site.

5.2.4 Pollution Prevention Methods

The City realized that since Baker Iron Works is the only high priority industrial site in the City, it would be prudent and feasible to monitor their site frequently. Although the Permit requires only annual inspections, the City dedicates more time to ensure that the site is always in compliance. This pro-active approach that occurred in the beginning of this Permit cycle has proved to be well worth the effort. Spending extra time and effort the first couple of years of this Permit to get this facility into compliance has built a strong working relationship between the owners and the City. This facility has had no violations and continues to stay in compliance.

The City has confirmed that Baker Iron Works is *in compliance* with the state GISW and is currently adhering to all requirements.

Baker Iron Works employees use a large magnet to clean their entire yard as often as needed but no less than once per week. This magnet is very effective in cleaning up small steel waste products that result from daily activities. The parking lot is swept and water is never used. All chemicals are kept in a locked storage shed that has secondary containment and is kept above ground, which

was a recommendation of RWQCB staff.

5.2.5 Industrial Inspections

As stated in previous Annual Reports, during FY 07/08, the City changed its inspection practices. Prior to FY 07/08, City staff conducted all industrial and commercial facility inspections. However, in FY 2007/08, the City hired an independent contractor that specializes in storm water inspections. This change occurred due to limited staff time to conduct the inspections, as well as to provide an increased service to the residents of Solana Beach. By hiring a contractor that specializes in storm water inspections, the City, and residents, can be assured that it is getting the highest quality service.

The City contracted out these services to Environmental Compliance Inspection Services (ECIS) again in FY 10/11. Baker Iron Works was inspected on May 26, 2011 and all designated BMPs were implemented and the facility was found to be in compliance in all areas. The inspection addressed all the required inspection steps to determine full compliance. City Staff will also continue to visually inspect the facility at least once a month, and always before the wet season and during rain events. If the City observes a non-compliant facility, the City will inform its appropriate representative at the RWQCB.

As required by Permit Section J.3.a (3) (d) vi, the City confirms that the industrial inspections addressed all required inspection steps to determine full compliance.

5.2.6 New Activities and Improvements for FY 11/12

City staff will continue to work closely with the proprietors of Baker Iron Works to 1) ensure functionality and maintenance of the BMPs, 2) ensure compliance with the City's storm water regulations and 3) educate the business owners and employees about the importance of protecting the community's water resources. In addition, if any new requirements or activities are developed targeting industrial facilities on a watershed or regional basis, the City will communicate these requirements directly to Baker Iron Works and assist them in remaining in compliance.

City Staff will also monitor business license applications to ensure if another industrial facility opens up that it will be added to the inventory and inspected to

ensure full compliance.

5.2.7 Summary of Industrial Section

The City has been effective at working with owners of the one industrial site to ensure compliance with Permit and City regulations. The owners have installed and properly maintained the filtration system at the northwest corner of the property to collect and infiltrate all on-site low flow runoff before it enters the MS4 system. The City has established a great working relationship with the owners/operators of the site and they have made drastic strides to maintain compliance. City Staff will continue to monitor and inspect the facility frequently to ensure compliance with the Permit. Baker Iron Works has been very responsive and immediately remedies any problems encountered during inspections. They have gone above and beyond what is required to ensure they are in compliance with the Permit.

5.3 Commercial Facility

5.3.1 Inventory of Commercial Facilities

During the process of revising the JURMP, submitted in March 2008, the City updated its inventory of commercial facilities. The City selected locations based on the requirements of the new Permit, and placed higher priorities on such facilities as automotive servicing, gas stations, repair and fueling, commercial rental yards, and golf courses (high Threat To Water Quality, TTWQ). The City's JURMP inventory had 77 stationary facilities; however the inventory is updated each year as a result of the inspections. The current inventory (see Table 5-2 below) now contains 82 facilities. The City will continue to update the inventory list as new businesses apply for permits or site inspections reveal changes. In addition, any facility that has the potential to release high priority pollutants into the City MS4 will be added to the list of high priority facilities.

Table 5-2 Inventory Of High Priority Commercial Facilities

Facility Name	Address Number	Street Name	Zip Code	Hydrologic Area	SIC Code	NAICS Code	Principal Products/Services	Potential Pollutants									Tributary to 303 (d) Listed and Generating Pollutants for Which the Water Body is Impaired	Threat to Water Quality
								Bacteria	Gross Pollutants	Heavy Metals	Nutrients	Oil & Grease	Organics	Pesticides	Sediment	Trash		
Academy Animal Hospital	741	Academy	92075	905.11	0742	541940	Animal Facility	X	X		X	X	X	X	X	X	Yes	Low
AM/PM/ Mini-Market #704	660	Via del la Valle	92075	905.11	5541	447110	Fueling	X	X	X		X			X	X	Yes	High
Annie's Café and Deli	524	Stevens	92075	905.11	5812	722110	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Baker Iron Works	710	Valley	92075	905.11	3441	332312	Iron Works/Metal Fabrication		X	X		X	X		X	X	Yes	High
Bangkok Bay	731	S Hwy 101	92075	905.11	5812	722110	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Baskin Robbins	905	Lomas Santa Fe	92075	905.11	5812	722211	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Beach Grass Café	159	S Hwy 101	92075	905.11	5812	722110	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Belly Up Tavern/Wild Note Café	143	S Cedros	92075	905.11	5812	722110	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Bill Smith Automotive	136	N Cedros	92075	905.11	7538	811111	Auto Repair	X	X	X		X			X	X	Yes	High
Blanca	437	S Hwy 101	92075	905.11	5812	722110	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Bongiorno's New York Pizzeria	524	Stevens	92075	905.11	5812	722110	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
CA Auto Tech, Inc. DBA Test-Only Smog	146	N Cedros	92075	905.11	7538	811111	Auto Repair	X	X	X		X			X	X	Yes	High
Caffe la Bocca	124, #102	Lomas Santa Fe	92075	905.11	5812	722110	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
California Pizza Kitchen Inc.	437	S Hwy 101	92075	905.11	5812	722110	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High

Carls Jr./M and N Foods LLC	106	Solana Hills	92075	905.11	5812	722211	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Caspian Petroleum DBA LSF Mobil	705	Lomas Santa Fe	92075	905.11	5541	447110	Fueling	X	X	X		X			X	X	Yes	High
Cedros Gardens, Inc.	330	S Cedros	92075	905.11	5261	444220	Nursery/ Greenhouse				X		X	X	X	X	Yes	High
Chief's Burgers and Brew	124, #108	Lomas Santa Fe	92075	905.11	5812	722110	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Chronic Tacos	919	Lomas Santa Fe	92075	905.11	5812	722213	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Clark's Auto Repair and Radiator SVC	421	N Hwy 101	92075	905.11	7538	811111	Auto Repair	X	X	X		X			X	X	Yes	High
Cold Stone Creamery	437	S Hwy 101	92075	905.11	5812	722213	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Cupcake Love	437	S Hwy 101	92075	905.11	5812	722213	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
D & B Automotive Specialties	128	N Cedros	92075	905.11	7538	811111	Auto Repair	X	X	X		X			X	X	Yes	High
Del Mar Bagel Cafe	512	Via De la Valle	92075	905.11	5812	722213	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Dixieline Lumber Company	663	Lomas Santa Fe	92075	905.11	5211	444110	Building Materials			X	X		X		X	X	Yes	Medium
Don Chuy's Restaurant	650	Valley Avenue	92075	905.11	5812	722110	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Dynamite Shine	615	S Hwy 101	92075	905.11	7532	811192	Auto Detailer	X	X	X		X			X	X	Yes	High
Einstein Bros Bagels	911	Lomas Santa Fe	92075	905.11	5812	722213	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
El Camino Rental	235	S Hwy 101	92075	905.11	7353	532412	Heavy Construction Equipment Rental and Leasing	X	X						X	X	Yes	Low
Fidel's Little Mexico Inc.	607	Valley Avenue	92075	905.11	5812	722110	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Fish Market Restaurant	640	Via de la Valle	92075	905.11	5812	722110	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Henry's Farmers Markets	659	Lomas Santa Fe	92075	905.11	5411	445110	Grocery Store	X	X		X	X	X		X	X	Yes	Medium
Hideaway Café	150	S Acacia	92075	905.11	5812	722110	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High

Holiday Inn Express	621	S Hwy 101	92075	905.11	7011	721110	Hotels and Motels	X	X			X	X	X	X	X	Yes	Medium
Jamba Juice	689 – D	Lomas Santa Fe	92075	905.11	5812	722213	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Java Depot	243	N Hwy 101	92075	905.11	5812	722213	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Jersey Mike's Subs	915	Lomas Santa Fe	92075	905.11	5812	722213	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Kings' Garden	280	Lomas Santa Fe	92075	905.11	5812	722110	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
KMP Plumbing Company Inc.	435	S Cedros	92075	905.11	4225	493110	General Warehousing and Storage	X	X						X	X	Yes	Low
Lockwood Table Café	346	S Cedros	92075	905.11	5812	722110	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Lomas Santa Fe Country Club	1505	Lomas Santa Fe	92075	905.11	7997	713910	Golf Course/Park				X		X	X	X	X	Yes	High
Lomas Santa Fe Ex. Golf Course 408	1580	Sun Valley	92075	905.11	7997	713910	Golf Course/Park				X		X	X	X	X	Yes	High
Marriott Courtyard	717	S Hwy 101	92075	905.11	7011	721110	Hotels and Motels	X	X			X	X	X	X	X	Yes	Medium
Masuo's Japanese	145	S Hwy 101	92075	905.11	5812	722110	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Mohawk Car Wash (Parent-CCSB Inc.)	435	N Hwy 101	92075	904.61	7542	811192	Auto Washing	X	X	X		X			X	X	Yes	High
Moreland Choppers	369	N Hwy 101	92075	904.61	7538	811111	Auto Repair	X	X	X		X			X	X	Yes	High
Naked Café	106	South Sierra	92075	905.11	5812	722110	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Nobu Gourmet Japanese Restaurant	315	S Hwy 101	92075	905.11	5812	722110	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Orange Blossom Café	224	S Cedros	92075	905.11	5812	722110	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Pacific Coast Grill	437	S Hwy 101	92075	905.11	5812	722110	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Pamplemousse Grille	514	Via de la Valle	92075	905.11	5812	722110	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Panda Express #1029	689	Lomas Santa Fe	92075	905.11	5812	722110	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High

Panera Bread Solana Beach #4283	667	San Rodolfo	92075	905.11	5812	722110	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Paroli Italian Bistro	647	S Hwy 101	92075	905.11	5812	722110	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Pizza Nova Solana Beach LLC	945	Lomas Santa Fe	92075	905.11	5812	722110	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Pizza Port- Grain to Green	135	N Hwy 101	92075	905.11	5812	722110	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
R F McKenna Construction Company	507	S Cedros	92075	905.11	4225	493110	General Warehousing and Storage	X	X						X	X	Yes	Low
Red Tracton's Restaurant	550	Via de la Valle	92075	905.11	5812	722110	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Roberto's Mexican Food Inc.	445	N Hwy 101	92075	904.61	5812	722110	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Roundtable Pizza	126	Solana Hills	92075	905.11	5912	722110	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Rubios' Fresh Mexican Grill Inc. #13	437	S Hwy 101	92075	905.11	5812	722211	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Rudy's Taco Shop and Market	524	Stevens	92075	905.11	5812	722211	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Sam's Place	141	Lomas Santa Fe	92075	905.11	5812	722110	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Samurai Japanese Restaurant	979	Lomas Santa Fe	92075	905.11	5812	722110	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Shine Auto Detailing	435	N Hwy 101	92075	904.61	7532	811192	Auto Detailer	X	X	X		X			X	X	Yes	Medium
Solana Beach Coffee Company	437	S Hwy 101	92075	905.11	5812	722213	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Solana Beach Fish House	124, #209	Lomas Santa Fe	92075	905.11	5812	722110	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Solana Donut House	124, #105	Lomas Santa Fe	92075	905.11	5812	722213	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Solana Succulents	355	N Hwy 101	92075	904.61	5261	444220	Nursery/ Greenhouse				X		X	X	X	X	Yes	High
Solana Sushi	117	Plaza Street	92075	905.11	5812	722110	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Starbucks	691	Lomas Santa Fe	92075	905.11	5812	722213	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High

Starbucks	937	Lomas Santa Fe	92075	905.11	5812	722213	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Station Sushi	125	N Hwy 101	92075	905.11	5812	722110	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Subway	124, # 101	Lomas Santa Fe	92075	905.11	5812	722110	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
T's Cafe	271	N Hwy 101	92075	905.11	5812	722110	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Tidewater Tavern Inc.	221	N Hwy 101	92075	905.11	5812	722110	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Togo's Eatery	691	Lomas Santa Fe	92075	905.11	5812	722110	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Tony Jacal's Inc.	621	Valley	92075	905.11	5812	722110	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Top of the Bagel	665	San Rodolfo	92075	905.11	5812	722110	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Twisted Tart	240	S Cedros	92075	905.11	5812	722110	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Vons Companies Inc. #2327, The	931	Lomas Santa Fe	92075	905.11	5411	445110	Grocery Store	X	X		X	X	X		X	X	Yes	Medium
Waters Fine Foods to Go	125	S Hwy 101	92075	905.11	5812	722110	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Zinc Café	132	S Cedros	92075	905.11	5812	722110	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High

The commercial property inventory was utilized to identify potential sources of pollution (high TTWQ), prioritize the businesses and to develop an inspection frequency program, as noted in the City's JURMP.

5.3.2 Pollutant Source Identification

Eight percent (8%) of the City's 2,211 total drainage acres (roughly 177 acres) are zoned for commercial use. Some of the areas within the City zoned for commercial use drain to environmentally sensitive water bodies and 303(d) listed waters (impaired water bodies), as noted in the City's JURMP. Some of the 303(d) listed water bodies have been identified as having *constituents of concern (COC)* or pollutants that are of particular concern to those water bodies. Table 5-3 identifies the 303(d) water bodies and COCs that are impacted by drainage from the City of Solana Beach. There is *no change* to report in the City's identification of potential pollution sources. As reported in last year's Annual Report, based on water quality data analysis of the past few years, Diazinon has been removed from the San Elijo Lagoon COC list.

Table 5-3 303(d) Water Bodies and COCs

303(d) Water Body	Constituent(s) of Concern
San Elijo Lagoon and Ecological Reserve	Coliform, sediment, nutrients
San Dieguito Lagoon (and its tributary, Stevens Creek)	Coliform, TDS
Pacific Ocean	Coliform

Using the inventory list, businesses were classified by types of activities conducted on the property in order to identify potential sources of pollution in accordance with Permit section F.3.c. (2). The Permit specified 25 possible high-priority business categories for each Copermittee. Upon review of the City's business license inventory, the high priority business categories applicable to the City of Solana Beach include automobile servicing and repair; automobile/vehicle washing; retail or wholesale fueling; pest control services; eating and drinking establishments; mobile carpet, drape, or upholstery cleaning; cement mixing or cutting; landscaping; nurseries; and golf courses.

Potential pollutants for each of the ten (10) categories identified above include, but are not limited to the following.

- *Automobile servicing and repair facilities have the potential to generate pollutants such as heavy metals (Cu, Zn, Cr, Ni, Pb), oil, grease, engine and transmission fluids, antifreeze, brake fluids, suspended solids, phosphates, litter, organic debris, fluids, sediments, paint, solvents, paint chips/dust, sand and broken glass.*
- *Automobile/vehicle washing facilities have the potential to generate pollutants such as suspended solid(s), pH, oil, grease, phosphates, heavy metals, detergents, engine and transmission fluids, litter, organic debris, fluids, sediments, paint, solvents, paint chips/dust and sand.*
- *Retail or wholesale fueling facilities (gas stations) have the potential to generate pollutants such as detergents, oil, grease, engine fluids, suspended solids, phosphates, litter, organic debris, fluids and sediments.*
- *Pest control services have the potential to generate pollutants such as harmful chemicals, pesticides, fertilizers, herbicides, nitrogen salts, and phosphorus and in particular, the chemical "Diazinon."*
- *Eating and drinking establishments have the potential to generate pollutants that occur due to improper waste disposal of oil and grease, improper application of pesticides, litter along sidewalks and parking lots, and sediments from equipment cleaning.*
- *Mobile carpet, drape, or upholstery cleaning businesses have the potential to generate pollutants such as BOD, COD, suspended solids, organic matter, cleaning solutions, animal-related wastes, litter and organic debris along sidewalks and parking lots.*
- *Cement mixing or cutting facilities have the potential to generate pollutants such as suspended solids, oil and grease, heavy metals, hydrocarbons, solvents, and metals*
- *Landscaping and maintenance activities have the potential to generate pollutants such as sediments, oil, grease, organic matter, fertilizers, herbicides, pesticides, nitrogen salts, nitrogen and phosphorus.*
- *Nursery (greenhouse) facilities have the potential to generate pollutants such as sediments, fertilizers, herbicides, pesticides, suspended solids (roof coating), nitrogen salts, phosphorus, oil, grease and organic matter.*
- *Golf courses conduct activities that may produce pollutants associated with landscaping and maintenance activities including litter, BOD, COD, sediment, bacteria/viruses, oil/grease, heavy metals, manure, pesticides, fertilizers and detergents.*

5.3.3 2010 Dry Weather Monitoring Results

Results from the 2010 Dry Weather Monitoring Program (DWMP) were collected and analyzed by the City in September 2010 (but are already outdated at the time of this report). The 2010 program utilized the criteria established by the Permit (and the Copermittee Monitoring subcommittee). The City reviewed the results from the 2010 Dry Weather Monitoring Program looking for the pollutants listed above, and in particular, COCs described in Table 5-3. The results indicated one potential problem area. The bacterial levels at Seascape Sur outfall (which drains to the Pacific Ocean) continued to exceed the action levels established in the Permit and the IDDE investigation continued (see Chapter 12).

The City continues the non-point source investigation (see Chapter 12), and utilized the results to help design its 2011 Dry-Weather Monitoring Program. The results from the 2011 monitoring program will not be available until after this report is submitted to the RWQCB. *As a result of Addendum 2 adopted by the RWQCB in September, 2008, the 2011 Dry-Weather Monitoring results will be submitted in December, 2011.* It's worth noting that the City contracted out the 2011 DWMP services to an outside consultant that specializes in this field. The City is hoping that this will further assist the City in determining the source of the high bacteria at Seascape Sur. The results will be presented in December, 2011.

5.3.4 Threat To Water Quality Prioritization

The inventory of businesses for the City included identifying those that potentially posed a high threat to water quality (TTWQ) as set forth in the Permit and JURMP. As noted above, the City also categorized its businesses by the potential to generate the pollutants described.

The City's JURMP identified 82 stationary commercial sites, of which 73 are high priority Threat To Water Quality (TTWQ) facilities. Table 5-4 (below) summarizes the stationary businesses in the City's inventory by the general description.

It is important to note that many commercial businesses change very frequently, especially restaurant facilities. The City will make inventory adjustments as inspections reveal changes are necessary. This is an ongoing procedure that will continue into further reporting periods.

Table 5-4 High Priority TTWQ Commercial Facilities by Type of Business

Type of Business	Number
Animal Services	4
Automobile servicing and repair	5
Automobile/vehicle washing	3
Retail/Grocery Stores	3
Eating and drinking establishments	60
Golf courses	2
Iron Works	1
Nurseries	2
Retail or wholesale fueling	2
Total	**82**

5.3.5 Business Community Education Campaign

City Staff has implemented an aggressive education campaign for the business community. As stated in previous annual reports, education is conducted during the annual storm water inspections. The City, along with the North County Storm Water Program (the cities of Carlsbad, Encinitas, Escondido, Oceanside, Solana Beach, San Marcos, and Vista) previously developed two commercial BMP posters that are still being utilized. The first is aimed toward automobile repair shops and the second toward restaurants. These posters are distributed by the City's contractor (ECIS) during inspections. The business owners are required to place the posters in a noticeable location for all employees to see. On subsequent follow-up inspections, City staff or contracted inspectors check to see if they comply.

Additional educational/training tools developed to be distributed to the local businesses are the "Green Wrench Guide" and the "What's Cookin' Guide" developed by the Regional Outreach Workgroup. These guides are also distributed during site inspections as an extra training tool to help these businesses come into compliance. These guides have room designated in the back for employees to sign after they read the material to show educational compliance.

The City believes that distributing these educational tools directly to the businesses during inspections will have the greatest impact. Not only will inspectors have their undivided attention, but the City can also guarantee delivery and track which establishments have received the informational guides.

Therefore, when it comes to compliance issues, the City can quickly determine who has and has not been informed of the regulations. These education tools will be discussed further in the Educational Component of this Annual Report.

By the time this inspection program was fully implemented, City Staff and contracted inspectors found that a majority of business owners were "aware" or had some "basic knowledge" of storm water requirements. The City, along with the other Copermittees in the Carlsbad Watershed, developed a knowledge/awareness rating and included it on all inspection forms. This will help better assess the overall knowledge of the business community in relation to not only other businesses in the city, but in the watershed as well. This is discussed more in the Educational Component.

5.3.6 Pollution Prevention Methods

Because of the City's proximity to the Pacific Ocean, the City has been proactive in its approach to reducing urban runoff, not only during this reporting period, but prior to the implementation of the Permit as well. For example, prior to the implementation of the original JURMP, the City had several pollution prevention methods (PPMs) in place for commercial properties, which continues through to the new JURMP during this reporting period and included, but were not limited to:

- Prohibition of all non-storm water discharges to the City's storm water conveyance system (SBMC 13.10.060).
- Measures to reduce pollutants to the maximum extent practicable (MEP) were required of business owners (SBMC §13.10.090).
- Persons owning or operating a parking lot (or impervious surface) were *required* to "clean those structure thoroughly as is necessary to prevent the discharge of pollutants to the City of Solana Beach storm water conveyance system to the maximum extent practicable, but not less than once prior to each wet season" (SBMC 13.10.090).
- The City maintained by municipal code the authority to inspect business properties for compliance with the provisions of Solana Beach Municipal Code, Chapter 13 (SBMC 13.10.110).
- Required maintenance of commercial property (trash cans covered, litter removal, etc.) and appropriate waste disposal.
- Routine articles in the citywide community newsletter, *Shorelines* to educate the community about pollution prevention (see Chapter 9).

5.3.7 New Pollution Prevention Methods

In the City's JURMP, pollution prevention methods were expanded for commercial facilities, depending on the type of activities conducted at each business. Numerous activity-specific BMPs were also developed for each business type identified. Complete tables describing the BMPs in detail are included in the City's JURMP, submitted to the RWQCB in March, 2008. *There are no changes to report with respect to BMPs designated for existing commercial properties.*

Common Commercial Property BMPs

Many of the BMPs provided to commercial property owners/managers were activity-specific to the type of business conducted on-site. However, there are several BMPs common to all commercial properties, which are described below.

Employee Training

The training of employees on proper business practices to prevent or reduce urban runoff is listed as a BMP for all businesses. Knowledge of pollution prevention methods requires instruction from one person to another, particularly as the requirements are new to many employees and given that employees handle the majority of tasks at a commercial business, staff has explained to proprietors the importance of adequate employee training.

Good Housekeeping

Pollution prevention BMPs are required of most commercial facilities. Good housekeeping includes the proper disposal of waste materials and proper coverage over waste dispensers, dry sweep outdoor areas, keeping the facility in generally good repair and maintained in good operating condition to prevent deterioration of materials.

Spill Response Plan (SRP)

An SRP is required of most commercial facilities as noted in the JURMP. An effective SRP should prevent on-site hazardous materials from leaving the private commercial property and entering the City's storm drain conveyance system. Commercial property proprietors are being educated about an SRP and are now required during inspections by City staff.

Minimize Use of Water for Washing / Cleaning

The BMPs associated with a reduction in the use of water for washing and cleaning is suggested for most commercial facilities operating within the City. It has been common practice for many years to use power-washing methods to clean the outside of buildings, windows, and out-door eating areas at restaurants. In addition, it has been common practice by commercial property owners (and their contractors) to hose-down the sidewalks in front of their businesses to collect trash, debris, and landscaping remnants. These types of cleaning procedures use a lot of water and it is likely that the water will run off of the property and into the City streets or storm drain system, bringing with the water a significant amount of pollutants. For that reason, commercial property owners are requested to find new methods of cleaning, reduce the amount of water used, and prevent the runoff from leaving their property.

Various other activity-specific BMPs are required or suggested to commercial property owners and are listed in the City's JURMP.

Municipal Code and General Plan Amendments

There were no changes to the Municipal Code or General Plan that affect the Industrial and Commercial Section of the Permit.

Brochures

The City worked collaboratively with other North County cities (see Chapter 9, Education Component) to jointly develop brochures in order to provide a consistent message to the community, and in particular, commercial property owners/managers. The brochures were utilized by City Staff to inform and educate the community, including commercial businesses. Public works crews, Code Enforcement, Planning and Engineering Staff pass out brochures when an educational opportunity presented itself. Staff also visited many businesses and distributed the brochure, "Only Rain in the Drain" and spoke to business owners about the need for pollution prevention.

5.3.8 Ensuring Implementation through Commercial Property Inspections

During this reporting period, the City once again decided to contract out the inspection services to ensure that they are being conducted thoroughly and also to further enforce the City's grease management regulations. City Staff resources are stretched extremely thin with all the new storm water and Fats,

Oils and Grease (FOG) requirements, so in order to ensure that the proper time and effort was being utilized on these important inspections, the City contracted out the services. In addition, the City wanted to continue enforcing its aggressive grease management regulations to ensure that all required eating establishments had the proper grease management devices installed and were being properly maintained. It is well documented that the number one cause of sewer spills is grease build-up, so the City is taking a pro-active approach to ensure that grease is being properly managed at all eating establishments.

The City hired Environmental Compliance Inspection Services (ECIS) again this reporting period to conduct the inspections in accordance with the new JURMP. The inspection frequency of high priority businesses for the third year of Permit implementation remained at 100% (as detailed in the new Permit). The City currently has an inventory of 83 total facilities.

The City, through its contractor, visited all 82 stationary facilities, which is above and beyond the 71 inspections required by the Permit. The commercial inspections addressed all required inspection steps to determine full compliance. The results are described below.

As required by Permit Section J.3.a (3) (d) vi, the City confirms that the commercial inspections addressed all required inspection steps to determine full compliance.

As required by Permit Section J.3.a (3) (d) ii, the City confirms that the commercial BMPs were implemented during all inspections.

5.3.9 Enforcement

As mentioned above, the City hired ECIS to conduct the facility inspections. However, the City is still responsible for the follow-up enforcement actions, if necessary. The inspection protocol consisted of ECIS conducting an initial inspection and then one follow-up if the site was out of compliance for a minor violation (trash dumpster lid open, training logs incomplete, etc.). If there is a major violation, ECIS would contact the City immediately for proper follow-up actions. If the facility was still out of compliance after the second visit, then ECIS would notify the City and City Staff would follow-up from there, taking increased enforcement actions including fines, if necessary. The results are as follows:

First Inspections:

Total Inspections: 82

Facilities in compliance after first inspection: 53

Facilities not in compliance after first inspection: 29

Follow-Up Inspections:

Total Inspections: 29

Facilities in compliance after second inspection: 16

Facilities not in compliance after second inspection: 13

The remaining 13 facilities that were still out of compliance after the follow-up inspection were handed over to the City for additional follow-up. The majority of violations were all relatively minor infractions consisting of dirty trash enclosures, grease bin areas and lack of grease trap/interceptor maintenance logs. The City followed up with meetings with the property owners and managers, and all facilities have since come into compliance. *No citations were issued as a result of the inspections.*

The complete database of commercial and industrial inspections is available upon request. The City maintains the database and will build on it as the new Permit cycle continues.

5.3.10 Mobile Businesses

The Permit requires regulation of mobile businesses within each jurisdiction, which is a new requirement. The Permit states that each Copermittee shall develop and implement a program to reduce the discharge of pollutants from mobile businesses to the Maximum Extent Practicable (MEP). The mobile business program is being addressed on the regional level, and the City is participating in the development of the program. However, the City has always taken a proactive approach in dealing with mobile businesses, especially mobile car detailers and carpet cleaners. The City has issued several citations in the last few years to mobile businesses that do not have the necessary BMPs in place to prevent pollutants from entering the City's MS4. These violations will be described in the IDDE Chapter of this Report (Chapter 7), which will be submitted in December, 2011.

It should be noted that there are *no mobile businesses* currently in the City's inventory. The Planning Department has been notified of these new requirements targeting mobile businesses, so if one applies for a business license, Planning Staff will notify the Environmental Staff which will take a proactive approach to educating the new business on the storm water regulations.

5.3.11 New Activities and Improvements for FY 11/12

The City is confident that the new inspection process for commercial facilities is a significant improvement for this program. The City anticipates continuing to budget for consultant inspection services to focus on storm water and grease management device inspections. The approved FY 2011/2012 budget contains $12,000 to continue outsourcing the inspections. In addition, the City will continue to update the commercial facility inventory as new business licenses and inspections reveal changes.

A significant new requirement of the Permit requires the City to develop a mobile business program. As mentioned above, the new Permit requires all Copermittees to develop and implement a program to reduce discharges of pollutants from mobile businesses to the MEP. Since this affects all Copermittees, the region decided to address this on a regional scale. This has become a primary focus and the subject of its own subcommittee, which the City is involved in. The City will continue to work with the region to develop this program and implement it during the next reporting period.

The City will also look to improve educational materials for commercial facilities, including mobile businesses. The City is committed to working with the other North County Cities (as well as the Regional Outreach Workgroup) to collectively put together educational materials with a consistent message. Additionally, the City will work with the respective Watershed Groups to alter inspection forms or processes if a consensus is met within the group. An example of the benefit of this collaboration was the addition by the member cities in the Carlsbad Watershed Group of two assessment questions at the end of the inspection to gauge the knowledge and/or behaviors of the facility owner/manager. This was included to gain a better understanding of the level of knowledge of the responsible employees and see if their behavior changes over time. Hopefully, this will give the Copermittees a better assessment tool to analyze program strengths and weaknesses.

Another significant improvement to the program that continued during this reporting period was the addition of a higher level of grease management device inspections. As mentioned in last year's Annual Report, the City decided to contract out inspection services for commercial facilities with the intent to include grease management device inspections as well. This was the second year of the increased grease management inspections, which included whether or not the grease device was the correct size and included the correct connections. The initial inspection was simply to gauge if the necessary commercial facilities had any type of device installed, but during this reporting period, the City once again inspected to ensure the correct type and size was installed. This is extremely important as simply having a device is not sufficient if it was too small or did not include all the proper connections. The City now has three years of inspection data and has a great inventory of the current grease management devices throughout the community. This is just another example of the City's proactive approach in preventing sewer spills.

5.3.12 Summary

The City has successfully updated its JURMP and commercial facility inventory in compliance with the Permit requirements. As a result, the City has identified commercial facilities that pose a high threat to water quality and implemented the new inspection frequencies per its new JURMP. The City has also developed an effective enforcement process and notified all high-priority businesses of required BMPs. For the most part, the businesses in this community have willingly adapted their practices to meet the storm water regulations of the Permit.

The City has successfully updated its JURMP to reflect the new requirements of Permit Order No. 2007-0001. As such, the City has successfully developed a program to comply with all aspects of the new JURMP, and is committed to continually improve on the program in the coming years.

The City's proactive approach of patrolling the City daily and stopping at sites where potential violations may occur before there are discharges has greatly reduced the amount of NOVs and citations issued. The City has discovered that it is much more efficient and worthwhile to put forth the effort to stop a potential violation before it occurs rather than wait and deal with the consequences. So far, this proactive approach has been very successful, as most businesses appreciate City Staff working with them, instead of the normal practice of

enforcement.

The City has successfully inspected 100% of its commercial businesses and anticipates continuing this procedure for the life of the Permit. The inventories will continue to be updated as new businesses open up and old ones close down, as described in the report above. This is a continuous process in which all departments at the City play a key role, and communication is vital. The City has successfully implemented measures to comply with all of the requirements in the Industrial/Commercial Component of the Permit.

CHAPTER 6
Residential Component

CHAPTER 6: RESIDENTIAL COMPONENT

6.1 Introduction

In accordance with Permit Section D.3.c, this section of the report describes the City's efforts to prevent or reduce residential discharges of pollutants into the City's MS4 to the MEP and to prevent residential discharges from the MS4 from causing or contributing to a violation of water quality standards.

In each Annual Report to the RWQCB, this section will include any proposed modifications to the City's JURMP (Section 8.0, Residential Component) including prioritization of residential areas and pollutant source identification. Results from the City's efforts to implement BMPs will also be included. A summary of activities conducted post-reporting period may be included if the activity is deemed essential to understanding the City's efforts at reducing urban runoff or permit compliance.

The City conducted numerous community education outreach activities, distributed flyers and door-hangers and published articles in the City's newsletter. The City continued implementation of the "Green Flash" environmental portal on its website and operated a 24-hour hotline for the community to be able to report any suspected violations or contact City Staff. In addition, the City conducted its Household Hazardous Waste (HHW) collection and recycling program, which includes door-to-door services. Finally, the City hosted many community events and distributed storm water information to residents at the City booth.

6.2 Pollution Prevention Methods

Polluted urban runoff in residential areas occur from activities associated with the following actions: automobile use, maintenance, cleaning, and repair; home and garden care (pesticides, herbicides and fertilizers); disposal of trash, pet waste, and household hazardous waste; outdoor washing activities; landscaping and home maintenance. It is imperative to prevent the pollutants that can be generated by these activities (bacteria, detergents, heavy metals, grease, oil, herbicides and pesticides) from entering the City's MS4 to the maximum extent practical.

6.3 BMP Implementation

The City continued several pollution prevention methods that reduce, prevent or mitigate the harmful pollutants in urban residential runoff. The City continued its HHW collection program, operated a 24-hour hotline for reporting violations, sponsored community events and developed flyers, brochures, newsletter and website articles. In addition, the Copermittees continued to develop regional programs to address the residential requirements of the new Permit.

6.3.1 Hazardous Waste and Used Oil Collection and Recycling

Under the 1989 California Integrated Waste Management Act (AB939), jurisdictions are required to provide Household Hazardous Waste (HHW) collection programs to residents in order to limit the volume of HHW (used oil, paint, household cleaners, pesticides, car batteries, automobile waste, etc) that might otherwise end up in a landfill, or worse, illegally dumped. For San Diego County, the HHW program had been funded by a tipping fee until 1997, when the County of San Diego sold the landfill system to private companies.

During the FY 10/11, the City continued its partnership and the reciprocal use agreements with the cities of Vista, Poway and Escondido to provide permanent facility HHW drop-off service to City residents at a cost of $55 per vehicle. To encourage participation, the entire cost is picked up by the City.

During this reporting period, the permanent facilities were utilized by 77 participants. Additionally, the City operates a door-to-door program where, for a small co-payment of $10 per visit, a company will come directly to the resident's house to pick up the Household Hazardous Waste so that residents do not have to drive to Poway, Vista or Escondido. The door-to-door home pickup program was utilized by 197 residents. The total participation in the HHW program was 274 residents and the total weight of hazardous materials was 20,838 pounds. Included in the door-to-door program is a service offered to senior citizens and homebound residents that provided free of charge, with the City paying for the service. These programs are offered to encourage the proper disposal of hazardous wastes to prevent it from entering and polluting our sensitive waterways. The program also includes the disposal of e-wastes, including TVs, computers, VCRs, fluorescent bulbs, batteries, etc.

For a complete breakdown of the types and weight of HHW disposed by the

residents of Solana Beach, please see the following table:

Table 6-1 Household Hazardous Waste by Type

Type	Household Hazardous Waste
Flammable & Poison	5,421
Acid	221
Base	397
Oxidizer	36
PCB-Containing	0
Reclaimable	5,795
Asbestos	8
Universal Waste	665
Electronic Waste	7,725
Aerosol Containers	11
Other HHW	927
Total (lbs)	20,838

The City keeps records of how many people utilized the program throughout the FY 10/11 and a questionnaire is provided to the participants at the time of disposal to acquire useful information such as how they heard of the program and what types of wastes were disposed. Many respondents listed local programs such as the City's newsletter "*Shorelines*", the City's website and educational brochures as the source of their knowledge of this program. Other sources include the two local trash haulers (EDCO and Coast Waste), Solana Center for Environmental Innovation, the internet, and basic word of mouth. This bodes well for the educational work of City Staff and is a good indication that the City's educational program is effective at getting the word out to the community about environmental concerns, water quality, and opportunities to participate as the program continues to grow. Additionally, it shows the beneficial cooperation efforts between the City and its contractors.

The City is a member of the Regional Solid Waste Association (RSWA). As a member, the City participates in a multi-city agreement with EDCO Waste and Recycling Services, Inc. (EDCO). As reported earlier, the agreement resulted in a very successful program for elderly and homebound City residents to dispose of HHW at their door, *at no charge to the residents*. This provides a solution for the two largest obstacles for the elderly and homebound residents, convenience and

cost, by providing home pick-up service free of charge. This has been an extremely effective and popular program throughout the entire community.

This agreement is necessary because the City does not have the capacity to operate its own HHW facility within its jurisdictional boundaries. Without this RSWA agreement, the residents would have very limited options in dealing with the proper disposal of HHW. This would potentially lead to the improper disposal of HHW, which would threaten the local waterways and sensitive environment. However, due to the foresight of the City government, the formation and participation in groups such as RSWA lead to increased opportunities for the community to protect the local environment. It also allows the City to subsidize the costs of disposal to assist the residents in properly disposing their HHW. For a small city like Solana Beach, becoming members of larger organizations is imperative for keeping costs down and increasing negotiation power. These programs would not be self sufficient if Solana Beach was not part of a larger organization, as the City and community receive the benefits of "strength in numbers." This has helped keep the costs for such important programs low and participation high.

The City also promotes local HHW collection events by advertising the events on the City's website and sending out Eblast email alerts to registered community members. These events typically occur at the Solana Center located in Encinitas, but the City values proper disposal of HHW, so these events located outside of the City are still publicized by the City. This is just another convenient way for residents to dispose of their HHW.

Recycling

As noted in the Introduction of this report, the City is a proactive agency working to protect and enhance the local environment. The City, with assistance from the non-profit environmental group Solana Center (formerly known as Solana Recyclers), was the first city in the county to initiate a curbside recycling program.

Assembly Bill 939 (AB 939) requires cities to divert at least 50% of their total solid waste away from landfills, and the best way to accomplish this is through recycling. As reported earlier in this Report, the City's target disposal rate of pounds per person per day was 8.9 and the actual recorded was 6.0. This is significantly below the AB 939 requirements and shows that the City's programs

are working and the awareness of the residents is very high, as many of the cities in the region failed to reach their target. The process of writing the 2010 AB939 report is underway, but not completed before this report was submitted. These numbers will be included in next year's report.

6.3.2 Annual Bulky Item Clean-up Day and Coastal Clean-Up Day

Each October, the City hosts an Annual Bulky Item Clean-up day. The City's waste hauler provides roll-off containers for the collection of large appliances, yard waste, excess trash and scrap metal. Residents only need to bring their large bulky items and excess trash to La Colonia Community Center to drop off anything that they have, to save them a trip to the landfill, and it's *free of charge*. Additionally, Solana Beach residents can call the City's trash hauler to set up an appointment for *free curbside pick-up* and disposal of up to three bulky items up to three weeks prior to the event. It is well documented that the easier and more efficient it is for people to recycle or dispose of large items the more often they will do it. By offering this convenient, local and free of charge event, residents are less likely to dispose of their large items illegally, keeping these items out of our local waterways. The Bulky Item Clean-up Day held in October 2010 resulted in 10.25 tons of trash and 1.37 tons of recycled material collected and properly disposed off, preventing it from ending up in the City's MS4.

Each September, the City of Solana Beach participates in the annual Coastal Clean-Up Day sponsored by the California Coastal Commission and I Love A Clean San Diego. The City hosted two sites again this year, one at Fletcher Cove and one in the San Elijo Lagoon, where residents came and spent the morning beautifying the local community. This is an extremely popular and successful event that usually draws over 200 community volunteers, and removes hundreds of pounds of litter and debris from the local lagoons and beaches.

6.3.3 24-hour Hotline

To assist residents in obtaining information, reporting suspected storm water violations or to report illegal dumping, the City operates a 24-hour "storm water hotline". The hotline (858-720-4424) is available 24 hours a day, seven days a week, and 365 days a year. The hotline is linked directly to the voice mail of the City's Environmental Programs Manager to increase efficiency and ensure

prompt responses. This way, calls can be immediately fielded and handled in the appropriate manner.

6.3.4 Pet Waste Bag Dispensers

The City installed and maintains Pet Waste Bag Dispensers to reduce the potential of pollution stemming from residents (and visitors) not collecting waste from their pets while walking. This was a measure added to hopefully help the high levels of fecal coliform detected at the Seascape Outfall revealed during wet and dry weather monitoring. The City has posted dispensers and signs to encourage their use. The program appears to be working very well because, during this reporting period, approximately 98,000 pet waste bags were utilized by the community.

6.3.5 Education and Outreach

The City's entire education and outreach program is provided in Chapter 8 of this report. Activities associated with the educating of residents are addressed in this section, which may also be repeated in Chapter 8.

Shorelines articles

The *Shorelines* is the City's Newsletter and Recreation Guide for community information. The newsletter is now distributed four times a year (Spring, Summer, Fall and Winter) to each resident and business within the City (up from twice annually in the past). It is one of the best methods to get information to the public about a variety of issues, the environment being a key component. The *Shorelines* newsletter always contains environmental articles and the community has come to rely on this publication as a means of keeping up with City government. This has proven to be an ideal community educational effort.

During this reporting period, the City transitioned from printing the *Shorelines* on paper to going electronic. This has resulted in a significant reduction of paper waste, and saves energy throughout the process. The City (and community) has also seen a benefit in the quality of the output, as articles can be uploaded at any time and they can become much more interactive. Hyperlinks to relevant online sources are now embedded into the articles, which have proven to be very beneficial. The transition to an electronic format has been a tremendous success and the quality and content of the newsletter is rapidly improving.

In the summer 2011 issue, the City published the following articles relating to environmental education and storm water activities:

- Docent-Naturalists Openings
- Storm Water Hotline
- How to Dispose of Household Hazardous Waste Safely and Easily
- Household Hazardous Waste and Electronic Waste Program
- The City of Solana Beach's Commitment to Sustainability
- Remodeling/Construction
- Household Battery Recycling
- Plastic Bag Recycling Program

In the fall 2010 issue, the City published the following environmental education and storm water activities:

- Annual Coastal Clean-Up Day
- ReRip's 4th Annual Future of Surfing Fundraiser Event

In the winter 2010/2011 issue, the City published the following articles relating to environmental education and storm water activities:

- Storm Water (NPDES) Rainy Season Construction Reminders
- Household Hazardous Waste and Electronic Waste Program
- Subsidized Compost Bin Program
- Holiday Tree Recycling/Collection Program

The City has recently gone "green" and now only produces the *Shorelines* newsletter electronically. It is available on the City's website, and has become

much more interactive and relevant (provides up-to-the-minute information that can be rapidly changed). For a copy of the articles listed above, please contact the City and Staff can provide a paper copy to review.

Brochures and Door hangers

The City collaborated with neighboring Copermittees (the cities of Del Mar, Encinitas, Oceanside, Vista, San Marcos, Escondido and Carlsbad) to develop several educational brochures. One particular brochure is referred to as the "door-hanger." The door-hanger is an excellent tool to inform groups or individual residents about pollutants that were found in their area, but may or may not have been contributed by them specifically. The door-hanger has a place for Staff to leave their business card, indicate the types of pollution found (from landscaping to pet waste) and lists various specific BMPs for eliminating street and gutter debris in their area. Staff hopes that by placing the brochures around the entire neighborhood, residents will report to the City where the discharge came from or alter their behavior to prevent the discharge from occurring again.

In addition, the City collaborated with the other North County cities and created a brochure "*Only Rain in the Drain*," which is distributed at local community events and to visitors at City Hall, the Fire Department and Community Center. The brochure reviews Best Management Practices for residents and the need to prevent or mitigate pollution to the best extent practical. The brochure also provides a consistent message because all cities in the North County use it.

Staff distributed the door hangers and brochures to residents and business owners throughout the community. These educational materials have been used by Public Works Staff, Code Enforcement Officers, and others and have been found to be an informative and effective tool. This includes those given out to neighborhoods during IC/ID and source tracking investigations, those given out individually during routine rounds around the City and any community fairs (Fiesta Del Sol, Green Fair, Movie Night, etc) or regional workshops/events (about 2 a week on average for all activities, totaling approximately 104 distributed).

School Presentations

The Solana Center conducts school presentations for the City to local schools

within the City's jurisdiction. As part of both trash haulers' contracts (EDCO and Waste Management) with the City, they are required to provide funds for public outreach and education. Both haulers have chosen to contract out this work to Solana Center. Therefore, Solana Center provides school presentations regarding storm water issues to the local schools. These presentations include discussions about the importance of preventing pollution from entering the streets, gutters and storm drains. The Enviroscape model is also used during these presentations.

Additionally, the City's Park and Recreation staff conducts a summer "ecology camp" for local children to educate them on various environmental issues, including storm water and recycling. The children go on field trips and have classroom discussions. It is a very interactive classroom setting where the children are encouraged to participate and engage in the various activities. The ecology camp is an annual program that will be utilized to educate the children in all environmental issues.

The City's Marine Safety Department also conducts school presentations that focus on ocean awareness/safety as well as being environmentally aware and responsible. The presentations focus on water quality and the benefits of protecting this valuable asset.

These are reported on in further detail in Chapter 8, Education Component.

Tile Stenciling

All storm drain catch basins in the City currently have tile markers installed. The construction standard described in the City's JURMP, with respect to the requirement that all curb inlets have a tile marker permanently affixed on the face side, continues to be enforced. All new development/construction projects are required to install tile markers on all new curb inlets. City Staff also documents broken or missing tiles when detected in the field and report back to the Public Works Operations Manager to install.

Website

As mentioned previously in this Report, the City recently unveiled a significant upgrade to the environmental section of its website. Previously, the environmental programs were lumped into the Engineering Department page,

which was somewhat difficult to locate. Now, the City has a separate page that has its own icon on the homepage. This shows the type of commitment that the City, and the community, places on the environment. The City has received many compliments regarding the website, and was even recognized by the League of Woman Voter's, North Coast San Diego County for the "Green Flash" section.

6.4 Threat to Water Quality Prioritization

During this reporting period, the City re-evaluated the drainage areas to identify those areas that potentially posed a high threat to water quality as set forth in the Permit section D.3.c(1). The areas are defined in Section 8.2.1 of the City's new JURMP.

There are *no changes* to report in the City's prioritization of high-priority residential areas from those submitted to the RWQCB in the City's new JURMP (submitted March, 2008).

6.5 Implementation of BMPs

As noted in Section 6.1 (Pollution Prevention), the City has implemented various methods to prevent pollution to the Maximum Extent Practical (MEP) standard from entering the City's MS4. The City indicated in its revised JURMP the designation of several BMPs for the High Priority Residential Areas and Activities.

One of the most significant differences between the City and other local agencies, is that runoff from residential automobile washing *is strictly enforced* by Solana Beach Code Enforcement Officials. City Staff is often dispatched to reports of people washing their cars, and City procedures allow for several warnings before a citation is given, except in the case of mobile car-washing businesses. In that instance, mobile car detailers are informed to cease their activity and immediately clean up the resulting discharge. Mobile detailers are cited for failure to comply if they refuse to discontinue or remedy the discharge. City Staff records all violators and if they encounter them violating the Permit again within the City, they are immediately given an administration citation and fine.

The City also actively enforces minimum BMPs for the following activities:

- Motor Vehicle or Boat Repair and Maintenance
- Motor Vehicle Parking
- Home and Garden Care Activities and Product Use
- Home Care and Maintenance
- Manure and Pet Waste Management
- Private Sewer Laterals and On-Site Wastewater Systems

If City staff witnesses a violation of any of the provisions above, the Administrative Fine Process will be initiated until full compliance is achieved.

6.6 Enforcement Actions

Violations of the storm water Permit and any necessary follow-up actions taken by the City are described in Chapter 7.0, Illicit Discharge Detection and Elimination (IC/ID) Component, which will be submitted in December, 2011. Since violations in the residential sector often times are discovered during an IDDE investigation, it is an appropriate place to discuss the actions.

6.7 New Activities and Improvement for FY 10/11

The City is actively developing and implementing the activities described in the Residential Component of the City's new JURMP. The focus will continue to be education through the new Green Flash website, brochures, flyers, public announcements, community fairs and one-on-one contact.

The new Permit adopted in January 2007 contains increased requirements for the residential sector. This is one key area that the Permit focuses on, so new programs will have to be developed by the City to address these requirements. There is also a focus on watershed and regional programs to address the residential sector, so the City anticipates working with the other Copermittees to develop these programs cooperatively to convey a consistent message. The City will be working to continue developing and implementing these programs for FY 11/12. These programs will be discussed in more detail in the Unified Urban

Runoff Mitigation Program

6.8 Summary

The City has been successful at implementing the Residential Component of the JURMP including among other things:

- Providing public pet waste bag dispensers (approximately 98,000 bags were utilized by the community during this year).
- Collaborating with neighboring jurisdictions (CWURMP and SDWURMP) and the regional Copermittees to develop several informational items, which have been distributed at local events, to City Hall visitors, and throughout the community.
- Collaborating with all Copermittees to develop regional educational programs as required by Permit Order No. 2007-0001.
- Using and upgrading the City's website to post informative information about the City's storm water programs.
- Operating a 24-hour, 7 day a week storm water hotline that residents can report any storm water violations.
- Operating a community-wide used oil and hazardous waste collection program that offers door-to-door service for all residents. This program has been a huge success as 274 residents participated and properly disposed of 20,838 pounds of hazardous waste that might have otherwise ended up polluting the local environment.
- Conducting the Annual Bulky Item Pick-Up Day which resulted in 10.25 tons of trash and 1.37 tons of recycled material collected and prevented from entering the City's MS4.
- Providing opportunities for local school presentations regarding storm water issues.

CHAPTER 7

Illicit Discharge Detection and Elimination Component

CHAPTER 7: ILLICIT DISCHARGE DETECTION AND ELIMINATION COMPONENT

This is a placeholder for Chapter 7, which as a result of Addendum No. 2 adopted by the Regional Water Quality Control Board on September 10, 2008, extended the reporting component of this Chapter to December 15, 2011.

CHAPTER 8
Education Component

CHAPTER 8: EDUCATION COMPONENT

8.1 Introduction

In accordance with Permit Section D.5, this section of the report describes the City's educational program that is intended to use all media as appropriate to measurably increase the knowledge of the target communities regarding MS4s, impacts of urban runoff on receiving waters, and potential BMP solutions for the target audience and to measurably change the behavior of target communities and thereby reduce pollutant releases to the MS4 and the environment.

In each Annual Report to the RWQCB, this section will include a description of the City's efforts during the reporting period and possibly post-reporting period if the activity is deemed essential to understanding the City's efforts at reducing urban runoff or Permit compliance. In addition, this section of the Report will include the City's planned educational efforts for the following fiscal year.

During this reporting period, the City continued implementation of the comprehensive Education Component of the JURMP. The activities were expected to increase knowledge among the residents, business owners, and those who do business (such as contractors) within the City. The City developed the program based on the requirements of the Permit and continued implementation during this reporting period.

The City continued implementing programs for the new requirements of the Permit. These programs are being developed on a watershed and regional level, and the City is an active participant in these workgroups. A major focus of the new Permit is on developing a regional education program, with the idea of forming a "brand" for the region where people can identify with the program as a whole. By developing and implementing a regional program, the messages will be consistent and easier to identify with. This will be further explained in the Regional URMP submitted by the County of San Diego.

During this reporting period, the cities of Carlsbad, Del Mar, Oceanside, Escondido, Vista, San Marcos, Encinitas and Solana Beach continued to develop strategies and programs to provide consistent messages to the communities of San Diego North County. While this watershed group will continue developing

educational materials and activities, it will also work with the regional group as mentioned above. This group will ensure that the Copermittees represented will participate with the “regional” message and program as required by the Permit.

As a collaborative, the group is able to obtain lower costs for educational tools (such as brochures, flyers, handouts, small tokens [pens, key chains, etc.), which provides a financial benefit to the agencies and thus, the community.

The group has been able to assist each other in developing a consistent message incorporating the interests and concerns of each agency. When brochures and handouts have been created, flexibility among the agencies was required.

The collective decision-making process has also generated cooperative working relationships among the agencies, which was extremely beneficial when the development of the Watershed Urban Runoff Management Program(s) began and in working together to complete various storm-water-related tasks. The community also benefits from the consistent “one message” approach rather than six or seven different rules and regulations.

8.2 Pollution Prevention through Education – Jurisdictional Activities

The City’s storm water program is comprehensive. Not only are there many components to administer jurisdictionally, there are many different programs going on simultaneously throughout the County. The City participates in jurisdictional, watershed and regional activities. Each of these has separate and distinct educational components; however the challenge is to ensure that the same general message is being spread throughout the County, with individual messages being developed by the Watershed groups and Jurisdictions based on the Constituents of Concern (COCs) for each watershed. The watershed activities have been recently defined and are in the early stages of implementation; since this is a jurisdictional report, there will not be much discussion about those in this Annual Report (For more detailed information on WURMP related activities, please see the WURMP Annual Reports for Carlsbad and San Dieguito). The regional activities have been primarily described in the Copermittee *Unified Urban Runoff Management Program Annual Report for Fiscal Year 2010-11,* which has been submitted by the County and incorporated herein by reference. However, some of the activities will be summarized in this

section of the report (see Regional Activities).

8.2.1 Staff Training

One of the most important aspects of the City's educational program is to educate its Staff members. This turns out to be a relatively easy task for this City in that there are only about 70 full time Staff members. All Staff members are required to attend an all-hands citywide Staff meeting each month. Staff determined that this would be a good opportunity for training, and periodically conducts trainings at these meetings.

During this reporting period, the City did not have any formal stormwater trainings. Staff is however, continuously reminded of regulations and how their Department is involved in storm water issues. A few trainings are scheduled for the upcoming year and will be reported on in next year's report including:

1. Sewer spill prevention and spill mitigation
2. Storm water issues relating to public works

The City will continue to look for other opportunities to educate their staff on storm water related issues throughout next year's reporting period.

The City believes that all current Staff is adequately aware of the storm water issues, and all new Staff will be trained as appropriate upon arrival. However, due to the constantly evolving storm water field, the City will continue the periodic educational trainings at future City all-hands Staff meetings and department specific trainings as appropriate.

8.2.2 Annual Beach Cleanup Days

The City of Solana Beach, in cooperation with I Love a Clean San Diego County, Inc. coordinates an annual "Coastal Cleanup Day". These events are volunteer beach and lagoon clean ups. The City had another successful event hosting two sites within the City, one at Fletcher Cove Park and the other in the San Elijo Lagoon.

8.2.3 Storm Drain Tile Marker Installation

The City inventoried all of its storm drains (inlets and catch basins) and has the

locations in GIS format. The inventory list includes addresses, cross streets and a GIS bit-map. Stenciled tiles are affixed to each storm drain inlet or catch basin location, which reads, *"No Dumping! This drains to the ocean."* The City now requires all new or re-development projects that install a storm drain curb inlet or catch basin to include the stenciled tile. An extra supply of tile markers is kept at the City's Public Works Yard for all City projects as well as for private contractors to install on their projects to provide a consistent message throughout the City.

8.2.4 Local Community Events

The City of Solana Beach hosts an annual block party called Fiesta de Sol. Each year at the block party the City has a booth promoting to the participants no dumping or littering and to keep our beaches clean. The City also coordinates with Solana Center with their booth promoting proper disposal of HHW and recycling (oil included) in the City. The City passes out "*Only Rain in the Drain*" brochures, and displays the watershed poster, "We All Live in a Watershed…" Staff discusses with residents the importance of protecting the water resources and educates them on the new storm water regulations. This reporting year's Fiesta Del Sol occurred on June 4 and 5, 2011. There were approximately 60,000 visitors during this year's event, and City Staff distributed storm water brochures and informational flyers to those who visited the City's booth. In addition, the Fiesta Del Sol included a "Green Alley" which included vendors promoting environmental sustainability. This was one of the busiest areas at the Fair, and the organizers plan on making this a permanent fixture in future events. This further demonstrates the City's commitment to sustainability and the community's demand and desire to be more environmentally sustainable.

The City's Park and Recreation Commission also put on the sixth annual Beach Blanket Movie Night on August 28, 2010 (Appendix M). This was the sixth year this community event was held and was once again a huge success. The City worked closely with the event organizers and provided recycling containers, environmental educational material pertaining to storm water issues, and used oil recycling information. The City also shared a booth with Solana Center to provide environmental education to the attendees, utilizing the Enviroscape model. It is important to note that this was the only booth allowed by the Parks and Recreation Commission because they want to promote a relaxed, friendly environment. However, because the environment is such a popular topic in Solana Beach, they allowed City Staff to have a booth to promote the

environmental programs. The event was very well attended and a huge success, and will continue to occur annually. This is a great way to promote environmental awareness at a free event to the community.

The City also continued to distribute the immensely popular and effective doggie-bag dispensers that attach onto the pet leash. These dispensers had the City logo and the message, "The City of Solana Beach Reminds You To Please Pick Up After Your Pets." The City wanted to again emphasize the importance of eliminating pet waste from the MS4, as it can be a major contributor of harmful bacteria. These dispensers were very well received and the City plans on distributing them at every community event.

8.2.5 School Programs

The Solana Center is a local organization that writes articles for the City Newsletter (*Shorelines*) and presents educational programs in the City schools regarding storm drain pollution using the watershed model Enviroscape and fun handouts and items for the kids. Solana Center is paid through the City's solid waste franchise agreements, as well as a HHW grant, to provide educational opportunities to the community. City Staff is in regular contact with the Solana Center and is confident that their program(s) are educational and informative for the children. The presentations are provided free to the local schools, and the information provided is invaluable.

The following table shows what school/community education has taken place during this reporting period:

Table 8-1 School/Adult Community Education

Date of Event(s)	Event Title	Estimated Audience	Specific Audience	Location	Jurisdiction
July 19-23, 2011	"Under the Sea"	25	6-12 year olds	Fletcher Cove Community Center (Field Trips Included)	Solana Beach
August 2-6, 2011	"Rainforest Explorers"	20	6-12 year olds	Fletcher Cove Community Center (Field Trips Included)	Solana Beach
August 9-13, 2011	"Water Adventures"	25	6-12 year olds	Fletcher Cove Community Center (Field Trips Included)	Solana Beach

8.2.6 Marine Safety Department Educational Presentations

The City of Solana Beach Marine Safety Department also conducts presentations at local schools. The lifeguards maintain an outreach program to the local schools to educate the students on ocean safety and awareness as well as environmental education. This is a natural fit, seeing how the lifeguards provide a safe environment for the community to enjoy the valuable coastal resource, and they want to ensure that the community becomes environmental stewards to help protect this resource. The presentations focused on water quality, trash and litter control and the ecosystem as a whole. These presentations have been very well received by the schools and the lifeguards plan to continue them into the future.

8.2.7 Summer Day Camp Presentations

This year, the kids attending Summer Day Camp were treated to a presentation by The California Center for Sustainable Energy (CCSE). Volunteers taught a group of approximately thirty students about the importance of recycling, conserving energy and using products that have a small environmental impact. The engaging presentation involved hands-on experiments that demonstrated different types of energy usage and consumption. Active members of the City's Clean and Green Team were also present.

8.2.8 Kids Korps Educational Presentations

During this reporting period, the City continued its valuable relationship with the local non-profit youth volunteer organization called Kids Korps. Kids Korps engages young people, age 5 through 18, in community service with the mission to instill in America's youth the spirit of giving while providing valuable education in leadership and responsibility. The City and Kids Korps have partnered to conduct park cleanups and educational presentations. The City of Solana Beach sponsors disadvantaged, underserved local children for a week during the summer where they attended the Kids Korps camp for free. Staff also took this opportunity to educate the children on storm water pollution. The Staff presentation was so well received that Kids Korps invited back City Staff to present at two different camps, reaching over 60 children. During this reporting period, Staff contracted with Solana Center to provide the presentations, using their Enviroscape model and interactive puppet show. This activity will continue

in the upcoming years with the goal to expand the cooperation with increased educational opportunities and cleanup events.

8.2.9 Targeted Education for Underserved Community

The City has a comprehensive and successful program established to reach out to the underserved community in Solana Beach. City Staff takes these opportunities to educate this sector of the community on many items, including the storm water and pollution prevention programs. The various programs are described in more detail below.

The City has a successful Junior Lifeguard Program that teaches young children about safe ocean practices, lifeguard techniques, and environmental stewardship. Children come from all around the City to participate in this summer program, and space is limited. However, through a unique partnership between the City and a private company called ReRip, about ten spaces in the program are reserved for the underserved community that may not otherwise be able to afford it. The City and ReRip cosponsor an annual environmental event (the Future of Surfing Event) in which a raffle fundraiser is conducted and the proceeds go toward giving ten children a full ride scholarship to the Junior Lifeguard Program. These children participate in all the activities and learn about pollution prevention and storm water regulations. This is a unique partnership that the City is extremely proud of, and the community has rallied around it.

Another successful program that benefits the underserved community is the City's Summer Day Camp program. The City offers full and half-scholarships to the underserved community that would not be able to afford to send their kids to the camps for the full price. These camps have environmental themes, including pollution prevention and storm water education incorporated into the curriculum.

8.2.10 Water Conservation

Drinking water is provided to the community of Solana Beach by the Santa Fe Irrigation District (SFID). The City and SFID have a great working relationship which has benefitted the community of Solana Beach in many ways.

Due to ongoing drought conditions and increased environmental regulations, water conservation has been a major focus during this reporting period. Although

drinking water is a completely separate entity than storm water, they are linked in many important ways. Primarily, over-irrigation of potable water is often the transport mechanism for many pollutants during dry weather. Over-irrigation carries pollutants such as pesticides, herbicides, fertilizers, bacteria, trash, oil and grease and many other pollutants into the MS4 system. Water conservation activities can reduce the transport mechanisms thereby reducing the amount of pollutants that make it into the City's MS4 system. The City recognizes that promoting water conservation not only helps during times of drought conditions, but also helps combat storm water pollution.

The City and SFID have a regularly scheduled monthly meeting to discuss all things water related. These meetings have turned into valuable information sharing sessions where Staff from both agencies can discuss upcoming projects and report observations from the field. The City and SFID have joined together on many educational seminars and workshops for the community, both residential and commercial. The following is a list of water conservation related presentations and workshops that occurred during this reporting period.

Table 8-2 California Friendly Landscape Classes

Date of Event(s)	Event Title	Estimated Audience	Specific Audience	Location
September 11, 2010	Water Saving Landscape Training	70	Residents	Rancho Santa Fe Garden Club
February 22, 2011	Landscape Water Management Workshop for Professionals	50	Landscape Professionals	City of Encinitas Community Center
March 1, 2011	Landscape Water Management Workshop for Professionals	50	Landscape Professionals	City of Encinitas Community Center
March 8, 2011	Landscape Water Management Workshop for Professionals	50	Landscape Professionals	City of Encinitas Community Center
March 15, 2011	Landscape Water Management Workshop for Professionals	50	Landscape Professionals	Olivenhain Municipal Water District

8.2.10 Educational Brochures

The City has participated with the North County Educational Group to develop many effective educational materials. The handouts and brochures are included in the Carlsbad WURMP Annual Report.

"*Only Rain in the Drain*!" describes the importance of protecting the valuable water resources and the problems that can be caused by storm water pollution. It also provides a list of BMPs to help prevent pollution. The brochure also provides valuable resource numbers: *a direct number for each jurisdiction* is provided, as well as the County's Storm Water Hotline. The City's Public Works Crew and Code Enforcement Officers deliver these every day to the community when small violations are observed. Since these Staff members are out in the

community every day, this has proven to be an effective means of public education. Larger infractions are reported to the Engineering Department or Code Enforcement Department for follow-up.

The door-hanger *"Help!"* provides a method for Staff members to indicate to residents that pollutants were found in their neighborhood. The brochure is in English and Spanish, which is helpful to all residents. It is typically hung on a resident's door, provides a place for business cards and under the cards, (should they become misplaced) the brochure lists a contact number for each jurisdiction. The back of the brochure provides BMPs for vehicle maintenance, car washing, hazardous materials handling, recycling, litter, and sidewalk/driveway debris.

To assist the public in directing their calls for complaints and service, the City operates a 24-hour storm water hotline telephone recording (858) 720-4424. The number is connected directly to the Environmental Program Manager's voice mail (so it can still remain anonymous, if necessary), so that violations can be investigated immediately and the proper action taken *while the violation is occurring*. The City informs the public about the hotline number at City Council meetings, on flyers and handouts, on business cards, and on brochures.

8.2.11 City Newsletter (Shorelines)

Chapter 6 contains information regarding the *Shorelines* newsletter and gives a brief description of the articles included during this reporting period. The articles are available upon request.

8.2.12 Website

The recent upgrade of the environmental portion of the City's website has been explained previously in this Report. The new "Green Flash" has been extremely helpful in getting the word out in an effective and easy to find location. This has been a huge success, as the website is updated constantly with new and pertinent information. The City also has an "eBlast" system that notifies interested citizens on special news and events via email, which has proven to be extremely beneficial and successful in getting out news on all City happenings, including environmental.

8.2.13 Business Community

The City has initiated several methods to educate the business community about storm water pollution prevention.

The City hires a specialized consultant (ECIS) to conduct annual commercial compliance inspections (see Commercial Component). Through the inspections, ECIS educates the business owners about the requirements of the Permit and the City's various storm water programs. Given the City's close proximity to the Pacific Ocean and sensitive lagoons to the north and south, inspectors are able to show a direct link between commercial activities and impact on water quality. Next, after the initial and follow-up inspections are conducted by the consultant, City Staff conducts follow-up enforcement inspections on those businesses still determined to be out of compliance, to ensure that the businesses are using the proper Best Management Practices to protect the City's waterways. These follow-up inspections are often conducted through scheduled meetings with the property owner and/or manager, to ensure the decision makers are present and can be held accountable. Often times, the initial inspections were conducted without prior warning, and various staff members at the facility are held responsible. Just to ensure that the right people are informed of the infractions/violations, follow-up inspections are pre-scheduled.

During this reporting period, *all* businesses that were inspected were deemed in compliance without any citations issued. As reported earlier, not all businesses were in compliance during the first inspection. Some businesses had minor issues (trash lids not closed, grease barrels not covered, etc.), however, the enforcement follow-up inspections revealed that the minor infractions had been corrected and no fines were issued.

8.2.14 Special Events Permit

As reported in previous Annual Reports, the City adopted a Special Events Permit that is required for group events (Triathlons, Block Parties, Birthday Parties, etc.) of over 25 people on public property. A storm water section is included in the Permit, with requirements regarding the event and adhering to all storm water regulations. This has proven to be a great educational tool, as most applicants tend to ask questions about this. It is a great tool to educate the public about storm water regulations. For an example of the Special Events Permit

Conditions of Approval, see Appendix N.

8.3 Pollution Prevention through Education – Regional Activities

The regional activities of the Copermittees of Order 2007-0001 are, for the most part, described in the Regional Unified Annual Report. However, for purposes of completeness, some of the activities that the City has participated in are described in this section of the Report. As mentioned above, the new Permit added significant requirements for regional education, some of which are described below. The City has been in cooperation with the other Copermittees in developing a regional educational program. Implementation of some of these programs did occur during FY 2010/2011 and will be reported on in the Regional Unified Annual Report. The City is actively working with the Regional Copermittee Education group to develop additional programs for implementation during FY 2011/2012.

8.3.1 Regional Monitoring

The City participated with the Copermittees in conducting a region-wide wet-weather monitoring program. Although no mass loading stations were located within the City, one of the testing sites (San Dieguito Lagoon) is a receiving water body from the City's drainage.

The 2010/11 program is described in detail in the Regional Unified Annual Report and in the report issued by the consultant, MEC Analytical. MEC's report will be submitted with the Unified Annual Report, and any data collected will be reported and discussed in that report.

8.3.2 Model Programs

One of the most important regional educational components is the ability the Copermittees have developed to help educate each other. This has been accomplished through routine meetings, sharing of project assignments, and most significantly, the development of model guidelines for the new JURMPs, SUSMPs, and WURMPs. Not only have the model guidelines produced a fairly consistent message to educate the community, the model guidelines have established collaborative working relationships among municipal, county, and state agencies, which is remarkable. In addition, this cooperation has allowed for

relatively consistent program components and requirements, which especially helps the business and construction community. So, if they are doing business in various cities, they will not have to significantly alter their practices to comply with the respective jurisdictions. This is especially relevant in the LID, SUSMP and general BMP programs.

8.3.3 Linking to Regional Resources

The City posts links on its website to the regional Web sites (Project Clean Water and Think Blue). In addition, the City posts information on reporting storm water violations to the City as well as County's Regional Storm Water Hotline on various educational materials. Linking the community together provides continuity, extension of resources, and economies of scale for the community and the agencies, and contributes to a greater understanding that we are all interconnected and can help positively impact water quality. It's important to educate the community that water quality programs should not and do not stop at jurisdictional (or watershed) boundaries.

Through the www.projectcleanwater.org website, San Diego County has been able to link many community members to various storm water/urban runoff related programs of interest. In addition, the website contains information (dates, times, agendas) on meeting's that are open to the public and links to download important documents and reports.

8.4 Pollution Prevention through Education – Watershed Activities

In accordance with the Permit, each municipality is required to participate in the development and implementation of a Watershed Urban Runoff Management Program (WURMP) for each hydrological unit in which the City's jurisdictional boundaries lie. The northern portion (~10%) of the City resides within the Carlsbad Hydrological Unit and the rest of the City resides within the San Dieguito River Hydrological Unit. As such, the City is required to participate in the development and implementation of two WURMPs addressing the runoff concerns of each watershed.

During this reporting period, the City actively participated in the development and implementation of the Carlsbad and San Dieguito WURMPs, in compliance with Permit Order No. 2007-0001. The WURMP Annual Reports will be submitted in

January 2012, and will detail all the activities and programs being implemented by the respective Copermittees to address watershed issues.

In short, each WURMP contains the following 1) a time schedule for developing a comprehensive map of the entire Watershed including all land uses, the storm drain systems, and inventories of all commercial, construction, industrial, municipal and residential areas, 2) a plan to ascertain the types of pollutants that exist in the water bodies throughout the watershed and a prioritization schedule to eliminate the pollutants; 3) a program to educate the entire community about issues related to urban runoff; 4) methods to provide the community opportunities to participate in the program; 5) plans to collaborate with Copermittee agencies to strategize, review and analyze information; and 6) an effective program effectiveness strategy and methods to conduct annual evaluations. A significant addition to the responsibilities of all WURMPs is the requirement to actively implement two (2) activities each year aimed at sources to reduce high priority pollutant loading into local waterways. This will be described in greater detail in the WURMP Annual Reports (submitted in January), but mention of it here in the JURMP is appropriate.

The City has been actively involved in the implementation of both WURMPs, and has brought materials developed in each WURMP to the community (business and residents) of Solana Beach. The Carlsbad and San Dieguito WURMP workgroups have been extremely effective in implementing the requirements of the Permit. For more information on the particular activities in each WURMP, please refer to the City's individual WURMPs Annual Reports that will be submitted in January 2011.

Both of the WURMPs the City is involved with have contracted with the same consultant to assist in the development and implementation of the program requirements. This has also helped to bring consistency and continuity to the residents of Solana Beach. Although there are slight differences in the watersheds, such as the land uses and COCs, the City is able to make the implementation of the general programs more effective by having the same consultant.

8.5 New Activities and Improvements for FY 11/12

The City will continue to educate the community through participation in the

Carlsbad WURMP, the San Dieguito WURMP group, the Regional Education Group, the City's new Green Flash environmental web portal, brochures, flyers, the *Shorelines*, and community/regional events. The City will also use the results from its DWMP to inform residents in areas that the data showed elevated levels of constituents of concern or pollutants that degrade the quality of water. The City plans to develop additional educational brochures (collectively with the region) that will be industry specific. As a result of the 13267 Directive Letter, the Copermittees have changed their approach to watershed issues and plan on taking a more direct approach in implementing activities that address specific pollutants of concern and their respective sources within the watershed. Following the direction of the RWQCB, the watersheds have changed their approach to integrate more pollutant based activities in an attempt to reduce COCs in the watershed and improve water quality. This appears to be the direction the RWQCB wants to go and the Copermittees are eager to work with the RWQCB to improve the water quality throughout the region.

The City also incorporates education to school children through its relationships with the Solana Center and the Kids Korps non-profit organizations. As mentioned above, the City indirectly contracts out the Solana Center to give *free* classroom presentations to local schools. These presentations are paid for through the City's waste hauler contracts. City Staff will be more proactive in its efforts to get more presentations in the schools during FY 2011/2012. It has been an ongoing struggle to get into the schools with the demanding curriculum of the Solana Beach School District. However, City Staff has begun to meet regularly with the local School Districts on many issues, and Staff has made it a priority to get environmental issues included along with the standard discussions such as traffic safety, neighborhood sensitivity and children safety. These meetings have occurred on a quarterly basis and will continue to do so in the future. It is the City's intent to use this platform to get more storm water education into the schools.

8.6 Summary

The City has been successful at implementing a jurisdictional and watershed based educational program. With the adoption of the new Permit, a renewed focus has been placed on a large scale regional education program, in which the City has been actively involved with during this reporting period. A new regional education working group has been established by the Copermittees to develop a

consistent, region-wide program, and the City of Solana Beach has been actively involved. This first step has already been accomplished, with the region adopting the "Think Blue" program developed by the City of San Diego. This gives the region a known brand of which to build a successful educational program. The details of this regional program will be described in detail in the Regional Unified Annual Report.

On a jurisdictional level, the City is confident that with its strong messages, meaningful content and integrated programs, the community has become more knowledgeable about pollution prevention methods.

As mentioned above, the City plans to utilize the educational materials developed by the watershed and regional groups, as it has been agreed upon that a consistent message should be implemented whenever possible. However, much like the differences in the watersheds throughout San Diego County, there are slight differences in how individual cities implement and enforce certain components of the Permit. Therefore, it will always be necessary to develop some jurisdictionally specific educational materials for the benefit of the community. The types of jurisdictional educational information/activities are described throughout this Report, but a few examples include:

- BMP specific guidelines for unique construction projects, such as the Underground Utility Program (undergrounding power poles) and the Trench Resurfacing Program.

- The "Construction Site Supervision in Solana Beach: Code Requirements and Good Neighbor Practices"

- Construction and Demolition (C&D) Debris Recycling Guide

- Classroom Presentations

- Summer Camp Presentations

- Marine Safety Presentations

- Water Conservation, Landscape Workshops

- Unique partnerships with public and private entities such as Solana Center, Kids Korps and ReRip to provide educational opportunities for the underserved population

CHAPTER 9
Public Participation Component

CHAPTER 9: PUBLIC PARTICIPATION COMPONENT

9.1 Introduction

In accordance with Permit Section D.6, this section of the report describes the City's efforts to develop mechanisms for public participation in the implementation of the JURMP and obtain the committed participation from the community. Public participation comes in two forms; participation in implementing the program and the necessary public feedback for improving the program.

In each Annual Report to the RWQCB, this section will include modifications to the City's plans to provide opportunities in which the public can participate. In addition, this section of the Annual Report will describe the City's efforts to encourage public participation during the reporting period. Also, a summary of activities conducted post-reporting period may be included if the activity is deemed essential to understanding the City's efforts at reducing urban runoff or Permit compliance.

Prior to the implementation of the original JURMP (February 2002), the City did not have a specific "public participation program." However, many members of the community have taken an active role in environmental issues over the years, which is most likely due to the City's proximity to the ocean and lagoons. As a result, the City was the first city in San Diego County to have curbside recycling and a smoking ban at the beaches and parks. The City has also been proactive in its approach to urban runoff and pollutant mitigation and reduction, by implementing a strict Municipal Code regarding Storm Water Management (adopted in 1993) and Grading and Excavation regulations to prevent erosion during construction.

As a result of Order 2001-01 (Permit), the City was required to design a specific program to ensure that the public had ample opportunities to learn about controlling urban runoff and assist the City in "spreading-the-word." The new Permit Order No. 2007-0001 further emphasizes the necessity of a strong public participation program.

The Public Participation Component is closely related to the Educational

Component. However, while the educational program describes activities the City engaged in to educate the public, public participation will describe activities the public engaged in (or were provided an opportunity to do so).

During this reporting period, the City began the implementation of the comprehensive Public Participation Component for the new JURMP (Section 11). The programs included activities that complemented the educational program with a goal of providing opportunities to ensure that residents, business owners, and those who do business (such as contractors) within the City, have an opportunity to learn about the negative impacts of urban runoff, understand the City's regulations relating to protecting the environment, and participate in the development of storm water program involving the community. The City developed the program based on the requirements of the Permit(s) and continued implementation during this reporting period.

9.1.1 Chapter Content

It is important that the reader understand that much of the public participation program is integrated into other program components and as such, much of the information within this chapter has been presented elsewhere in this report. However, to provide consistency in reporting, to ensure Permit compliance, and to present stand-alone chapters in this report, this section will include all opportunities for public participation, even if those same events were described in other chapters. However, for purposes of reducing redundancy, some events may be summarized in this chapter with a reference to other chapters for details.

9.2 Community Events

The following list gives a brief description of each community event that Staff coordinated and provided storm water education to the community.

9.2.1 Fiesta Del Sol

The City of Solana Beach hosts an annual block party called Fiesta de Sol. Each year at the block party the City has a booth promoting no dumping or littering and keeping our beaches clean. The event was held on June 4th and 5th, 2011 (Appendix O). The City also passes out "*Only Rain in the Drain*" brochures and talks with residents about the importance of protecting the water resources.

Solana Center hosts a booth through the City of Solana Beach and promotes environmental stewardship, including used oil recycling and HHW information. Approximately 60,000 people attended the event this year and City staff handed out storm water educational brochures and doggie-bag dispensers to those that visited the City booth.

The City's Clean and Green Team, consisting of environmentally conscientious members of the community, also shared the booth with City Staff. They distributed information regarding climate change, energy conservation and water quality. Since this is such a hot topic this year, it attracted many more people to the City booth than in previous years. City Staff took this opportunity to educate more people regarding the storm water regulations.

As mentioned in the previous chapter, the event this year included an area called the "Green Alley." This area was dedicated to all things sustainable, and included vendors and games focused on environmental sustainability. This was by far the most popular area, and the event organizers plan to include it in future years.

9.2.2 Beach Clean Up Opportunities

During this reporting period, San Diego Coastkeeper and the nonprofit group I Love A Clean San Diego (ILACSD) hosted the 26th Annual California Coastal Cleanup Day on September 25, 2010. The City hosted two locations, one at Fletcher Cove to clean the beach, and another at San Elijo Lagoon to clean up the lagoon. This provided opportunities for the public to come out and help keep the lagoons and beaches clean, while also educating them on cigarette butt pollution and water quality concerns. The results of this event are included earlier in this Report.

9.2.3 Adopt-A-Beach Program

The City works collaboratively with I Love A Clean San Diego in the Adopt-A-Beach Program. The Program consists of local businesses and/or community groups sponsoring a beach and agreeing to clean up the beach at least 3 times a year (1 time for schools). The City thought this was a great idea and extremely beneficial to the community. Four (4) beaches (Tide Beach Park, Fletcher Cove, Del Mar Shores and Seascape Sur are all "adopted" and are cleaned at least three times a year. The signs are updated each year with new "adoptees" and

City Staff installs the new placards on the signs. This has been a very positive experience, as the City's beaches are each cleaned three times a year, resulting in at least 12 beach cleanups per year, in addition to the annual Beach Clean-Up Day.

9.2.4 Beach Blanket Movie Night

As mentioned in the previous Chapter, the City's Parks and Recreation Commission puts on a free community event called the Beach Blanket Movie Night. This event consists of placing a large movie screen at Fletcher Cove Park and showing environmentally themed movies for the community to enjoy. City Staff took this opportunity to distribute storm water educational materials, promote recycling efforts and distribute doggie-bag dispensers to members of the community. Additionally, Solana Center attended and handed out educational material to the community as well, including the Enviroscape model. This has turned into one of the most successful community events and is based around environmental themes. The City's "environmental booth" is the only booth allowed at this event, as the organizers recognize the importance of educating the community on environmental awareness. This is a great opportunity for the City to promote its programs as it has the community's undivided attention. This year's event was held on August 28, 2010.

9.2.6 Paws in the Park

"Paws in the Park" is an annual event put on by the City at the La Colonia Community Park. This community event is very well attended and the City has a booth to showcase the City's environmental programs. At this year's event, held March 20th, 2011, City Staff took advantage of the pet event to promote the importance of picking up after your pet and distributed customized "Bags on Board" doggie-bag dispensers. These items are a huge success because the event targets the pet community, those most likely to have the potential to release bacteria into the environment. The dispensers had the City logo on it and the slogan, "The City of Solana Beach Reminds You To Please Pick Up After Your Pet." In addition, the City distributed specialized educational information regarding pet waste and the harmful effects it can have on the environment. This is an annual event and the City will continue its environmental education campaign every year.

9.2.7 Green Fair

The City held its 3rd Annual Green Fair on March 26th, 2011 at Fletcher Cove Park. The City, along with the community volunteer group the Clean and Green Team hosted the third annual Green Fair that consisted of vendors, food, music and demonstrations. The vendors were all local sustainability businesses and the demonstrations consisted of a bicycle safety course conducted by the Sheriff's Department and an alternative vehicle showcase to demonstrate alternative modes of transportation to the community. The event has grown rapidly and had over 30 booths, with approximately 500 people coming throughout the day. It was a widely successful event, and the City will continue to host a Green Fair every March.

In addition to the Green Fair, the City has officially declared March as "Sustainability Month." The City hosts activities throughout the month, many of which incorporate storm water issues because water quality is a major concern for the community. The City hosted four lectures, one each Tuesday night in the Council Chambers, all free of charge and with different environmental themes. The Sustainability Month has been so successful with the community, the City plans to make it a tradition. This shows the level of environmental support held throughout the community.

9.3 City Council Meetings

The Solana Beach City Council meetings are televised, which provides an excellent opportunity for the public to participate in local government. In addition, the City's Agenda is published online (available on its website), which provides the public an opportunity to readily access the upcoming Council reports.

Another highly successful educational opportunity is the implementation of scrolling messages during televised City Council Meetings. Staff has taken advantage of this new tool to place storm water messages and notifications for upcoming presentations, events, etc. This has proved very valuable and will continue to be utilized by City staff when appropriate.

9.4 Copermittee Meetings

Most Copermittee meetings are open to the public and provide an opportunity to

participate in the process of developing the regional and local programs. All Copermittee meeting dates are available on the Project Clean Water Web site (projectcleanwater.org) and the City's website also links to the regional sites.

9.5 Collaborative Community Partnerships

The City has developed collaborative partnerships with various local organizations, which provide the public an opportunity to participate in improving water quality and/or the City's storm water program.

The City works closely with the Solana Center, which provides instruction to local school children on the harmful effects of pollution, the positive impacts of pollution prevention and the need to keep pollution out of the City's storm drains. Solana Center is contracted by the City's waste haulers through their exclusive Franchise Agreements. Solana Center also provides the following services for the City:

Referral Phone Calls: Solana Center staff provides recycling telephone referral services for residents of the cities of Encinitas, Del Mar and Solana Beach. Solana Center staff spent time educating the community about CRV updates, composting information, and how they easily incorporate recycling activities into their daily lifestyle. Community phone inquiries included:

- The locations of local recycling centers and hours of operation.
- Redemption values of materials.
- Basic information of what materials can be or cannot be recycled in curbside recycling programs.
- General recycling information for commercial businesses.
- Services on commercial recycling carts.
- RotLine – Answering community questions regarding composting and vermicomposting.

Less Toxic Yard and Garden Workshops:
Solana Center staff conducts presentations throughout the community on

alternative gardening tips that reduce the use of pesticides and herbicides. These workshops also promote the benefits of composting, further reducing the amount of trash generated and shipped to landfills as well as reducing the need for harmful chemicals/fertilizers.

Table 9-1 Community Outreach Events

Event Dates	Name of Event(s)	Attendance at Event(s)	Description and Summary of Event(s)
August 28, 2010	Beach Blanket Movie Night	1,000	Annual event put on by the City's Parks and Recreation Commission to provide a free night of environmentally themed movies. Educational materials were distributed at event.
September 25, 2010	Coastal Cleanup Event	300	City hosted two locations where the community could help clean up the San Elijo Lagoon and the beaches. City also distributed storm water educational brochures at the sign up table.
March 20, 2011	Paws in the Park	500	Annual event put on by the City's Parks and Recreation Commission for pet education and games. Educational materials were distributed at event.
March 26, 2011	Green Fair	500	Annual event put on by the City consisting of local sustainability vendors. The City provides music, food, bike demonstrations; alternative vehicle showcases and highlights the City sustainability programs.
June 4 and 5, 2011	Fiesta Del Sol	60,000	Annual event for the City of Solana Beach. Recycling services were coordinated in conjunction with Waste Management and EDCO Disposal Inc. Solana Center also provided education on used oil recycling, HHW and watershed presentations,

Table 9-2 California Friendly Landscape Classes

Date of Event(s)	Event Title	Estimated Audience	Specific Audience	Location
September 11, 2010	Water Saving Landscape Training	70	Residents	Rancho Santa Fe Garden Club
February 22, 2011	Landscape Water Management Workshop for Professionals	50	Landscape Professionals	City of Encinitas Community Center
March 1, 2011	Landscape Water Management Workshop for Professionals	50	Landscape Professionals	City of Encinitas Community Center
March 8, 2011	Landscape Water Management Workshop for Professionals	50	Landscape Professionals	City of Encinitas Community Center
March 15, 2011	Landscape Water Management Workshop for Professionals	50	Landscape Professionals	Olivenhain Municipal Water District

The above workshops are conducted by the City's private water company Santa Fe Irrigation District (SFID) in conjunction with the City. The City promotes the workshops to the community and directly to the landscaping contractors known throughout the community. All classes are taught in English and Spanish, and the classes taught in Rancho Santa Fe are promoted to Solana Beach residents/businesses as well. The City requires the municipal landscaping contract company to attend the workshops for educational purposes. This shows another great collaborative success between the City and its private water company.

There is a great relationship between the two entities which extends beyond these workshops. The City and SFID work together to combat residential over-watering and ensure daily tasks and repair work are conducted in compliance with the Permit. In addition, pre-construction meetings for CIP projects include SFID and storm water issues are discussed. The City and SFID are committed to working together and maintaining this great working relationship since most of the work conducted by SFID (trenching, pipe laying, water testing) are all done

within the City limits.

Shorelines Newsletter:

The Solana Center writes regular articles for the City of Solana Beach on a wide range of topics, including E-waste, recycling, composting and buying recycled products. The topic is coordinated between the City's Assistant Civil Engineer and the Executive Director of the Solana Center. The articles are included in the Appendices and described in more detail in other sections of this Report.

9.5.1 Solana Beach Clean and Green Community Committee

As mentioned in last year's Annual Report, the City brought together active and willing community volunteers to form the Solana Beach Clean and Green Team (Team). This Team was formed to discuss pertinent local environmental issues and develop programs to bring to City Council for implementation. City Staff meets monthly with the group to discuss the City's environmental programs and to brainstorm activities that would benefit the community as a whole. The group has evolved from a few interested residents to a steady group of about 20 members from the residential and business sector of the community. The group has assisted in the development of the following programs:

- Construction and Demolition Debris Recycling Ordinance
- Plastic Bag Advertising Ban Ordinance
- Plastic Bag Recycling program
- "Green Flash" Website
- Green Building Incentive Program
- Greenhouse Gas Baseline Emissions Inventory

The group is currently working on the following items:

- Green Business Program Over-Irrigation Reduction Program

- Solar Financing District
- Climate Action Plan
- Opposition to Prop 23
- Making the City a Bike-Friendly Community

The Team is also heavily involved in the water quality activities of the City and the NPDES program. The Team attends all community events and disseminates educational materials. This group has been extremely valuable and provides a direct link to the community, both residential and commercial. It allows all community members the opportunity to participate in City government.

9.6 Other Opportunities

9.6.1 City Storm Water Hotline

The City operates a storm water hotline, (858-720-4424) which is dependent on public participation to report suspected violations of IC/IDs and to inquire about workshop information or other storm water-related needs. The hotline provides 24/7/365 access to the public so that they can report potential violations and/or call for information as soon as they are thinking about it, rather than having to wait for normal business hours. The hotline is sent directly to the Environmental Program Manager's voice mail (it can still be anonymous) to ensure quicker and more efficient response to the public inquiries, as well as providing an outlet for the public to discuss issues directly with City Staff.

9.6.2 Website

As reported previously in this Report, the City developed a more comprehensive environmental web portal on the City's website. The new page is titled "Green Flash" and encompasses all of the City's environmental sustainability programs. Water quality and the City's NPDES programs are prominent and have been expanded as a result of this new web portal. This shows the City's proactive approach to engaging the public and keeping them educated on the new environmental programs throughout the City as well as providing links to relevant web pages.

9.6.3 Local Media

As described in detail in Chapter 8, the City utilized the local media to inform and educate the public. Although this is not a public-participation activity, the information provided in the articles describes the ways in which the public can get involved, if they so choose. The City has a great working relationship with the local newspapers (Solana Beach Sun and Coast News) and has many articles published with environmental themes, including storm water related issues.

The City also published several articles in the *Shorelines* Newsletter (described in Chapter 9) inviting the public to get involved, providing details on how they can participate in protecting the region's water resources.

The City also has a contracted media relations consultant with ties to the major media outlets. This consultant is brought in on the City's major events to help promote the events and activities to a much larger audience. This is not done for every event in the community; however it is important to note that this service is available when appropriate.

9.7 New Activities and Improvements for FY 11/12

The City will continue to implement the elements of the public participation component as described in the City's JURMP. The focus will be on expanding the collaborative partnerships to include more frequent opportunities for public involvement (clean up days, events, etc.). Staff will continue to look for more opportunities to work with neighboring cities to host pollution prevention community events through its watershed programs (ex., large-scale HHW event). Additionally, the City is working with the other Copermittees to potentially conduct additional large scale community educational events.

With the adoption of the new Permit, there is an added emphasis on developing a Regional Educational Program. This has been a main focus for the Copermittees during this reporting period. Copermittees are expected to implement a comprehensive regional program that will provide a consistent message to the entire region. As most of the new programs are geared towards improved watershed programs, this is one key area that was identified as a Regional program. Copermittees have already begun developing activities through the Regional workgroup, such as the mobile business education

campaign. These programs will continue to be developed and implemented throughout the five year cycle of the new Permit. For more details on the activities the Copermittees have implemented during FY 10/11, please see the Regional Unified Annual Report.

9.8 Summary

The City has been successful at implementing numerous methods to encourage public participation. The City makes every effort to encourage the public to participate in improving water quality, recognizing that it's up to all of us.

Key opportunities for public participation included the following:

- Regional Copermittee Outreach Events
- Fiesta Del Sol
- Coastal Clean Up Day
- Regional Workshops
- City Council Meetings
- Copermittee Meetings
- Collaborative community partnerships (SFID, Solana Center, Kids Korps)
- Contacts through the City's Storm water hotline, City website
- Beach Blanket Movie Night
- San Diego County Fair
- San Elijo Lagoon Day
- Paws In The Park Community Event
- Formation of the Clean and Green Community Committee
- Annual Green Fair

CHAPTER 10
Fiscal Analysis Component

CHAPTER 10: FISCAL ANALYSIS

10.1 Introduction

In accordance with Permit Section J.1 (k), this section of the report describes the resources that the City utilizes to finance the various components of the storm water program. Effective programs require adequate funding to implement planned activities. The fiscal analysis will evaluate the expenditures necessary to accomplish the activities of the City's program.

The Standardized Fiscal Analysis Method and Format (Fiscal Analysis Method) was collaboratively developed and adopted by the Copermittees in January 2009 in accordance with sections G, J.1.a(3)(k) and J.1.c(1)(d) of NPDES Order No. R9-2007-0001. The Fiscal Analysis Method document was submitted to the San Diego RWQCB by January 31, 2009, as Attachment 1 of the Regional Urban Runoff Management Plan (RURMP) Annual Report for 2008-2009. As a result, the City of Solana Beach is utilizing the format and guidelines described in the Fiscal Analysis Method for this reporting period.

10.2 General Budget Information

The City's Budget for FY 10/11 was presented to the Solana Beach City Council and approved at a public hearing held on June 23, 2010. During FY 10/11, the City continued to face the challenge of maintaining and preserving its great community character while at the same time providing for long-term fiscal sustainability during the severe and prolonged economic downturn. Under the direction of City Council to cut expenditures as a result of reduced revenues, Departments enacted budget cuts in materials, supplies, and services in FY 10/11.

The City's NPDES program is primarily implemented by the Public Works Department's Environmental Services. Environmental Services is responsible for the coordination of all storm water related tasks. Therefore, the majority of the reported projected expenditures included in this section are part of the Environmental Services Program's FY 10/11 budget, which is approximately 7% of the total FY 10/11 Public Works Department budget.

10.3 Fiscal Analysis Methods

The City of Solana Beach utilized the format and guidelines included in the Fiscal Analysis Method for reporting purposes; however, there were a few adjustments made due to how the City of Solana Beach tracks expenditures. These adjustments are described in the relevant sections below.

10.4 Fiscal Analysis Results

The City's FY 10/11 jurisdictional (JURMP), watershed, (WURMP), and regional (RURMP) projected expenditures for the implementation of the Municipal Permit requirements are summarized in the table below.

FY 10/11 Projected Expenditures	
Jurisdictional Component	
Administration	56,052
Development Planning	13,295
Construction	27,355
Municipal (including Non-Fire Fighting Flows)	136,370
Industrial and Commercial	12,350
Residential, Education, and Public Participation	34,950
IDDE	57,350
Jurisdictional Total	**337,722**
Watershed Component	
Carlsbad Watershed	14,790
San Dieguito Watershed	14,790
Watershed Total	**29,580**
Regional Component	
Total Copermittee Cost Share for the City of Solana Beach (including regional and special investigations monitoring costs)	25,148
Additional Regional Costs	5,290
Regional Total	**30,438**
Total Costs	**$397,740**

10.4.1 JURMP Expenditures

The City utilized the expenditure categories detailed in the Fiscal Analysis Method for jurisdictional reporting. However, due to the implementation overlap of some of the City's municipal permit components; it is difficult to separate out individual component costs. As a result, the expenditures for residential, education, and public participation are reported as one expenditure category.

Additionally, since the City does not explicitly track expenditures by municipal permit component for its budgeting purposes, in many cases estimated percentages were utilized to allocate expenditures into the appropriate municipal permit component categories.

A total of $337,722 was projected to be expended in FY 10/11 for the implementation of JURMP activities. An overview of the expenditures reflected in JURMP activity components is described below.

10.4.1.1 Administration

Activities identified in this component represent labor and non-labor expenditures for materials, supplies, equipment, or tools that are not otherwise incorporated into other expenditure categories, general administrative functions (e.g., program planning, budgeting, staff supervision), and program assessment and reporting.

10.4.1.2 Development Planning

Activities identified in this component represent labor and non-labor expenditures related to issuance or oversight of permits or of plans (e.g., permit counter support, plan checks, permit or application processing), project planning and engineering (e.g. project design specifications, capital improvement projects).

10.4.1.3 Construction

Activities identified in this component represent labor and non-labor expenditures related to construction site inspections and enforcement.

10.4.1.4 Municipal

Activities identified in this component represent labor and non-labor expenditures related to maintenance inspections of streets, roads, catch basins and inlets, open channels, and the MS4, municipal facility inspections, street and parking lot sweeping, catch basins and inlets, open channels, and MS4 cleaning, and municipal BMP implementation. Additionally, this category includes the expenditures for non-emergency fire-fighting flows.

10.4.1.5 Industrial and Commercial

Activities identified in this component represent labor and non-labor expenditures related to evaluation and enforcement of program requirements at industrial and

commercial sites or sources (e.g. routine inspections and complaint investigations).

10.4.1.6 Residential, Education, and Public Participation

Activities identified in these components represent labor and non-labor expenditures related to investigation and enforcement of residential areas or activities, staffing outreach events, development and production of outreach materials, and any expenditures associated with waste collection and recycling (e.g. HHW, used oil).

10.4.1.7 Illicit Discharge Detection and Elimination

Activities identified in this component represent labor and non-labor expenditures related to the identification and elimination of illicit discharges or connections, enforcing the City's storm water ordinance, and any expenditures related to monitoring programs (e.g. Dry weather monitoring, coastal storm drain monitoring, field or sampling equipment, materials and supplies).

10.4.1.8 WURMP Expenditures

The City utilized the expenditure categories (administration, watershed activities, cost share contribution, and other) detailed in the Fiscal Analysis Method for watershed reporting. The watershed expenditures included in this report only capture City of Solana Beach expenditures and do not account for any expenditure disbursed by other Copermittees included in the watershed(s).
A total of $29,580 was projected to be expended in FY 10/11 for the implementation of WURMP activities. The amount also includes costs for the implementation of applicable TMDLs (Revised Project I – Twenty Beaches and Creeks in San Diego Region development and San Elijo Lagoon TMDL investigation).

10.4.1.9 RURMP Expenditures

The City utilized the expenditure categories (administration, cost share contribution, regional activities, and other) detailed in the Fiscal Analysis Method for regional reporting. The regional expenditures included in this report only capture City of Solana Beach expenditures and do not account for any expenditure disbursed by other Copermittees in the region.
A total of $30,438 was projected to be expended in FY 10/11 for the implementation of RURMP activities.

10.5 Funding Sources

The City primarily finances its Storm Water Management Department via revenues from an NPDES solid waste fee that was initiated in 2004. The City went through a long, arduous process to establish a long-term funding source to ensure the program would be sufficiently financed from 2004 through 2007. The City was sued by the Howard Jarvis Taxpayer's Association (HJTA), and the fee was put to a vote of the community. In September 2007, property owners in Solana Beach voted in favor of the fee which ultimately results in the City having a funding source to maintain, enhance, and ensure the long-term future of the NPDES program at the City. For more information on the City's NPDES Solid Waste Fee, please see the City's website at http://www.cityofsolanabeach.org

The City also utilizes the General Fund to assist in supporting some elements of the City's NPDES program. The General Fund is supported by major revenue sources that include property tax, the local portion of the sales tax and use tax, transient occupancy tax.

CHAPTER 11
Effectiveness Assessment Component

CHAPTER 11: EFFECTIVENESS ASSESSMENT COMPONENT

11.1 Introduction

In accordance with Section J.3. (l) of the Permit, each Copermittee is required to develop a long-term strategy for assessing the effectiveness of the various components of its Jurisdictional and Watershed Urban Runoff Management Programs (URMPs). The City will perform an annual effectiveness assessment to specifically assess:

- Each significant jurisdictional activity/BMP or type of jurisdictional activity/BMP implemented;
- Implementation of each major component of the JURMP (Development Planning, Construction, Municipal, Industrial/Commercial, Residential, Illicit Discharge Detection and Elimination and Education); and
- Implementation of the JURMP as a whole

During this reporting period, the City has continued implementation of all components of the Permit. This section will assess the effectiveness of the JURMP, and discuss all strengths and weaknesses of the City's program. Since the City's JURMP was submitted in March 2008, this Report will be the third full year of implementation and it will be difficult to effectively assess the new programs. Most of the new programs are still in the early stages of implementation, therefore this section will report on any significant results from the programs implemented under the old Permit Order No. 2001-01 and any programs that have been developed and implemented during the third full year under Permit Order No 2007-0001.

11.2 "A Framework for Assessing the Effectiveness of Jurisdictional Urban Runoff Management Programs"

The Copermittees developed an assessment document titled, "A Framework for Assessing the Effectiveness of Jurisdictional Urban Runoff Management Programs." This document was prepared after discussions with the RWQCB in which the Board stated that the Copermittees needed a better method to assess

the effectiveness of the JURMP. This document was approved by the RWQCB and will be used to assess all future programs, or until another method is agreed upon. The document addresses six levels of assessment:

1. Compliance with Activity-Based Permit Requirements
2. Changes in Knowledge/Awareness
3. Behavioral Changes
4. Load Reductions
5. Changes in Discharge Quality
6. Changes in Receiving Water Quality

The levels of assessment have been combined into three rather than six categories for this reporting period because it is easier to assess the programs when they are combined into these three categories. Level 1 includes modified assessment tables from the JURMP. Level 2 and 3 are combined and discuss the program strengths (accomplishments and outcomes) for each component. Level 4, Load Reductions, is still being assessed as to the proper way to address this (possibly TMDLs) and so is only briefly discussed, and Level 5 and 6 are combined to attempt presenting a water quality assessment.

The strategy uses both quantitative and qualitative measures of program effectiveness.

In addition, during the development of the WURMPs, the cities worked tirelessly to develop a meaningful method to assess *that* program for its impact on water quality – not just whether or not the program components were implemented, but more importantly, the ability to find a way to measure the link between activities and improved water quality, if it exists.

The WURMP program effectiveness strategy incorporated all of the elements of a meaningful method to assess impact, incorporated public comments, collaborative writing, thinking and designing, and in the end, is a good start to learn how to meaningfully determine the value of the storm water program

activities. The City anticipates that over time, the results of a well-thought-out meaningful assessment will provide the region important information from which program activities can be designed and modified, rather than implementing program activities and hoping the activities have the expected impact. The individual WURMP program assessments can be found in the upcoming WURMP Annual Report submittals (January 2012).

11.3 Level 1: Compliance with Activity-Based Permit Requirements

A table that summarizes the activities tracked by City Staff, which demonstrates compliance with the requirements of the Permit, can be found in Appendix P. Additionally, narratives explaining the City's efforts regarding compliance can be found in the individual components of this Annual Report.

11.4 Levels 2&3: Changes in Knowledge/Awareness and Behavioral Changes

This section is broken up into each component of the JURMP and presents a summary of the changes in knowledge/awareness and behavioral changes. Each section discusses the accomplishments for the component and discusses future improvements.

11.4.1 Municipal Component

Program Strengths: During this reporting period, City staff again inspected *all 309 of the City's catch basins* and 15 unimproved channels and cleaned every one that appeared to have trash or sediment accumulated in the basins. Public Works Staff cleaned 26 catch basins and removed approximately 5 cubic yards of material from its storm drain system. The City also manages an active Beach Cleaning Schedule and maintains several different permanent BMPs throughout the City (the most significant structural BMPs being the bioswale located at La Colonia Community Center, the Low-Flow Diverter, CDS Unit and Sand Trap at Fletcher Cove and the CDS Unit at the north end of North Cedros).

For a discussion regarding the qualitative accomplishments of the City's Municipal Component (major accomplishments, educational and outreach activities, new activities or improvements to be implemented next year) see Chapter 2 of this report.

Table 11-1 Municipal Inspections

Activity	Quantity	Units	Comments
Number of high priority municipal facilities (*buildings*)	1	n/a	Inspected high priority facility (PW Yard) weekly at Engineering Safety Meeting held at Public Works Yard. Annual inspection conducted on 6/18/10 and facility also inspected prior to rainy season. See Chapter 2 of this Report.
Number of high priority municipal facilities (*parking lots*)	6	n/a	Visually Inspected weekly by PW staff. Cleaned monthly by street sweeper. See Chapter 2 of this Report.
Number of high priority municipal facilities (*other*)	3	n/a	One park (inspected 6/18/10), all city streets and roads (daily), and the MS4 (annually).
Number of high priority municipal facilities targeted for inspection (buildings and parking lots)	10	n/a	See above.
Number of high priority municipal facilities inspected	10	n/a	The Public Works Yard and all parking lots.
Number of medium and low priority municipal facilities inspected	5	n/a	Fire Department, Marine Safety Center, Fletcher Cove Community Center, City Hall and La Colonia Community Center inspected annually. All inspections occurred on 6/18/10.
Quantity of material removed from MS4 and beach	5	Cubic Yards	This is the amount of material the City collected from its annual cleaning of the MS4 and the beach. All 309 catch basins and 15 unimproved channels were inspected, 26 catch basins were cleaned, which was 100% of the catch basins that had accumulated trash/debris inside.
Quantity of debris removed that had potential to enter MS4 (i.e. street sweeping, litter removal)	212	Cubic yards	This information provided by daily reports from street sweeping contractor.

The City's Public Works Crew is immensely knowledgeable when it comes to storm water issues. Since the crew consists of only five people, it is very easy to educate them on an ongoing basis. They are all very aware and conscientious of the storm water regulations and are eager to report any violations in the field to

the appropriate staff. The Public Works Crew is a vital part of the Storm Water Team, because they are always out in the field, and they have become the eyes and ears of the program. They have weekly tailgate meetings with the City Engineer and City Inspector at the Public Works Yard where they discuss, among other things, the storm water regulations and visually inspect the Yard.

The amount of cooperation between the various City departments has proven to be very successful, with each department willing to implement the storm water regulations into their daily activities.

As reported in last year's Annual Report, one of the improvement areas for this component would be to conduct more department specific educational presentations. The City accomplished this goal, but it will continue to be a high priority activity. This has proven to be very successful and is highly encouraged by the Department Directors. It is anticipated with the continued development and implementation of the new Permit requirements that more education of City Staff will be required. This will most likely occur with more department specific presentations to detail any changes or additions to department specific activities required in the Permit.

The Assistant Civil Engineer will analyze the new requirements and develop appropriate presentations to City Staff, and will report on these in next year's Annual Report.

Additionally, as a result of the RWQCBs response letter to FY 03/04 Annual Report, the City now calculates and tracks the total amount of material collected by their street sweeping activities. This initially was a difficult task, as the City contracts out the street sweeping to a private company, but after some discussions with both the RWQCB staff and the contractor, a solution was worked out. The amount of material collected is now documented weekly by the street sweeper, and is verified by the City's Public Works Crew. This information is reported in this Annual Report and will be documented in the years to follow to see if a trend can be verified to assess the effectiveness of the program. Additionally, as reported in last year's Annual Report, City Staff ensured that the new street sweeping contract contained language that mandates that this activity is done on a continuous basis. So far, the activity has been very successful as data that is quantifiable is now collected and will be useful in load reduction calculations in the future (as enough data is collected).

Improvement Areas: City Staff is confident that all aspects of the Municipal Component are being adequately addressed, although they realize that things could always be improved. Some improvement areas may be additional educational sessions with City Staff, to reinforce the importance of the Permit and how it affects their everyday activities (especially with the adoption of the new Permit). Increased inspections on Municipal facilities may be conducted to ensure compliance at all times. And finally, more detailed investigations into the "problem" catch basins, if any, which may require cleaning every year. If any of these catch basins exist, then a more aggressive litter/trash campaign may be conducted to nearby residences or businesses in hopes of a load reduction in the catch basin. Additionally, the Assistant Civil Engineer will commit to ensuring all new employees are educated as soon as they start employment. This will help them in adjusting their daily activities immediately to comply with the requirements of the Permit.

One important action that occurred during last year's reporting period mentioning is the adoption of a strengthened litter reduction ordinance. Ordinance 419 was adopted by City Council on September 8, 2010 and, among other things, required commercial businesses to develop and implement a Litter Reduction Program for their property. The ordinance required, at a minimum, that all commercial businesses visually inspect at least 200 feet around each business property at least once per day and to clean up any litter or debris identified. This is a significant new litter reduction program that will have a major impact on the City's storm water program. This will be discussed in more detail in next year's Annual Report.

In addition, as reported in the previous Annual Report, the City adopted a Leaf Blower Ban in July 2009 (Appendix Q). This ban was enacted to prevent organic debris from being blown all over the City and into the storm drain conveyance system. Staff noticed that landscapers would use these blowers to push the organic matter off of the property they were maintaining and into the streets, gutters or sidewalks, where it would eventually end up in the storm drains. This has a major impact on the City water quality, so the City Council voted unanimously to ban gas powered leaf blowers in the City. The ban does not go into effect until January 1, 2011 as the City Council wanted to give the community some time to transition away from the blowers.

These two progressive and aggressive ordinances further show the City's

commitment to environmental protection and enhancement. These laws go above and beyond the basic requirements of the Permit, and the community supports it. These ordinances went into effect during this reporting period with cooperation and support of the public.

11.4.2 Industrial Component

Program Strengths: Since the City has only one industrial site, it had been determined that a strong pro-active approach to compliance would be adopted. The one site (Baker Iron Works) has been incorporated into the routine inspection schedule of the commercial sites as dictated in the JURMP, thereby allowing the City to ensure that the site is up to code on all storm water issues. Since the one site was elevated to a high priority site, the City has taken an active approach in ensuring that the site will be in compliance at all times.

The City has developed a strong working relationship with the owners of Baker Iron Works. City Staff have visited the site multiple times and worked cooperatively with them to come into compliance. The owners have responded well to the City's educational efforts and compliance requests. The City has successfully worked with Baker Iron Works to help them come into compliance by instituting several BMPs throughout the property. Although there are no indications from any of the Dry Weather Programs throughout the years that this site has contributed pollutants to the City's MS4, the mere fact that there is a possibility of this occurring in the future prompted the City to request that a few BMPs be installed onsite. A couple of very successful accomplishments occurred since this time that are worth noting.

The first accomplishment was the sealing up of a small storm drain located on the property that drained directly away from the property and into street.

The second BMP installed was the daily dry sweeping of the property to ensure that no sediment/gravel ended up in the street by automobile traffic.

The third BMP integrated into their normal routine was the use of a magnet on the grounds outside where some work is conducted using steel. The magnet is used to sweep the entire yard and collect miscellaneous scrap metals that may have collected on the ground. This activity is conducted on an as needed basis, but no less than once per week.

The fourth, and most important, BMP was the installation of the storm drain sump/infiltration pit at the northwest corner of the property that was designed to catch all low flow dry-weather runoff from the property and filter it before it left the property. These BMPs have been successfully implemented by the owners and are currently in place and functioning.

An improvement area that has been listed in previous annual reports involved ensuring that Baker Iron Works is complying with all requirements of the State Industrial General Permit, even though this is not a requirement of the Storm Water Permit. However, Baker Iron Works asked for the City's assistance in compliance and so City Staff has worked with Baker Iron Works to implement the necessary elements for compliance. This has further helped the relationship grow between the City and its industrial partner, furthering the great working relationship.

City Staff worked with Baker Iron Works to come into compliance under the GISW. Baker employees requested help with the monitoring requirements so City Staff trained them in the proper sampling techniques and offered options on where to take the samples for analysis. This just proves the healthy working relationship between City Staff and Baker Iron Works.

Improvement Areas: The City is confident that it is fulfilling all requirements of the Industrial Component. City Staff is committed to inspecting Baker Iron Works annually as part of its high priority facility inspections due to the potential to release pollutants into the City's MS4. City Staff believes that this industrial site is working well within the regulations of the Permit and is satisfied with the current situation. City Staff will look to continue the open communication with Baker Iron Works and conduct further inspections to ensure that all new employees are aware of and compliant with the storm water regulations. Also, City Staff will ensure that Baker Iron Works is aware of any new regulations from the State and work with them to ensure compliance.

11.4.3 Commercial Component

Program Strengths: The City has a very aggressive commercial inspection program that goes above and beyond the Permit requirements. As reported previously in this Report, the City inspected 100% of *all commercial facilities,* regardless of priority*,* identified in the JURMP inventory. This is above and

beyond the requirements of the Permit, which states that 100% of the *high priority* sites be inspected. In addition, the City implemented an aggressive Fats, Oils and Grease (FOG) inspection program to ensure the reliability of the sewer system, and prevent sewer spills caused by grease buildup. These two programs demonstrate the City's proactive approach to maintaining compliance with the Commercial Component of the Permit, and are described in more detail below.

The City also re-inventoried the commercial facilities as part of the JURMP revision and set minimum inspection frequencies per the new Permit. The facilities were inspected by an independent consultant specializing in storm water and FOG inspections, with follow-up being conducted by both the contractor inspector and City Staff.

As stated in the new JURMP, the City has 82 stationary facilities, of which 74 are identified as high Threat To Water Quality (TTWQ). The JURMP states that in the third year of JURMP implementation, at least 25% of all inventoried stationary businesses will be inspected, meaning 19 sites are required for inspection. In addition, the JURMP states that at a minimum, 100% of all sites (excluding mobile sources) determined to pose a high threat to water quality will be inspected in the second year of implementation, increasing the number of facility inspections from 74 to 82. The City went above and beyond the permit requirements and through their consultant inspected all 82 facilities. Twenty nine (29) facilities required more than one follow-up inspection and no major violations were detected. All facilities were in compliance during the enforcement inspections conducted by City Staff. A summary of the follow-up actions can be found in the Commercial Component of this Report.

Another program strength is the implementation of the City's grease management ordinance. The City is happy to report that a grease management ordinance was passed by City Council on September 7, 2004. Staff introduced the proposal to City Council on February 17, 2004, and received approval to move forward with the education of local restaurants and the public about the pending ordinance. A condition of the resolution once the proposal passed was to give restaurants 18 months to install a grease trap/interceptor, or receive an approved waiver from the City. Therefore, all restaurants in the City (even existing restaurants) must have a functioning grease trap/interceptor by March 2006. This is a huge accomplishment by City Staff as it is well documented that most major sewer spills are the result of grease related problems. Inspection of

the grease traps and maintenance are accomplished in conjunction with the storm water inspections. As mentioned above, the contractor the City hired to perform facility inspections also specializes in grease management device inspections. The contractor included grease management inspections into the storm water inspections and checks for such things as proper cleaning and maintenance, record keeping, duct cleaning, screen cleaning and hood cleaning. These are all important aspects of storm water management, as grease can have an extremely detrimental environmental effect.

A significant improvement to the grease management program that occurred during this reporting period is the increased level of inspection that was authorized and conducted by the City's contractor. As mentioned above, the City's contractor checked if each required commercial facility had a grease management device during FY 07/08. However, the inspection was taken to the next step in analyzing whether or not the installed device was of sufficient size and type. As often is the case with restaurants, they change frequently. So, an appropriate size and type grease management device may be sufficient for one type of restaurant, but if that restaurant closes and another, higher grease producing restaurant moves in, then the grease trap and/or interceptor may no longer be sufficient. This was a bold new move by the City that could be extremely controversial, but the City felt it was a necessary preventive measure in proceeding with the increased inspection level. This increased inspection process continued in FY 10/11.

This process will take more time to complete as the restaurants have been notified of their insufficient management devices, but the City recognizes that to replace or install a device takes time. However, by getting the process started now, the City hopes to have all restaurants in compliance in the very near future.

Improvement Areas: In previous annual reports, one improvement that was mentioned was the inspection of 100% of all high TTWQ commercial facilities in one reporting period. As reported above, this has been accomplished. The City is confident that all requirements of the Commercial Component of the Permit are currently being satisfied. One area of improvement may be increasing the amount of education and public outreach to the business community. The City believes that they have a good relationship with the current business community but more education is always welcome. City Staff could make an increased effort to educate new businesses as they apply for business licenses by producing

additional educational brochures and pamphlets.

11.4.4 Residential Component

Program Strengths: The City provides a wide range of programs for its residents to allow for convenient implementation of pollution prevention activities. Among the many programs the City provides are:

- Curbside recycling (first in the County to provide this service)
- Curbside Green-waste collection
- Aggressive and convenient Household Hazardous Waste collection program (described in detail in Residential Component)
- Community Education Program (described in Residential Component)
- The development and maintenance of the City's website regarding the Storm Water Program
- Community workshops on proper landscape practices
- Educational opportunities at local community events (Fiesta Del Sol, Beach Blanket Movie Night, Coastal Cleanup Day, Paws in the Park, etc.)
- Free presentations on proper HHW disposal and Used Oil Recycling (conducted by Solana Center)
- Opportunity to join Community Clean and Green Team which meets monthly to discuss environmental programs

The City Council meetings are also televised and available live on the internet to all the residents of Solana Beach. Many times storm water issues are discussed during these meetings. Other positive aspects of the program are the direct mailings of education materials included in monthly trash billings and the articles placed in the community newsletter, "*Shorelines*." Tallying the amount of phone calls to the City's Storm Water Hotline does not appear to be a good assessment of the City's program. The City, because of its relative small size, prefers to

conduct business on a more personal level. This has proven to be a much more effective way to work with the public. Therefore, although the hotline is still publicized, City Staff distributes their direct telephone numbers to the public when dealing with storm water issues. This allows direct, immediate contact with a Staff member, which ensures immediate, effective response to storm water issues.

As stated in last year's Annual Report, City Staff documents contacts (phone calls, visits to City Hall, etc.) with the public regarding storm water issues to help assess the effectiveness of the program over time. The only calls documented are ones that required Staff action on some level. The community of Solana Beach is very unique in that the residents are actively involved. Staff receives numerous phone calls every day that must be addressed immediately. Therefore, it would be unreasonable to document every contact made by the public.

Another area of improvement mentioned in previous Annual Reports was to develop additional educational materials for the residential community. This activity is constantly being addressed by the two WURMP groups discussed previously in Chapter 8. In addition, as mentioned throughout this Report, a large focus was placed on developing an effective regional educational program in the requirements of the new Permit. The Copermittees have formed a regional workgroup to develop a regional "brand" that will be recognizable by all residents throughout the region. The Copermittees have adopted the "Think Blue" campaign developed by the City of San Diego, since this slogan is widely known throughout the region. The activities and programs that have been developed and implemented by this group are described in the Regional Unified Annual Report. The City has been an active member in this workgroup during this reporting period.

The City feels that it is much more effective and efficient to address these issues collaboratively with the WURMP groups and the Regional Educational Workgroup. This allows for a consistent message to be disseminated to a large population of people throughout the region, as well as resulting in a significant cost savings for the City. As for requirements/projects unique to Solana Beach, Staff will continue to develop materials as the situations arise. A few examples of these specialized educational materials are listed in Chapter 8 of this Report.

Improvement Areas: For the next reporting period, City Staff will evaluate this

component and make any necessary alterations to the program. The City will continue to develop educational materials for the residential community, both jurisdictionally, on a watershed basis through the NCSWP and regionally through the Regional Educational Workgroup.

11.4.5 Land-Use Planning for New Development Component

Program Strengths: The City continued its implementation of the Standard Urban Storm Water Mitigation Plan (SUSMP) program as well as participated in the development of the new SUSMP. The City has successfully implemented the SUSMP review into all plan check processes. Although there will not be many projects within the City subject to this new requirement (the City is 95% built-out), the appropriate departments are still very aware of the requirements. In addition, the new model SUSMP was developed and approved by the City during last period and the City is now implementing the requirements of the new SUSMP program during this reporting period.

The Planning Department is actively involved in the City's Storm Water Program, and often notifies the Environmental Programs Manager when a proposed project may have storm water implications, including possible SUSMP projects. Although, as mentioned above, the City is almost completely built-out, the Planning Department has, as a result of this Permit, developed a list of possible proposed projects that may require a SUSMP. These projects have not been approved by City Council, but Planning Department Staff have surveyed the City and put this list together to warn the Environmental Staff as these projects may be proposed soon. This gives Staff a "heads up" before the projects are submitted that they will probably be subject to the SUSMP requirements and so the process can begin when, if ever, these projects are proposed.

As mentioned previously in this Report, the City is small and by nature, very intimate. This applies to development projects as well, as the City Council reviews development projects very closely. It is extremely rare when a significant development project is proposed that has not gone through extensive review by the applicants and City Staff prior to submittal. This allows the Community Development/Planning Staff to inform the applicants of possible storm water issues (especially grading, LID, HMP and SUSMP projects) prior to submitting their plans, so that the project will incorporate necessary storm water features into the original plans. This is extremely helpful to the applicants, as it avoids the

possibility of redesign (as well as increased costs) and speeds up the process. Therefore, most applicants set up meetings beforehand with Staff to review their plans to avoid any possible delays or impediments to their proposed projects.

Improvement Areas: The City will continue to educate prospective applicants regarding the SUSMP, LID and HMP if their respective projects will be subject to the new regulations. The City is very confident that its Land Use Planning component is very effective; however, it will continue to be modified in the future when necessary. The City is working on updates to its General Plan in the later part of 2011. This will have a major impact on the storm water program and City Staff will make certain that elements of the Permit and JURMP are incorporated into the new General Plan. In addition, as the new SUSMP, LID and HMP are finalized and adopted City Staff will develop new educational materials for the construction community.

11.4.6 Construction Component

Program Strengths: The Assistant Civil Engineer is responsible for conducting construction site inspections. This has proven to be a good use of resources as the Assistant Civil Engineer is trained in stormwater compliance as well as construction inspection criteria.

All construction sites were inspected for storm water issues based on the frequencies described in the City's JURMP. Since there are relatively few construction sites in the City, Staff often times can visit the higher priority sites more frequently. Additionally, the City's contracted Building Department (EsGil) inspector makes daily visits to most construction sites in the City. Although they do not handle storm water issues directly, they notify the Assistant Civil Engineer if they notice anything questionable onsite. This is another significant advantage to having the private building department staff housed at City Hall. Therefore, the City has three different Staff members out in the field monitoring construction sites and BMPs on a daily basis.

If the City Inspector or EsGil inspector notices a problem related to storm water, they notify the Assistant Civil Engineer immediately. The Assistant Civil Engineer investigates further, taking any necessary corrective or enforcement actions. This program has worked very well due to the already established relationship between the contractors and the City Staff. Because of this pre-established

relationship, the transition into storm water compliance was virtually seamless. The Inspector keeps a daily log of all of his activities, and storm water related issues are included. The City also mailed out a wet-season reminder to all active construction sites reminding them of their obligations under the Permit. Therefore, the City is assured that all contractors are aware of the regulations, making enforcement much easier for the City.

Additionally, for all CIP projects, the applicant/contractor is required to have a Pre-Construction Meeting with City Staff in which storm water issues are discussed. At these meetings, contractors are given a sample copy of the Site Inspection Checklist, and they are required to fill out a Wet-Weather Triggered Action Plan (if the project will be in construction during the rainy season). All of these measures are taken to ensure that all contractors are aware of the storm water regulations, and it helps the enforcement aspect of the Permit as Staff can be assured that all contractors have been educated and cannot claim ignorance of storm water issues. Appropriate enforcement actions (corrective, stop work, fines, etc.) can be enforced without fear of being challenged by violator.

Another activity that has proven very successful in regards to construction activities was the distribution of a colorful, informative BMP Construction Brochure. This brochure was developed by the Carlsbad WURMP workgroup and delivers a consistent message for all North County cities. The brochure is a tri-fold that gives background information on the storm water program and regulations and on the reverse side is a large diagram of a common construction site with the general BMPs shown and described. This brochure has been a huge success with the construction/developers as they can post this brochure at their site to remind their employees of proper BMPs. These brochures are attached to all building and grading permits.

The City believes that any opportunity to educate the community should be taken advantage of. As such, during this reporting period, approximately 175 BMP brochures were distributed during this reporting period, up from 150 BMP brochures in FY 09/10 224 FY 08/09, 470 during FY 07/08, 521 during FY 06/07, 509 during FY 05/06 and 416 during FY 04/05. The slight increase in brochures distributed during the last two reporting periods directly reflects an increase in construction activities region-wide. All building project applicants were given a brochure; there were just fewer projects during this reporting period.

As discussed in last year's Annual Report, the City developed and now tracks the SUSMP long-term BMP maintenance agreements as required by the Permit. In addition, the City continues to implement the Long Term BMP Maintenance Agreement that requires the applicant to submit a recorded document from the County of San Diego which includes the maintenance activities required and gives the City the legal authority to inspect the BMP to ensure compliance. This is an extremely helpful tool in ensuring that the post construction BMP is not only installed, but is being properly maintained to remain effective.

As mentioned in last year's Annual Report, there are significant new construction requirements in the new Permit. The significant additions to the new Permit include the development and implementation of the Hydromodification Plan (HMP), Low Impact Development (LID) and the update to the model SUSMP. The City is pleased to report that these new programs either have been developed and implementation is currently in the process or they are being developed and close to finalized, and the City is participating in the regional process. The HMP program is not expected to affect the City; however the City still contributed funding toward the program development as part of its Copermittee responsibility to the region. The City also revised its Municipal Code to adopt the updated model SUSMP in compliance with the new Permit regulations.

Improvement Areas: During the next reporting period, the City is committed to improving and modifying the construction program if any deficiencies are detected. The City is also committed to developing more educational materials to distribute to the public, and contractors in particular. The Construction BMP Brochure has been a major success, and the contractors/developers are constantly looking to us for more information and guidance.

With the adoption of the new Permit, additional construction activities and programs need to be developed and implemented in future years. The City will continue to work with the Copermittees to develop these programs for implementation. One area of improvement that the City is looking at is possibly hiring a specialized contractor to conduct construction inspections. This is similar to the City's decision to hire a contractor to perform commercial/industrial inspections and specialized Staff training, as this will free up limited Staff resources while providing increased service to the community. The City Council approved $10,000 in FY 10/11 specifically for construction inspections, further

strengthening the City's commitment to protecting the local water quality. The new Permit contains significant additional requirements for the Construction Component, so the City felt it was prudent to strengthen its program as well, and hiring a specialized consultant is a first step in the right direction.

11.4.7 Illicit Discharge Detection and Elimination Component

Place Holder – This will be submitted with Chapter 7 on December 15, 2011 as a result of Addendum No. 2 adopted by the RWQCB

11.4.8 Education Component

Program Strength: The City feels very strongly that the current education program being implemented by City Staff has been very effective. The amount, and quality, of educational materials developed by the City and through collaboration with the other Copermittees, has proven to be very successful. The following events have allowed City Staff to educate the community, both residential and commercial:

- Fiesta Del Sol
- Paws in the Park
- Beach Blanket Movie Night
- Annual Coastal Cleanup Day
- Annual Green Fair
- City Council Meetings
- Clean and Green Team
- Civic and Historical Society meetings
- Friends of the Library meetings
- *Shorelines* Community Newsletter
- Green Flash website
- Brochures and Handouts at City Facilities
- Partnerships with Solana Center, Santa Fe Irrigation District, Kids Korps and the Solana Beach School District

The complete educational program is discussed thoroughly in the Educational Component of this report.

Improvement Areas: The City is very satisfied with its current educational program. The respective WURMP groups have gone above and beyond the requirements of the WURMP's educational component, and have delivered many quality items to the residents of Solana Beach.

Also, as reported in last year's Annual Report, the City is participating in the development of the new regional educational program. The new Permit requires the development of a regional educational program, and the City is committed to working with the other Copermittees to develop a successful and comprehensive program. Also, the new Permit requires Watershed based education based on the activities chosen by the participating Copermittees, and the City is committed to working with the Copermittees in its two watersheds to develop and implement the educational activities to support the watershed activities. These activities are described in detail in the Regional Unified Annual Report (submitted with the Copermittees reports in September 2011) and the Watershed Annual Reports which will be submitted in January 2012, respectively.

11.4.9 Public Participation Component

Program Strengths: The residents of Solana Beach have multiple opportunities to interact with City Staff through the hotline, website, community events and direct interaction. All City Staff are available to discuss any issues with the community if they come into City Hall, and most all literature distributed currently has the appropriate Staff contact information listed on it. City Staff prides itself on interacting with the community on a personal basis, and as a result has established many positive relationships with key members. The City continued to host the annual Coastal Clean-Up Day that allowed the community to get involved as well as distributing educational brochures at the local community events. Some additional opportunities include:

- Copermittee meetings
- Adopt-A-Beach Program Beach Cleanups
- Fiesta Del Sol
- Paws in the Park

- Annual Green Fair
- Beach Blanket Movie Night
- Shorelines Articles
- Opportunities to work with local Partnerships/Collaborative's
- City Hotline
- Green Flash website
- Clean and Green Community Group

Improvement Areas: The City realizes its responsibility to get the community involved in the storm water program. The City has given the residents ample opportunity to get involved in implementing the program. City Staff is very visible throughout the community on a daily basis and routinely has discussions with residents regarding storm water issues. The feedback given to City Staff has been overwhelmingly positive, and the City looks forward to continuing this personal relationship with the community.

In addition to the JURMP public participation opportunities, the community has public participation opportunities through the WURMP process. More information on the WURMP process is available in the WURMP annual reports submitted in January.

11.5 Level 4: Load Reductions

Level 4 load reduction is a key assessment measure for the storm water program. Ultimately, the goal of the storm water management program is to reduce pollutant loading into the City's MS4 and by doing so, improve the discharge and receiving water quality. However, load reductions are very difficult to quantify, and the Copermittees as a whole are struggling to develop methods to achieve this task. This being said, the City will continue to analyze any data received that may be able to show a load reduction with the hope that it will somehow be linked to improvements in discharge and receiving water quality.

As a result of the Regional Water Quality Control Board's comments on the City's FY 02/03 Annual Report, the City has adapted its street sweeping program. The City now requires the private street sweeper to document all load information on a weekly basis. This includes an estimated amount of debris

collected. This information was collected initially in FY 05/06 and continued into this reporting period as well. The total amount of street sweeping debris collected for each FY is as follows:

- FY 05/06 – 299.1 cubic yards
- FY 06/07 – 188 cubic yards
- FY 07/08 – 275 cubic yards
- FY 08/09 – 274 cubic yards
- FY 09/10 – 270 cubic yards
- FY 10/11 – 212 cubic yards

The total amounts remained relatively constant over the past few years. City Staff believes that the reason is most likely that the majority of the debris picked up by the street sweeper is organic material from natural sources such as trees and vegetation. Therefore, the load reduction measure of quantifying cubic yards and hopefully detecting a decrease over time is not a good indicator for Solana Beach. The street sweeper not only quantifies the amount of debris each day collected but also records an approximation of the type of debris. And for Solana Beach, it is over 95% organic matter. There are only trace amounts of litter or trash, which is a positive thing, but it also indicates that quantifying load reductions from street sweeping activities is not a good measure of the City's storm water program. However, the information will be collected and analyzed and any trend will be documented for future use.

Another possible load reduction calculation could be documenting the amount of material collected and removed from the various BMPs throughout the City. These BMPs include:

- Annual inspection and cleaning of MS4 system
- Maintenance of CDS Unit(s)
- Maintenance of detention basin adjacent to San Elijo Lagoon
- Load reduction calculation for the Low Flow Diverter at Fletcher Cove and

the filtration basket located upstream from Seascape Sur Outfall

- Load reduction calculation for the Bioswale maintained at La Colonia Community Center
- Maintenance records of permanent treatment BMPs required as part of SUSMP projects (privately owned)

All of these activities may not be feasible, however they all warrant further consideration. It has been generally agreed upon that the Copermittees are not capable at this point of performing complete load reduction calculations and assessments, but are all committed to working towards this goal. The Copermittees have decided that this Level (4) should be attacked at a regional level, and not jurisdictionally. A significant regulatory program that should force us in this direction is the TMDLs that have been developed and are now being implemented by the Copermittees in several watersheds. The City is currently involved in the San Elijo Lagoon Bacteria TMDL Investigative Order, and as relevant information is received from the monitoring they will be discussed in upcoming Annual Reports.

11.6 Levels 5&6: Changes in Discharge and Receiving Water Quality

The City has been collecting and analyzing jurisdictional monitoring data received through the dry-weather and coastal monitoring programs. The City will continue to analyze the data to better understand the collective water quality picture in the City. The data will be assessed to determine the potential water quality problems within the City. Data collected by the City will be analyzed independently as well as collectively with the regional monitoring programs. Although it is generally accepted that it will take many years to develop a trend in water quality, the City will nonetheless analyze its data on a continuous basis to see if anything develops. There are no glaring deficiencies in the water quality in the City, but the situation at Seascape Sur will continue to be monitored to ensure that the storm drain does not have an impact on the quality of the receiving water (Pacific Ocean). Seascape Sur will be explained in greater detail in the next Chapter.

The Regional Monitoring Program currently conducts trend analyses for the Wet Weather Monitoring Program. The goal of the WWMP is to collect data and analyze the data to determine if there are in fact improvements in the receiving

water quality throughout the region. The City participates in this workgroup and will continue to assist the Copermittees in determining if we have obtained levels 5 and 6 of the assessment strategy.

11.6.1 Dry Weather Monitoring Data

2011 Summary

Place Holder for 2011 Dry Weather Monitoring Program – Will be submitted in December 2011 as a result of Addendum No. 2 adopted by RWQCB.

11.6.2 Coastal Water Quality

The Pacific Ocean is the ultimate receiving water for the City although there are other intermediate receiving waters, such as the San Elijo Lagoon and the San Dieguito Lagoon. To measure the quality of the coastal receiving waters and assess the JURMP effectiveness, the City has monitored its one coastal storm drain outfall (Seascape Sur). The City used to monitor another outfall at Fletcher Cove; however, a low-flow diverter was installed in 1998 to divert dry-weather flows into the sewer system. The City is currently involved in an IRWM grant application that includes the installation of an additional low-flow diverter at Seascape Sur, which is discussed in more detail in Chapter 12 of this Report.

Coastal Storm Drain Outfalls

The coastal outfall monitoring program reporting period is different than the reporting period for this Report. The coastal monitoring program reporting period runs from November through October. All cities with flowing coastal storm drains meet regularly (Coastal Monitoring Workgroup) to develop and implement this program to promote regional consistency.

The Coastal Monitoring Workgroup developed an adaptive monitoring approach. This approach was developed to allow the individual cities to adapt their program to concentrate their limited resources on problematic locations and ease up on consistently non-problematic areas. The City had *no receiving water exceedances* for bacteria during this reporting period, which was consistent with the results of the last three reporting periods. In addition, it's apparent that the increased educational and oversight of the vendors at the Fiesta Del Sol was

successful as there were no exceedances after the event for the sixth year in a row. City Staff again made this a priority during this reporting period to meet with the event organizers and discuss BMP requirements with them so that they can relay that information to the individual vendors and provide them with more educational materials. In addition, City Staff monitored the Food Court during the event to ensure all vendors were abiding by the storm water regulations. This was mentioned in previous annual reports as an improvement area because of the consistent exceedances after the Fiesta Del Sol that had occurred in the past.

The storm drain at Seascape Sur had multiple exceedances for total coliform, fecal coliform and enterococcus during this reporting period. However, the magnitude and the frequency of exceedances have decreased during the last two reporting periods, which is a significant achievement. This is a storm drain that has a history of high bacteria counts and is currently the focus of an ongoing IC/ID investigation. The City has recently installed upstream BMPs that may be contributing to the improvement in water quality. The program is being implemented by City Staff, and the complete results are presented in the Coastal Monitoring Annual Report, and explained in the next Chapter of this Report.

The Copermittees had to modify the Coastal Monitoring Program due to the new requirements of the Permit. The Coastal Monitoring Program workgroup made the necessary changes and additions to the program and are currently implementing the new model. The City is confident that it has met the requirements of both the old Permit and new Permit. The complete Copermittees Coastal Monitoring Program is incorporated into the Regional Monitoring Annual Report.

Beach Posting Data

The County Department of Environmental Health has monitored beach water quality for bacteria since the 1950's. This sampling is used to assess the health of the beaches. When bacteria levels exceed State standards, the County posts signs on the beaches warning and advising the public not to enter the water. In 2000, there was a significant change in protocol as a result of the passage of AB411, which required additional testing, incorporating testing for enterococcus, which required the beach to be posted when only one sample exceeded the standard.

During this reporting period, there were ***no beach closures*** **in the City of Solana Beach,** which bodes well for the overall effectiveness of the City's program.

CHAPTER 12
Special Investigations

CHAPTER 12: SPECIAL INVESTIGATIONS

12.1 Introduction

In accordance with Permit Section D.4.e, this section of each Annual Report will describe the Copermittee's efforts to eliminate all detected illicit discharges, illicit discharge sources, and illicit connections as soon as possible after detection. The City's Illicit Discharge Detection and Elimination (IDDE) program is designed to identify, prohibit, and eliminate discharges that are a significant source of pollutants with the goal of protecting receiving water quality. This section of each Annual Report will provide the results of any special investigations conducted during the reporting period. However, the City also responded to many other complaints of possible IC/IDs, which resulted in rapid compliance, but did not warrant or require a comprehensive special investigation.

Although this Report does not contain a completed Chapter 7 due to the extension granted in Addendum No. 2, this Chapter will remain as many activities related to this Special Investigation can be reported on. Any additional information gathered from the 2011 Dry Weather Monitoring Program will be included in the December 2011 submission.

12.2 Bacteria at Seascape Sur

12.2.1 Background

As first reported in the FY 2002/2003 Annual Report, there has been an ongoing, historical problem occurring at one particular storm drain in the City. The location, Seascape Sur, has had historically high levels of bacteria; often times exceeding limits at the storm drain and occasionally in the receiving water (there were *no exceedances in the receiving water during FY 10/11*). Previous annual reports go into detail regarding the history of this problem and the City's efforts to remedy it. Since the history is important in describing the situation, this report will include much of what was written last year. Any added information that was discovered during this reporting period will be included in this report. Next year's report will include the City's additional efforts that were undertaken during FY 11/12.

Prior to and during this reporting period, the City began a concerted effort to determine what was causing the elevated levels of bacteria at Seascape Sur

outfall (based on results from the Dry Weather and Coastal Monitoring Programs). The problem was thought to be resolved early on, but then monitoring results in subsequent years indicated the problem had either returned or persisted. In 2000, the City Engineering/Public Works Department was fairly certain that the problem had finally been corrected; particularly when the 2001 DWMP indicated the bacteria elevated levels had *decreased* (although they were still elevated above the normal range).

However, preliminary results from the 2002 DWMP revealed that the bacterial levels had risen from the previous year to a troublesome level (see 2002 DWMP, available at City Hall upon request). As a result, the City "went back to the drawing board," and with the help of MEC Analytical (consultant for the 2002 DWMP), began an upstream investigation that continued through the end of calendar year 2002.

12.2.2 History

The City began its DWMP in 1993, with no significant problems reported until 1996 when elevated bacteria levels were noted at the Fletcher Cove Outfall. Subsequently, the City constructed a low flow diverter (in 1998), which corrected the problem by diverting dry weather flow to the City's sanitary sewer system.

Between 1997 and 1999 results from the DWMP revealed some minor issues that were readily resolved, but nothing significant at Seascape Sur or Fletcher Cove Outfalls.

However, results from the 2000 DWMP identified two locations with high levels of coliform bacteria, which was of significant concern because both locations flowed directly to the beach via the Seascape Sur Outfall and were in fact, just a short distance from the outfall. The City conducted an extensive investigation and eventually found an old leaking sewer lateral that was buried under the ground near the site of the upstream catch basins in the parking garage of a business complex. The lateral was dug up, examined, and staff determined that cementing over the pipe would be the best method to ensure it was completely sealed off (investigation confirmed that the pipe was no longer in use). Because the leaking lateral was located close to the curb inlet, City staff, plumbing contractors and the consultant were fairly certain that the pipe was the cause of the elevated bacteria counts.

To confirm that the pipe was the cause of the suspected pollution, the City contracted with Kinnetic Labs to provide additional testing, which showed reduced counts during several follow-up tests. At that point, staff was optimistic that their efforts had been successful.

The 2001 DWMP included ten sites for testing. To ensure the problem from the previous year had been corrected, the program included the same two sites that had elevated bacteria counts in 2000. Surprisingly, the site had elevated bacteria levels, but because they were much lower than the previous year, staff believed that the problem might be residual bacteria. As a result, the City ordered that the line between the curb-inlet and the outfall be televised in 2002. The televising of the lines was scheduled during the routine cleaning of the storm drains later that year. Due to various issues, the televising of the lines did not take place prior to the implementation of the 2002 DWMP, which was under the regulations of the new Permit.

The City requested proposals from consultants to design and conduct the 2002 DWMP. The contract was awarded to MEC Analytical in late spring, early summer 2002. The City requested that the same two monitoring sites from 2000 and 2001 be included in the program, regardless of the new sampling procedures required of the Permit. The City included those sites to ensure continual monitoring of the area.

12.2.3 The 2002 Investigation

Samples for the 2002 program were collected on August 6th and 7th, 2002 throughout the City by MEC Analytical (MEC). Shortly thereafter, MEC contacted the City and informed the Storm Water Coordinator that significantly high levels of bacteria had been found at the locations of the year 2000 and 2001. As shown on Table 13-1, the amounts were troublesome.

Table 12-1 DWMP Initial Results (Sampled August 6-7, 2002)

Site	Site Location	Total Coliform	Fecal Coliform	*Enterococcus*
1	West Side of Sierra Ave	700,000	30,000	24,000
2	Manhole between sites 1 and 2.	900,000	50,000	28,000
3	Seascape Sur Outfall (downstream from sites 1 and 2)	800,000	21,000	35,000

Results are reported in MPN/100 mL.

Based on the above results, it appeared that the problem, whatever the cause, was more pronounced at Site 2, the manhole, than at either Site 1 or 3. Therefore, the City immediately requested that the conveyance system be televised. At the same time, the City authorized MEC to conduct an upstream investigation, accompanied by City staff. MEC indicated to staff that the elevated levels of bacteria, combined with the results from previous years, were a sign that an illegal sanitary wastewater connection may be the cause of the problem. However, subsequent inspection by City staff (including public works crews that inspected various locations of the line) did not reveal any expected accompanying waste solids. A somewhat consistent drip was noticed, which was traced back to a nearby condo complex that was discharging their pool (the process was discontinued and the complex changed their procedures to drain into the sewer system). Other causes of the slow drip appeared to be over-watering of the many condominium complexes on Sierra Avenue.

Staff sent letters to all HOAs on Sierra Avenue that drain to the Seascape Sur outfall to eliminate the slow drip. Staff received calls from some of the HOAs in response to the letters and discussed the issue in more detail and received positive responses.

The results of the televised line were viewed by the City Engineer, which revealed a dip in the line approximately at the location of the manhole (with the elevated bacteria) and two possible illegal connections just west of the curb inlet. However, an additional investigation indicated that the connections were not a problem, but staff thought that the dip in line could be harboring residual bacteria, and possibly re-growth.

12.2.4 Additional Testing

In an attempt to pinpoint the source of the contamination, MEC and City staff began the upstream investigation on August 19, 2002. Samples were collected from Site 1, and at a curb inlet catch basin on the *eastside* of Sierra Avenue, directly upstream from Site 3 (named Site IE).

Staff was surprised when the results of the second round of sampling revealed *higher levels of total coliform (2,400,000), fecal coliform (50,000) and Enterococcus (500,000)* at Site 1E, than the previous results from Sites 1 and 3. Further, the results were surprising given that the dip in the line at Site 2 was

thought to be the source of the contamination. *The results seemed to indicate that the source of the bacteria was coming upstream from Site 1E.*

12.2.5 Traveling Further Upstream

The curb-inlet catch basin on the east side of Sierra Ave (Site IE) receives street runoff and runoff from the Beachwalk Business Complex (Beachwalk). Beachwalk is a collection of various businesses located at 437 South Highway 101 in Solana Beach. Beachwalk businesses, at that time, included several restaurants (Pacific Coast Grill, California Pizza Kitchen, Rubio's), several small food facilities (ColdStone Creamery, Solana Beach Coffee Company, VitaFit, etc.,) several professional offices, a bike shop and others. Beachwalk was constructed approximately 13 years ago and at the time of construction, an on-site storm drain system, that collects on-site runoff from the property, was lawfully connected to the City's MS4.

Based on the results of the second round of testing, City staff thought that the source of the contamination must somehow come (or significantly contribute) from Beachwalk. Upon speaking with the Management Group that oversees the property, staff made several visits to look for possible non-point source explanations and speak with business owners to discuss BMPs (see Timeline below for more details).

On August 27th, 2002, City staff went to Beachwalk and personally delivered educational brochures to *all of the businesses,* educating business owners about storm water regulations and BMPs. To ensure that all the businesses were addressed, door hangers were left at the businesses that were not open at the time of the visit and additional property visits were scheduled. City staff also spoke with the person responsible for maintenance of the property and provided detailed information about pollution prevention, storm water regulations, and BMPs and how to report violations. Many of the business owners were extremely helpful and all were cooperative. Some business owners went out of their way to show staff potential problem areas, discuss BMPs and provide access to private restroom facilities (staff were looking for overflow problems and unusual construction or evidence of recent repairs).

Staff conducted another visit on September 3rd, 2002 in response to a call from one of the business owner's that staff had contacted on August 27th, 2002. City

staff confirmed that foul smelling odors were coming from catch basins on-site. Further inspection revealed excess watering occurring on the patio of the Pacific Coast Grill restaurant. A manager at the restaurant was contacted and educated regarding BMPs and the new storm water regulations. During this visit, staff determined that samples were needed at various storm drains throughout the complex to try and pinpoint and eliminate the problem. City staff identified several locations that should be tested and requested permission to collect the samples from the property owners.

On September 4th, 2002, City staff accompanied MEC to conduct additional testing and investigation. The process confirmed staff's suspicion that the bacteria levels were coming from Beachwalk. Various samples were collected at locations throughout the complex. An outdoor floor drain just outside the kitchen of Pacific Coast Grill appeared to have dark brown, stagnate water in it. On-site ammonia tests were also consistent with elevated bacterial numbers (60 mg/L). A sample (Site 32) was then collected for further lab analysis. Sites IE and 3 were also sampled again for additional information. As shown on Table 12-2, Site 32 confirmed that the contamination was coming from Beachwalk and most likely, the source was near or in, the floor drain outside Pacific Coast Grill Restaurant.

Table 12-2 Upstream Testing Results

Site	Site Location	Total Coliform	Fecal Coliform	*Enterococcus*
32	Beachwalk floor drain	>16,000,000	300,000	>241,960
1E	East Side of Sierra Ave	3,000,000	50,000	3,550
3	West Side of Sierra Ave	800,000	70,000	24,950

Results are reported in MPN/100 mL.

After the lab results came back and confirmed what was suspected, the property owners were notified of the severity of the situation and were eager to remedy the problem and work with the City to find a solution.

The property owners worked together with the City's Public Works Supervisor and a local plumber experienced in storm drain cleaning to correct the problem. The east side catch basin was temporarily sealed, the pipe was flushed and a specially equipped trucked was placed at the catch basin to vacuum out the resulting sludge for proper disposal. As soon as the procedure was complete, on September 18th, 2002, City staff collected additional samples from all three sites (32, 1E and 3), *expecting the results to show a decrease in bacteria levels*. The

residual water in the pipes was clear of the brown, stagnate water, which also contributed to the hope that the problem was resolved. However, while results from Site 32 indicated *reduced bacterial levels*, downstream sample *again* indicated *high bacteria levels* (the sample on the west side of the street).

12.2.6 Brainstorming

At first, these results seemed a bit perplexing (maybe it was the dip in the line?, etc.), but then, while staff continued to brainstorm ideas to solve the problem, some engineers thought that the flushing of the system might have loosened some bacteria, which escaped collection by the Vactor truck. The City decided to wait a few weeks to see if the problem was alleviated after the system had time to completely flush out.

In the meantime City staff met with the property owners and 1) reviewed old construction plans for the property to look for potential areas of cross contamination; 2) discussed possible options that may help alleviate the situation, including training and education of business owners, television activities that might occur near the catch basin; and 3) decided that a temporary cap would be placed on the floor drain of Site 32 to secure it from contamination for 30 days (the cap could be removed during rain to prevent flooding).

After 30 days (and two rain events), the plumbing contractor agreed to remove the temporary cap to allow further testing.

Surprisingly, results from this last round of testing indicated that there was still a significant problem on the property. A meeting was scheduled immediately with the property owners, who were informed of the test results and that the City now required them to remedy the problem through televising the lines, locating the illegal connection and reconstruction, or face serious fines by the RWQCB and the City. The property owners were concerned, responsive, cooperative and resolute in their attempts to solve the problem.

In addition, the City agreed to purchase a storm drain inlet filter to be placed in the catch basin just downstream from the complex, leading to the ocean outfall. It was installed the first week of December, and is maintained by the City's Public Works Staff. Although it does not filter the water passing through from Beachwalk, it does help alleviate the problem by filtering out the water coming

from the street. The City hopes that this will help reduce the high bacteria numbers found in the catch basin.

12.2.7 Action Taken By Property Owners during FY 03/04 Annual Reporting Period

By the end of December 2002, Beachwalk property owners had done the following to remedy the problem:

While attempting to televise the lines, a significant amount of sludge built up in the pipe prevented the camera from penetrating the pipes (which is likely the source of the problem, City staff also reviewed the small amount of footage that was performed in the pipes).

An extensive flushing out of the entire system was conducted, which took some time to accomplish amidst the rain events in December and the amount of material in the pipes.

The lines were televised and detected a large dip in the pipe where sediment and sludge were building up, possibly providing a breeding haven for re-growth of bacteria.

No illegal connections or sanitary waste connections were detected. There were a few pipes connected to the outfall pipe coming from the adjacent condos, however these lines were proven to be outdoor area drains. Beachwalk property owners and condo associations are completely aware of the responsibility to rectify the situation.

The City decided that they must increase their efforts to rectify this continuous problem to ensure the integrity of the receiving waters at Seascape Sur. The bacteria levels were still consistently high, often exceeding standard limits for the outfall, but, fortunately, not yet affecting the receiving waters. Growing increasingly frustrated, City staff decided that an increased effort, and the high costs that come with it, were necessary to finding the cause, and solution, to the problem at Seascape Sur.

On March 4, 2004, City staff televised the Seascape Sur storm drain line for maintenance purposes. The video showed a significant amount of sediment accumulation at the end of the pipe coming from the Beachwalk Business

Complex. Staff met with the Beachwalk property management and mandated that they clean the sediment from the line. The Beachwalk management complied with our request and immediately cleaned the pipe, and City staff supervised to ensure all BMPs were used and abided by at all times.

Laboratory results were still coming back consistently high, so the City decided to take on the cost of completely cleaning the storm drain pipe with the hopes that it would remove any residual bacteria that may be contributing to the problem. The problem the City faced was that this had never been done before, and the dimensions of the pipe made it very difficult to develop a plan of attack. The pipe starts at the curb inlet on Sierra Avenue, then travels completely underground and slopes downward until it empties out onto the beach. The distance from the street to the outfall is approximately 550 feet and dips to 30 feet below the surface, making access very difficult. The City was able to gain access from the neighboring condominium complex to place a Vactor truck to ensure that no excess water would escape containment and empty onto the beach. The project took 5 days to complete (ending on Friday, May 7, 2004), with City staff working with its private contractor, and cost approximately $10,000. The City removed 4 cubic yards of sediment from the pipe, and used over 5,000 gallons of water. The City was confident that the next lab results would come back spotless.

On the following Monday (May 10, 2004), City staff received a phone call from the County of San Diego Department of Environmental Health advising them that samples they took in the receiving water adjacent to the Seascape Sur outfall had failed AB 911 standards. It appeared that all the effort and money spent to clean the pipe had actually made it worse. However, Staff immediately began an IC/ID investigation and discovered that an adjacent condominium complex had a sewer spill that weekend and raw sewage had entered into the Seascape Sur storm drain. City staff was relieved that they found the cause of the high bacteria, but highly disappointed that all of their work, time, and money had been wasted by a small sewer backup.

Because the sewage was traced back to a private lateral, the City was determined to put the pressure on the condominium complex to clean the pipe again. Staff met with the HOA representative and a deal was worked out to have the pipe cleaned again, at the HOA's expense. Additionally, the City took this opportunity to once again educate the HOA and wrote an article regarding the proper handling and disposal of grease for the HOA's monthly newsletter. The

City then set the HOA up with a plan of attack and supervised the process. Staff worked with the Regional Water Quality Control Board to allow the City to use a small concentration of bleach mixed with the water to make sure that the pipe was completely sterilized at the end. This cleaning was done on September 24, 2004.

12.2.8 Progress in FY 04/05

The results of the cleaning performed on September 24, 2004 proved to be very successful. The bacteria levels were reduced significantly and the City hoped that the sterilization would be a permanent fix. However, the results in the following few months showed that the bacteria was slowly increasing back to its historical levels, further frustrating City staff. This may be due to City staff's worst fear that the dip in the pipe could be harboring and resulting in re-growth of bacteria that may enter by way of decomposing organic debris and/or illegal dumping.

Since this did not permanently solve the problem, the City continued to explore other options. In March 2005, the City was discussing the situation with its contract lab, Weston Solutions, and jumped at the opportunity to participate in a pilot study aimed at refining a new lab analysis that would potentially categorize the generic coliform and enterococcus bacteria indicators as deriving from human or animal origins. This would be an extremely significant discovery because the City could further identify where the bacteria was coming from, human (IC/ID) or from animals (dogs, possums, raccoons, etc.), to help direct what steps to take in the future. The City could further refine its source identification and, in theory, stop wasting limited resources on sources that don't exist.

The pilot program is completed; however, the results did not come back revealing anything substantial. Only one sample came back positive for human bacteria (and this was somewhat inconclusive), and samples collected after this positive result all came back negative. Therefore, the City concluded with relative certainty that the source of the bacterial contamination is not human. This one positive result may be caused by a single illegal dumping occurrence or by laboratory error. The resulting negative results show that there is not a continuous inflow of sewage, as would result if there were an illegal connection. Although the pilot program is complete, one early, important conclusion would be

that the bacteria is not coming from human origins, which would allow the City to eliminate this from source identification and focus its efforts on non-human sources.

12.2.9 Special Pilot Program FY 07/08

The City's lab (Weston Solutions) offered their services to the City for a special pilot program during FY 07/08. On May 30, 2007 Weston staff met with City staff to investigate the surrounding areas to see if they could detect anything that may be contributing to the high bacteria levels adjacent to the east catch basin. Weston has performed similar investigations in other cities with positive results. They were very interested in finding the source for the City, as we have been partners now for years on this. The results were very interesting and reconfirmed the City's belief that there is substantial re-growth occurring in the pipe as the bacteria results were much lower in the catch basins than at the outfall. The results are as follows:

Table 12-2 Results from Weston Solutions Pilot Program

	East Side Catch Basin (MPN/100mL)	Outfall (MPN/100mL)
Total Coliform	700,000	16,000,000
Fecal Coliform	80	50,000
Enterococci	41	483

The City and Weston Solutions partnered for a unique pilot study with the hopes of finally determining the source of the bacteria. The specialized studies were conducted to further analyze a unique phenomenon called "pseudofluorescence." This phenomenon first was detected in some samples from Seascape in the summer of 2007, when using the Enterolert method resulted in some false positives, or "pseudofluorescence." The lab noticed that the tests began to increase in frequency, and brought it to the attention of City staff after the March 31, 2008 samples were analyzed. The City and Weston then developed a plan to determine why this phenomenon was occurring, and if this could bring us any closer to solving the mystery.

Starting on April 30, 2008, Weston began testing the samples using the IDEXX method (SM 9223B) side by side with the Multiple Tube method (SM 9230B) for Enterococci in order to determine if the different methods yielded different

results. Parallel analyses were carried out only on the outfall samples, as the paired ocean samples never exhibited pseudofluorescence. The following are the results:

Table 12-3 IDEXX and Multiple Tube Results

Date	IDEXX Results (MPN/100mL)	Multiple Tube Results (MPN/100mL)
4/30/2008	<10	170
5/29/2008	<10	300

Analyzing the results, it is easy to confirm that something is causing interference with the IDEXX method. Because of this, PCR analyses were also performed, with results ranging between 1,000-10,000 (PCR includes viable and non-viable cells, as it only looks for specific DNA markers, regardless of cellular viability), which validates the Multiple Tube results by showing a definite presence of the target bacteria.

There is some concern that detergents may be the cause of the interference and pseudofluorescence. Enteroalert (IDEXX) analysis from both months displayed pseudofluorescence wells, so both were tested for detergents using an MBAS kit. The results are as follows:

Table 12-4 MBAS Results

Date	MBAS Results (ppm)
4/30/2008	15
5/29/2008	25

The sample taken on May 29th, 2008 had a larger number of pseudofluorescent Quantitray -2000 wells, which seems to confirm the relationship between pseudofluorescence and the amount of detergent in the sample.

As a result of this pilot study, an official method change for enterococcus was instituted beginning with the samples taken on June 28th, 2008. Using the Multiple Tube method, MPN for enterococcus was determined to be 3,000 per 100mL, while results from Enterolert (performed as a continued comparison) were found to be 63 MPN/100mL, with a continued pseudofluorescent. In addition, continued upstream investigations will focus on detergents as the presence has been recorded a couple of different times.

The City will continue cooperating with Weston and their professional staff to investigate this ongoing mystery until a resolution is found.

12.2.10 Timeline of Significant Actions

August 27, 2002- City staff distributed storm water brochures to all the businesses located in the Beachwalk complex. Staff toured the mall, visually inspected on site catch basins, outdoor floor drains, restroom facilities, and inspected several restaurants and discussed pollution prevention BMPs.

September 4, 2002- Based on feedback from the testing, staff spoke with the managers of Pacific Coast Grill, reviewed the storm water regulations, spoke about prohibited activities and distributed storm water brochures.

September 4, 2002- City staff and an employee from MEC conducted upstream investigation. A small outdoor floor drain contained brown, stagnate water with a very pungent odor. The drain cover was removed and the material was sampled. MEC called a few days later and reported that the results were consistent with the numbers for raw sewage for total and fecal coliform and *Enterococcus*.

September 18, 2002 - The Beachwalk storm drains were flushed out using clean, fresh water and the sludge was vacuumed out into a Vactor truck at Site 3. Results from follow-up samples indicated that a problem still existed.

October 24, 2002- Additional samples were taken to see if the problem had been eliminated. Results from the lab showed that the problem had not been solved. City staff continued to meet with property owners to pinpoint the source.

November 2002- The City installed a specialized catch basin filter unit that is designed to catch all debris (trash, organics, etc.) from the street before it reached the MS4 system. It also has specialized bio-filter rolls to filter out the hydrocarbons.

November 13, 2002- a semi-permanent cap was placed on the floor drain that seemed to be the source of the bacteria. A follow-up sample was scheduled for 30 days.

December 13, 2002- Samples were taken after the cap was removed and

preliminary results indicate that the problem has not been resolved. More extensive investigation was ordered.

December 14-31, 2002- All property drains were cleaned and televised.

January through June 2002- Increased monitoring and sampling through Coastal Monitoring Program to try and determine if the steps taken previously had successfully remedied the problem. An intensive educational program to the HOA's and the Business Complex was also implemented to assure compliance under the Permit.

March 4, 2004- Mandated and required the Beachwalk Business Complex to clean out storm drain system that leads to the City's Seascape Sur storm drain due to accumulation of debris (sediment, trash, etc.).

May 5, 2004- Completed cleaning of entire Seascape Sur storm drain line from Sierra Avenue to the beach outfall. A sewer spill occurred that following weekend from a private lateral connected to the Seascape line.

May 20, 2004- Wrote two articles for *Seascape Sur News,* the monthly newsletter distributed to the Seascape Sur condos, educating the residents on activities that may reduce bacteria that could be a possible source of the problem at Seascape Sur outfall. The first article was titled, "Sewer Clean-Outs," and it describes the proper way to dispose of grease (not down the sink) to prevent sewer blockages and spills. The second article was titled, "Walk Dogs Off The Property and Clean Up After Them".

September 24, 2004- Completed cleaning again with the addition of bleach to counteract the sewer spill that occurred on May 5, 2004. Access issues during the summer months prevented the cleaning from occurring earlier.

November 2004- Samples showed a dramatic decrease in bacterial indicators, proving the cleaning was successful. However, future results showed the bacteria increasing back to historically high numbers.

March 1, 2005- Started participating in contract lab's pilot program to differentiate bacteria into human and animal origins.

May 30, 2007 – Conducted a thorough investigation with our lab (Weston) to detect any possible sources of the ongoing pollution (see below). Results of the investigation revealed that bacteria levels were in fact higher at the outfall than the catch basin; further reinforcing what City staff believes is a structural deficiency in the pipe that is leading to bacteria re-growth.

March 30, 2008 – Initiated a pilot study with lab to determine if the correct analytical analysis was being conducted

June 18, 2008 – Installed a catch basin inlet guard to prevent organic material from entering into the catch basin on the east side of Seascape Sur storm drain. This was done to hopefully prevent the organic matter from decomposing inside the storm drain pipe and providing an area for bacterial re-growth.

August 10, 2008 – City contracted a company to place concrete inside the catch basins to fill in a one inch gap at the bottom where stagnant water would sit. The City thought this might be contributing to the bacteria load at the end of the pipe. By filling in the gap, water and organic matter would not have a place to stagnant and harbor bacteria.

September 29, 2008 – City hired a contractor to clean the entire Seascape Sur storm drain from street to outfall.

August 30, 2008 – City entered into a pilot project with a company that installs catch basin curb inlet screens to prevent leaves and debris from entering the catch basin. Screen was installed on east side catch basin to prevent organic debris from entering the catch basin and rotting inside the pipe.

October 2, 2008 – City entered into a pilot project with a different company that installs catch basin curb inlet screens to prevent leaves and debris from entering the catch basin. Screen was installed on west side catch basin to prevent organic debris from entering the catch basin and rotting inside the pipe.

12.2.11 Where We Are Now

As listed above, the City is participating in two unique pilot programs at Seascape Sur. The City has installed two different catch basin debris screen BMPs at the east and west catch basins directly upstream from the Seascape

outfall. The goal of the debris screens is to prevent organic debris and trash from entering the pipe and rotting, producing a perfect food source for bacterial re-growth in the sag in the pipe. The BMPs were installed in August and September 2008, with the intent to monitor the bacteria results at the outfall after a year.

As is shown in the following table, the bacteria results have decreased when compared to previous years, with the exception of December 2009 and January 2010. This may be attributable to the new BMP installations upstream or the continuous educational efforts of City Staff. Whatever the case may be, the results are still not acceptable to City Staff or the community. It cannot be emphasized enough that the outfall does not seem to impact the receiving water at all; however the City is still focusing its efforts on eliminating the source of the bacteria in the very near future.

Table 12-5 Seascape Sur Results, September 2008 to June 2011

Date	Total Coliform (MPN/100mL)	Fecal Coliform (MPN/100mL)	Enterococcus (MPN/100mL)
9/30/08	16,000,000	800,000	80,000
10/9/08	16,000,000	1,300,000	130,000
11/20/08	No Flow	No Flow	No Flow
12/22/08	500	20	20
1/21/09	1,600,000	2,200	13,000
2/21/09	No Flow	No Flow	No Flow
3/25/09	170,000	110	5,000
4/3/09	74	10	10
5/27/09	1,600,000	23,000	800
6/23/09	270,000	13,000	5,000
7/21/09	230,000	20,000	7,000

8/18/09	170,000	7,000	13,000
9/22/09	80,000	23,000	3,000
10/26/09	130,000	9,000	2,000
11/16/09	600,000	230,000	4,000
12/21/09	9,000,000	110,000	600
1/11/10	9,000,000	17,000	9,000
2/16/10	40,000	20,000	<200
3/15/10	240,000	11,000	220
4/20/10	140,000	20,000	200
5/10/10	210,000	20,000	500
6/23/10	160,000	160,000	<20
7/26/10	900,000	23,000	700
8/16/10	23,000	<2,000	1,100
9/13/10	3,000,000	1,300,000	13,000
10/28/10	300,000	<20,000	2,100
11/2/10	170,000	<2,000	3,000
12/6/10	11,000	200	200
1/24/11	>1,600,000	5,000	22,000
2/7/11	8,000	400	2,300
3/14/11	220,000	2,000	40

4/11/11	11,000	400	<200
5/16/11	2,200	1,100	40
6/21/11	160,000	160,000	<20

The City continues to struggle with this ongoing situation, although has made some improvements to the bacteria levels during this reporting period. The budget continues to include money for cleaning the line once per year, but this is merely a temporary fix to the problem, whereas the City is looking for a permanent solution. The one positive to take from this is that the discharge is not affecting the water quality of the receiving water (Pacific Ocean) yet, there is no guarantee that this will not change in the future. Here are some options the City is now looking at to hopefully solve this reoccurring problem:

Repairing sag in the outfall pipe: This option is being actively researched as re-growth in the pipe is now the most suspected culprit. The City's Public Works Operation Manager is researching this option with other City Staff. In addition, City Staff is looking into other options such as re-lining the pipe or "pipe-blasting", which may help reduce the sag and improve flow through the pipe.

Blocking off connections from adjacent residential complexes and making them drain to the street so that discharge can be sampled: This option is seen as a last ditch effort, as it would be very expensive and politically challenging. This would only be considered if the outfall started affecting receiving water quality.

Installing permanent BMP such as a low flow diverter: This option is also seen as a last ditch effort as it would be expensive and has not been fully researched to check the feasibility. City engineers would have to check the locations of the sewer main and the capacity to determine if this would be feasible. Funding may be available through grants for water quality, but again this option is a long term effort. City staff will continue to look into various funding options, one being the recent grant that allowed the City of Imperial Beach to install a low-flow diverter. Staff will monitor that project closely and may seek the same grant to place a diverter in this location.

During this reporting period, the City partnered with the San Elijo JPA (the local WWTP) to apply for grant funding to assist with the costs associated with

installing a low-flow diverter. The grant is through the IRWM Proposition 84 and includes, among other local water quality improvement projects, the City's Seascape Sur Low-Flow Diverter project. The City's grant application received the highest ranking by the IRWM review board. It is currently included in the Phase 1 application process that will be submitted to the State for approval. The City is anticipating receiving $100,000 to install a Low Flow Diverter. This project and funding have not been finalized yet and will be reported on in future reports.

12.2.12 Future Activities

The City is committed to finding a solution to the bacteria problem at Seascape Sur, or at least installing a permanent treatment control BMP to redirect the flow to the sewer system. During the last reporting period, the City installed and monitored additional upstream BMPs at the catch basins leading into the problem pipe. This activity seems to have slightly improved the bacteria levels at the outfall and has encouraged City Staff that some of their efforts seem to be paying off. As discussed above, the City is now looking at other structural options with its engineering staff to hopefully find another angle in this seemingly unending battle, and also applied for a grant to help with funding a Low Flow Diverter.

The City has committed to setting money aside in its CIP budget to undertake some major projects to help solve the problem. As stated in the Fiscal Analysis Chapter, the FY 11/12 budget has $5,000 set aside specifically for the Seascape Sur storm drain cleaning. The City is committed to thoroughly cleaning the pipe annually if need be, or until a long-term solution is found. The City is currently investigating other structural options and may find it better financially to undertake a large CIP project than continually spending $5,000 a year for a temporary fix. However, the location and depth of this particular pipe make it very difficult to work on, so it is taking some time to develop a sound engineering plan to fix the pipe or divert the flows. If this is the option the City ultimately takes, it will be very prudent to take the time to do it correctly, so the City is committed to taking the time to develop a plan to ensure its effectiveness.

Additionally, the City actively monitors the outfall pipe and all surrounding areas for any unusual occurrences, and the Marine Safety Department will continue to notify the Engineering Department whenever there seems to be unusual spikes or odors coming from the outfall pipe, as one of the lifeguard towers is located directly in front of the outfall (during summer months). Lastly, City Staff will

continue to work with the neighboring condominium associations to educate the residents as well as perform inspections of upstream businesses.

12.3 Summary

The City has thoroughly utilized the results from its DWMPs and Coastal Monitoring Program during the last several years to identify and attempt to eliminate the source of bacteria that was identified through testing and upstream investigations. With the efforts of City Staff, and the cooperation of the Beachwalk property owners/managers and neighboring condominium complexes, the sources of the bacteria have almost been solved. Unfortunately, with the structural deficiencies (the sag) in the pipe, it may only take a small amount of bacteria entering the pipe to remain in the sag and promulgate (re-growth). Fortunately, the elevated bacteria levels do not seem to be affecting the receiving waters (no receiving water exceedances in the past five years) yet, but the City wants to take care of the situation before it becomes a problem. Therefore, the City is currently examining other options such as re-lining the pipe, “pipe-blasting” or installing a low-flow diverter.

CHAPTER 13
Non-Emergency Fire Fighting

CHAPTER 13: NON-EMERGENCY FIRE FIGHTING

In accordance with Permit section J.3.a.(3)(l), this section of the report describes the City's efforts to control Non-Emergency Fire Fighting events. The City understands that the health and safety of its residents supersedes the storm water regulations when it comes to emergency situations, such as a fire. However, for non-emergency fire fighting activities such as routine maintenance and training, the release of water into the City's MS4 is not permitted. Therefore, the City's Fire Department trains at two special facilities, one in San Marcos and the other in Rancho Santa Fe. Both facilities have BMPs installed to properly handle the excess water, and comply with all regulations of the storm water Permit. ***No training exercises that involve water are conducted within the City limits.***

Routine maintenance of the City's fire trucks and apparatus is essential to ensuring public health and safety, as all equipment must be in top condition and functioning properly during an emergency. Most of the time, this maintenance is conducted onsite at the Fire Department. To handle the excess water, the Fire Department staff redirects the flows onto a large slope of vegetation behind the Fire Station. Staff takes extra precaution to ensure no water leaves the site. Also, the washing of trucks and apparatus occurs inside the large bays, which is plumbed directly to the sewer system.

Non-Emergency Fire Fighting is also discussed in the Municipal Component.

CHAPTER 14
JURMP Revisions

CHAPTER 14: JURMP REVISIONS

In accordance with Permit section Permit sections I.1.b. and J.3.a.(3)(m), this section of the report describes any revisions that occurred to the City's JURMP.

As reported in last year's Annual Report, the City made multiple revisions to the JURMP based on comments by RWQCB staff after initial review of the new document. Those revisions have been made and are currently included in the City's JURMP.

Tables 5.1 and 5-2 have been updated based on recommendations by the San Diego Coast Keeper. The City is confident that this newly formatted table complies with the requirements of the permit.

CHAPTER 15
Conclusions and Recommendations

CHAPTER 15: CONCLUSION AND RECOMMENDATIONS

15.1 Conclusion

During the FY 2010/2011 reporting period, the City was able to successfully implement the many requirements of the Permit. Although the City has been required to have a storm water program under previous Orders issued by the RWQCB, this new Permit greatly expanded the types of activities and documentation efforts required of the cities. This was the third full year of implementation under Permit No. 2001-07 and the second full year of JURMP implementation. The City is very satisfied with the progress of the new program and is actively developing the regional large scale programs such as the HMP, LID, SUSMP and regional educational programs.

The City continued its "team approach" in implementing the JURMP by integrating the evolving requirements of the Permit into specific tasks that each member would be responsible for implementing in their respective departments. The Environmental Programs Manager is responsible for bringing the group together and updating the respective departments on any changes that may affect their respective daily activities. Additionally, the Environmental Programs Manager is responsible for ensuring that all requirements of the Permit are being addressed and satisfied. This collaborative method allowed the City to more rapidly modify procedures and handle the increased workload quickly and efficiently, especially with a small staff with lean resources.

The City's accomplishments during this reporting period provide evidence of the City's pro-active approach to improving storm water quality. The requirements under Order 2001-01 expanded the previous Order (90-42) significantly and have altered many of the daily routines of Staff at the City. In addition, the City is actively working on developing and implementing the new programs to satisfy Permit Order No. 2007-0001, including, but not limited to, modifying the Municipal Code for the new model SUSMP, LID and HMP requirements, updated the City's JURMP and implementing the new Coastal Monitoring Program.

During the next reporting period, the City expects to build on the accomplishments of FY 10/11, and determine the most effective and meaningful program activities as to their impact on water quality (pollutant specific)

collaboratively with the other Copermittees, and implement the approved program assessment strategy. The City is confident that it is in compliance with the goals set out under Permit No. 2007-0001. These include but are not limited to:

- Minimum commercial, industrial and construction inspections
- Minimum municipal inspection and maintenance of BMPs
- Implementing comprehensive educational and public participation component
- Developing Hydromodification Plan
- Implementing SUSMP Model update
- Developing Low Impact Development (LID) program
- Minimum inspection and street sweeping frequencies
- Post Construction BMP verifications and inspections

The City eagerly anticipates working collaboratively with the other Copermittees in further developing and implementing these significant programs during this Permit cycle. The City is confident that the Copermittees will continue to develop and implement these programs to meet the requirements and goals of the new Permit. The City understands that all parties' involved (Copermittees and RWQCB staff) are in this together to improve the discharge and receiving waters in the region and we will continue to support and work collaboratively with all parties to accomplish this goal.

15.1.1 2010/2011 Accomplishments

The following is a small list of notable accomplishments achieved during the 2010/2011 reporting period. All of these activities are described in more detail throughout this report. They are the following:

- Continued development and implementation of new SUSMP, LID and HMP programs

- Continued implementation of new BEACH database to track building permits, post-construction BMP inspections, and plan check comments

- Implementation of post-construction BMP verification and maintenance tracking system

- Development of stakeholder cooperation and partnerships with key organizations such as the Santa Fe Irrigation District, Solana Center and Kids Korps

- Upgrades to web portal "Green Flash" to house all of the City's environmental programs and information

- Development of relationship with local Solana Beach School District to foster open communication for environmental education in local schools

- Continued work with the Clean and Green Team, consisting of active environmentally conscientious community members to develop and implement environmental programs and education

- Continued educational outreach at all local events, and conducting cleanups and community bulky-item pickup days

- Continued implementation of aggressive and convenient HHW program to provide easy and efficient HHW pickup and proper disposal

- Continued extensive landscape and irrigation educational series for public and private landscapers. The classes were given in both English and Spanish and taught the participants proper landscaping and irrigation practices.

- Participated in regional workgroup to develop new mobile sources program

- Continued to conduct specialized Staff trainings utilizing an outside consultant to target priority educational areas

- Implemented a comprehensive Sewer Assessment and Repair Program, which consisted of videoing the entire sewer system and setting a schedule to repair priority areas

- Staff re-inventoried the commercial and industrial sites throughout the City

- Staff continued to outsource the commercial/industrial facility inspections to a specialized contractor that inspected 100% of all facilities, regardless of priority

- Staff inspected 100% of all municipal inspections

- Implemented a mandatory commercial recycling ordinance, mandating recycling at ALL commercial facilities

- Implemented a Leaf Blower Ban, banning all gas powered leaf blowers in the City and banning landscapers from blowing or collecting organic debris in the street, gutter or sidewalk. Oftentimes, this organic debris finds its way into the City's MS4 system, so the City now requires all landscaping activities to be conducted on the property, and makes it a violation of the City's storm water requirements subject to enforcement actions if people do not comply

- Implemented a "Keep Solana Beach Beautiful Day" to have the community "adopt" areas throughout the City to clean up litter and trash

- Implemented the 3rd Annual Green Fair

15.2 Recommendations

Since the new Permit was adopted in January 2007, FY 2010/2011 was again dedicated to developing new programs and fine tuning existing programs to comply with the new requirements. The City is committed to working cooperatively with the other Copermittees to develop and implement the new required programs to provide a consistent and recognizable message for the region. However, the City still must develop jurisdictional specific programs to address the specific pollutants of concern and their respective sources. In an effort to implement a successful and meaningful program, the following are recommendations to improve the City's storm water program for FY 11/12:

- *Continue to educate new and existing City Staff to ensure compliance in with evolving storm water regulations.*

- *Complete the special investigation to uncover and eliminate the root cause of reoccurring problems upstream from Seascape Sur Outfall, or install a permanent treatment control BMP to eliminate the ongoing bacteria exceedances at the outfall.*
- *Evaluate staff needs and program responsibilities and continue to research the possibility of utilizing outside consulting services.*
- *Continue implementation of SUSMP, LID and HMP requirements and ensure all plans are in compliance.*
- *Continue implementation of the new JURMP program plan and implement measures to comply with Permit requirements*
- *Increase the education of residential sector which is a main focus of the new Permit. These programs will be addressed cooperatively at the regional level, but the City is committed to helping develop the materials to be distributed to our residents.*
- *Continue to collect and analyze monitoring data to establish a long-term assessment of the City's storm water quality.*
- *Develop additional industry specific educational materials to distribute to the community.*
- *Develop and implement pollutant specific activities to address high priority COCs (Constituents of Concern).*

APPENDICES

APPENDIX A: CONSTRUCTION BMP BROCHURE

CONSTRUCTION SITES

In 1972, the Environmental Protection Agency developed regulations to control water pollution. As a result, the National Pollutant Discharge Elimination System (NPDES) Permit was created. NPDES permits are issued to municipalities as well as construction sites.

In addition to complying with local regulations, which are governed by our municipal NPDES permit, you may be required to obtain a permit through the State of California under the State General Construction Permit (99-08-DWQ). All construction sites over one acre are required to obtain coverage under this permit.

Construction sites can contribute pollutants such as sediment, metals, and chemicals, to our local creeks, rivers, lakes, lagoons, and ocean. These pollutants make their way down our streets and into storm drains, eventually discharging to the nearest body of water.

All construction sites are required to implement Best Management Practices (BMP) to prevent storm water pollution. This brochure is intended to assist your construction site in understanding BMP requirements.

Each municipality has one or more persons dedicated to ensuring that all construction sites are in compliance with state and local storm water control regulations. Contact your local municipality for further information.

RIGHT-OF-WAY PERMITTING

We understand that there are times when space on construction sites is limited. If at any point, you (as a contractor or subcontractor) need to use the public right-of-way in order to work or store materials, you must apply for a special permit. This permit allows you to use the City's right-of-way areas, and describes what is required to prevent illegal contaminants from entering local storm drains. For more information or to obtain a permit application contact your local jurisdiction.

INSPECTION AND ENFORCEMENT PROGRAM

Each jurisdiction has established an enforcement program to ensure that all businesses operate in compliance with all appropriate storm water laws and other City requirements. Contractors, site supervisors and property owners can be held responsible for violations, which may lead to a civil penalty of up to $10,000 per day and/or reimbursing the local jurisdiction for all expenses associated with clean up.

BEST MANAGEMENT PRACTICES

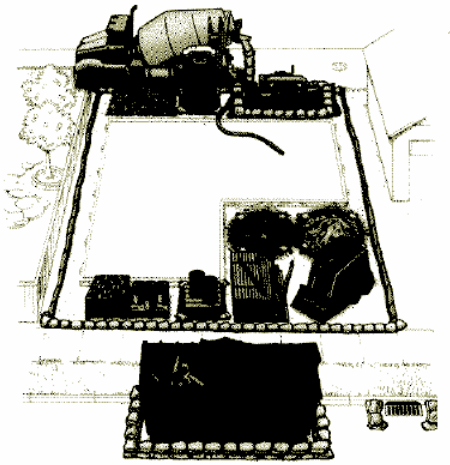
Construction materials such as paint, dirt and trash often find their way into our storm drains, polluting the environment and jeopardizing our creeks, rivers, lakes, lagoons, and ocean.

The NCSWP is working with contractors to implement what are known as Best Management Practices (BMPs) on all construction sites. That is, methods used to keep pollution out of our storm drains and off public property, such as sidewalks, streets, parkways and alleys. Carrying out and maintaining these BMPs on the construction site is critical to protecting our ocean and bay.

The following is a list of BMPs and pollution prevention measures that shall be implemented at all construction sites:

1. **Conduct daily site cleanings.**
2. **Develop spill response and containment procedures.**
3. **Educate employees and subcontractors about BMPs.**
4. **Develop an erosion control plan for wind and rain.**
5. **Regularly maintain all BMPs at project site.**

A Pollution Prevention Guide for the Construction Industry



North County Storm Water Program

Carlsbad • Del Mar • Encinitas • Oceanside
• San Marcos • Solana Beach • Vista

Only Rain in the Storm Drain

Water Quality Regulations for Construction Sites

Dear Contractor,

The North County Storm Water Program is a collective of jurisdictions in northern San Diego County working together to protect our watersheds. We believe that reducing pollution is critical to maintaining our communities' way of life.

It is our hope that this brochure will help you identify activities that are recognized to cause water pollution and implement appropriate Best Management Practices (BMPs) to minimize their impact. By providing you with these tools, we hope to make your job easier while keeping our waterways clean.

Each jurisdiction will be inspecting their construction sites to ensure the protection of water quality. We look forward to seeing the BMPs presented in this brochure implemented at your sites.

Together we have the ability to preserve and improve the quality of life in our communities.

Sincerely,

The North County Storm Water Program

Contact Phone Numbers:

City of Carlsbad
760-602-2799

City of San Marcos
760-744-1050

City of Encinitas
760-633-2787

City of Del Mar
858-755-9313

City of Oceanside
760-435-5800

City of Solana Beach
858-720-2470

City of Vista
760-726-1340

APPENDIX B: STORM WATER PLAN CHECK COMMENT FORM

CITY OF SOLANA BEACH
ENGINEERING DEPARTMENT
STORM WATER PLAN CHECK COMMENTS

Project: _____ Address: _____

☐ Construction phase **Erosion Control** shall be shown on the permitted plans, such as silt fences, gravel bags, de-silting basins, slope protection and entrance controls. **Best management practices (BMP's)** shall be developed and implemented to manage storm water and non-storm water discharges from the site at all times during construction activities. Erosion prevention shall be emphasized to keep sediment on site during excavation and grading activities. Sediment controls such as mulch, jute netting and straw blankets shall be used as a supplement to erosion control for keeping sediment on site.

- **Submit Storm Water Management Plan** (attached)
- **Add the following note to plans**: "**EROSION CONTROL:** Best management practices shall be developed and implemented to manage storm water and non-storm water discharges from the site at all times during excavation and grading activities."

☐ The Applicant shall demonstrate that the **project does not increase storm water runoff** or peak discharge from their property. For example, add a storm water retention and infiltration feature such as a depressed landscape area or below ground drywell using course rock (1.5" to 2.5") or a pre-fabricated chamber. The amount of retention volume should be at least equal to 0.60 inches (0.05 feet) times the added impervious area. This should be designed to avoid runoff damage to downstream properties, such as not concentrating runoff where it was previously not concentrated. (For 5,000 SF or more of added impervious area, use County of San Diego Hydrology Manual)

☐ Storm Water and Non-Storm Water Runoff Control. Post-development measures that **reduce pollutant discharges from the site** shall be shown on the permit plans. For example, maximize permeable areas (landscaping, driveway grass strips, gravel paths, concrete pavers on sand) to allow runoff seepage into the ground and drain impermeable surfaces (roofs, hardscape, driveways) to permeable areas (i.e. planted areas) and other approved pollutant treatment BMP's.

- Is runoff from hardscape areas routed over natural treatment areas before draining off site?
- **Show on the plans** where hardscape and roofs drain to.

- **Show BMP's** on the plans (grassy swales, landscaping, infiltration pits, pervious pavements, gravel paths, etc.).
- The volume of treatment should be at least 0.60 inches (0.05 feet) times the added impervious area.

APPENDIX C: BUILDING PLAN CHECK ROUTING FORM

CITY OF SOLANA BEACH
635 S. Highway 101, Solana Beach, CA 92075
(858) 720-2440
APPLICATION TRACKING FORM

Plancheck No.: _____
Received by: _____
Date:

Site Address _____ Suite # _____
Site Business Name _____ APN _____
Project/Property Owner's Name _____
Contact Person _____ Phone # _____
Address _____ Fax # _____
Project Description _____ E-Mail _____
Discretionary Permit Applicable? _____ Sq. Ft. _____
Estimated Building Valuation? _____ Estimated Grading Required? _____
Is/will the building equipped with fire sprinklers? ☐Yes ☐No Is the property on a septic system? ☐Yes ☐ No
Is there an existing swimming pool &/or spa on the property? ☐Yes ☐ No **If "yes," see the Pool & Spa note below**

THE FOLLOWING "CHECKED" ITEMS MUST HAVE WRITTEN APPROVAL PRIOR TO PERMIT ISSUANCE. APPROVALS FROM THE PLANNING, ENGINEERING, FIRE, HEALTH DEPARTMENTS, AND THE AIR POLLUTION CONTROL DISTRICT MAY ALSO BE REQUIRED PRIOR TO FRAME AND/OR FINAL INSPECTION AND OCCUPANCY (INDICATED ON "BLUE" CARD). IF YOU HAVE ANY QUESTIONS, PLEASE CONTACT THE INDIVIDUAL DEPARTMENT(S) AT THE NUMBERS SHOWN.

CITY DEPARTMENTS

☐ **PLANNING / ZONING**.....858-720-2440
- ☐ O.K. for Plancheck Only. By _____Date_____
- ☐ Fees Due. ☐ Park Fees ☐ Public Facilities Fees ☐ Public Arts Fee
- ☐ Fee Payment Required Prior to ☐ Permit Issuance ☐ Final Inspection
- ☐ Height Certificate Required prior to Requesting Frame Inspection.
- ☐ Approval Req'd prior to: ☐ Permit ☐ Frame Insp ☐ Final Insp
- ☐ Approval required prior to ☐ Frame ☐ Final Inspection
- ☐ Project shall comply with Wildland Urban Interface Standards (WUI)
- ☐ O.K. to Issue Building Permits _____

☐ **ENGINEERING / SANITATION**.....858-720-2470
- ☐ O.K. for Plancheck Only. By _____Date _____
- ☐ Permits Req'd ☐ Dedication Req'd ☐ Fees Req'd.
- ☐ Approval required prior to ☐ Frame ☐ Final Inspection (Sewer, Plancheck, In Lieu)
- ☐ See attached form for Storm Water BMP'S
- ☐ O.K. to Issue Building Permits _____

☐ **ENVIRONMENTAL**.....858-720-2477
- ☐ O.K. for Plancheck Only By _____Date _____
- ☐ See attached form for Storm Water comments
- ☐ WMP Required Prior to ☐ Permit Issuance ☐ Final Inspection
- ☐ Post Construction BMP Inspection Required:
  - ☐ During Construction ☐ Prior to Final Inspection
- ☐ O.K. to Issue Building Permits _____

☐ **FIRE PREVENTION**.....858-720-2410
- ☐ O.K. for Plancheck Only By _____Date _____
- Approval required prior to ☐ Frame ☐ Final Inspection
- ☐ O.K. to Issue_____

☐ **POOL & SPA SAFETY ENCLOSURE & SAFETY FEATURES**
Effective 1/1/07, AB 2977 requires all existing pools and spas shall comply with current State mandated enclosure & safety features.

AGENCY APPROVALS

☐ **SCHOOL FEES**
(Obtain signature on the attached forms)
Solana Beach Elementary &
San Dieguito Union H.S. District.....760-753-6491

☐ **HEALTH DEPARTMENT**
- ☐ Health Regulated Business
- ☐ Hazardous Materials Management.....619-338-2222
  1255 Imperial Avenue, San Diego 92138-5621
- ☐ Final Approval Required
- ☐ Septic Approval Required 760-471-0730
  151 Carmel St, San Marcos 92078

Approved by_____

☐ **AIR POLLUTION CONTROL DIST.** .....(858) 586-2600
(Obtain stamp and signature on APCD Questionnaire)
10124 Old Grove Rd., San Diego CA 92131

☐ **WATER AND SEWER**
(Obtain signatures on attached forms)
- ☐ Santa Fe Irrigation District.....858-756-2424
- ☐ Solana Beach Sanitation District 858-720-2470

☐ **CALIFORNIA COASTAL COMMISSION**....619-767-2370
Call for an appointment

☐ **ASSESSOR'S COPY OF PLANS**
At permit issuance, provide a third copy of Title Sheet, Plot Plan & Floor Plan (per Senate Bill 493).

☐ **OWNER/BUILDER AFFIDAVIT AND/OR CONTRACTOR INFORMATION**

☐ **SDG&E WORK ORDER**..... (800) 411-SDGE
For new / relocated gas & electric meters

_____ _____
Signature of Applicant Date

F:/Common/UpdatedApplications/Tracking Sheet Eff 09/08

APPENDIX D: RAINY SEASON REMINDER (SAMPLE)

October 15, 2008

XXXXXXXXXXXX
XXXXXXXXXXXX
Solana Beach, CA 92075

RE: EROSION CONTROL RESPONSIBILITIES FOR CONSTRUCTION SITES

Dear Owner and/or Contractor:

As the rainy season begins, this is a reminder to make sure that your project site at **XXXXXXXX** is in compliance with the City of Solana Beach's Storm Water Management Section 13.60 and Excavation and Grading Ordinance Section 15.40. Your responsibility as owner/contractor is to control and reduce pollutants in runoff from all your construction activities. You are required to comply throughout the year, but the "rainy season" requires special attention and practices.

Since we are now in the official "rainy season," you shall implement all the required measures in the Storm Water Pollution Prevention Plan or Erosion Control Plan for your project site. Your responsibility to implement these measures is not only to comply with the City of Solana Beach's Ordinances and Jurisdictional Urban Runoff Management Program (JURMP), but also to comply with the Regional Water Quality Control Board Permit Order 2007-0001.

At a minimum you must implement these practices on all disturbed areas during the rainy season:

- Cover and stabilize all exposed soil, particularly on slopes, in order to prevent erosion.
- Employ any erosion control measures that are adequate to prevent erosion.
- Implement Best Management Practices (BMPs) to reduce the tracking of sediment onto public or private roads.
- Conduct pre- and post-storm inspections of erosion prevention and control measures and determine whether they function properly; modify if necessary to improve effectiveness.
- Maintain all erosion prevention and control measures throughout the season and replace them as needed to ensure measures accomplish the task.
- Ensure that all site personnel are trained in erosion prevention and control techniques as well as in the requirements of the Statewide General Construction Storm Water Permit.

- Review, upgrade, and fully implement your site-specific Storm Water Pollution Prevention Plan consisting of Best Management Practices for all pollutants, including those other than sediment. The City of Solana Beach will be inspecting your project site for compliance. The California Regional Water Quality Control Board plans to conduct their compliance inspections jointly with the United States Environmental Protection Agency. Other agencies may inspect your site at will.

If you would like additional information on selecting appropriate BMPs, the City has developed a BMP Brochure that is available upon request. Failure to comply with the City's storm water regulations can result in enforcement actions, including stop work notices and fines.

If you have any questions, or require additional information, please contact me at (858) 720-2477.

Sincerely,

Danny King
Environmental Programs Manager
City of Solana Beach

APPENDIX E: PUBLIC PROJECT PRE-CON MEETING AGENDA

PRE CONSTRUCTION MEETING
Fletcher Cove Pump Station Vault Maintenance
Bid No. 2009-07
December 18, 2009

Introductions

Contacts

1. Contractor — A.B. Hashmi, Inc.
2003 South El Camino Real, # 105
Oceanside, CA 92054
(760) 672-8059

2. City — City of Solana Beach
635 S. Hwy 101
City of Solana Beach, CA 92075
(858) 720-2470 (Engineering)
(858) 755-1782 (Engineering fax)

Hector Ezquerro – City Inspector (858) 354-8876 (cell)
Dan Goldberg – Project Manager (858) 720-2474
Steve Kerr – Public Works Operations Manager (858) 449-2630 (cell)
Craig Miller – Marine Safety Captain (858) 720-4444

Utilities — Santa Fe Irrigation District (858) 756-2424
Joe Hernandez – San Elijo Joint Powers Authority (760) 801-0935 (cell)

Project Status: Notice to Proceed – TBD
25 Working Days

Contract Amount: $20,770.00

Project Goals:
- Safety
- Community
- Quality
- Schedule
- Budget

Contractor Requirements:
- Any questions about Contract Award or “Key Contract Items Summary Sheet"?
- Submit Construction Schedule
- Submit Traffic Handling Plan
- Submit Storm Water Pollution Prevention Plan (SWPPP)
- Submit Names/Phone Numbers of Foreman/Emergency People
- Submit Names of Additional Subcontractors

9/28/2010 Page 1 of 2 3:31 PM

Storm Water & Erosion Control
- Best management practices shall be used & maintained
- Erosion control plan

Labor Compliance, Certified Payroll and Progress Payments

Public Notification: Contractor's responsibility (keep the public & the city informed)

Utility issues

Project Safety: Contractor's responsibility
- Traffic Control Plans

Inspection & Testing
- City will provide inspection

Change Orders
- Notification must be in writing
- Work is not approved until you have a change order signed by the City Council, City Manager or the City Engineer. Project Manager and Project Inspector cannot approve change orders.

Submittals
- Submittals should be given to the project manager.

Operating hours
- 7 a.m. to 4:30 p.m. Monday through Friday. Do not operate, start equipment or congregate near residential areas before 7 a.m.
- No work will be allowed on weekends or holidays.

Operating Conditions
- Per Section I (General Requirements), Part J.2 (page 43), the contractor shall perform all work in coordination with the San Elijo Joint Powers Authority (SEJPA). SEJPA requires 24 hour access to the pump station and the pump station must remain operational throughout the duration of the project unless coordinated with SEJPA and approved by the city. In addition, the marine safety building and the adjacent restroom building must remain fully operational throughout the project.
- Per Section I (General Requirements), Part J.4 (page 43), the contractor will not be allowed to close Fletcher Cove Park, the beach access ramp or any portion or the parking lot. All work shall be contained as close as possible to the area immediately surrounding the place where the work is occurring.
- Per Section I (General Requirements), Part J.6 (page 43), there may be separate construction projects taking place that will gain access to their project using the beach access ramp. Contractor is expected to cooperate with and allow access to the outside construction contractors.
- Scheduling of all work shall be coordinated with the Marine Safety Department to ensure that their operations are impacted as little as possible during the project.

Project Issues/Ordering of Materials

Work Schedule/Notice to Proceed

APPENDIX F: CIVIL PENALTY MATRIX

SOLANA BEACH
CIVIL PENALTIES MATRIX

The following factors will be considered in determining the amount of civil penalties from the Solana Beach Municipal Code 13.10.140 A. any person who violates any of the provisions of this chapter shall be liable for a civil penalty not to exceed $1,000 for **each day** such a violation exists and will be assessed: (1) The seriousness of the violation (2) the duration of the violation; (3) the frequency or recurrence of the violation; (4) the history of the violation; (5) the Responsible Party's conduct after issuance of the Notice and Order; (6) the good faith efforts of the Responsible Party to comply; (7) the impact of the violation upon the community.

*** Criminal Penalties**

These factors are assigned to two categories, "**Environmental Significance**" and "**Compliance Significance**," in order to easily present them in a graphical form in the matrix chart.

Environmental Significance includes the following factor: Seriousness of the violation.

Compliance Significance includes the remaining factors: The duration of the violation, frequency or recurrence of the violation, the history of the violation, the Responsible Party's conduct after issuance of the Notice and Order; the good faith efforts of the Responsible Party to comply and the impact of the violation on the community.

Environmental Significance

Compliance Significance	Moderate	Major	Severe
Moderate	*NOV-$100	$100 - $200	$500
Major	$100- $200	$500	$1,000
Severe	$500-$1,000	$1,000	$1,000-Referral to

			Regulating Agency

* Notice of Violation

The list below gives examples of issues specific to storm water violations that could be considered under each of the factors.
Increased Penalties will be factored as Notice of Violation to Moderate, Moderate to Major or Major to Severe.
Decreased Penalties could be Severe to Major, Major to Moderate or Moderate to Notice of Violation.

Environmental Significance
Seriousness of the Violation

Relatively inert discharges (e.g., soil, sediment, cement residue, stucco residue**,** etc.) **[Moderate Environmental Impact]**

Moderate toxicity / moderate health threat discharges (e.g., cleaning products with no specific hazard, i.e. detergent, latex paint) **[Major Environmental Impact]**

Significant toxicity / significant health threat discharges (e.g., sewage, hazardous materials/wastes, etc.) **[Severe Environmental Impact]**

SOLANA BEACH
CIVIL PENALTIES MATRIX

Compliance Significance

Duration of Violation

Extent of discharge as determined by volume, area covered, how long it continued **[Greater Discharge Can Lead to Increased Penalty]**

Number of days the discharge remained unabated in the conveyance system **[Unabated Discharge Can Lead to Increased Penalty]**

Impact on the Community

Results in damage, degradation, or obstruction of the storm water conveyance system **[Can lead to Increased Penalties]**

Results in actual degradation of aquatic habitat in receiving waters **[Can lead to Increased Penalties]**

Results in actual impact on wildlife including benthic communities **[Can lead to Increased Penalties]**

Results in algal bloom, discoloration or odor in receiving waters **[Can lead to Increased Penalties]**

Discharge of constituent of concern within a watershed that leads to a 303 (d) listed water body **[Can lead to Increased Penalties]**

Regulated industry (e.g., subject to OSHA chemical right-to-know requirements or subject to Hazardous Material / Hazardous Waste Permit) **[Can lead to Increased Penalties]**

Recurrence of Violation

No prior administrative enforcement penalty can be a factor for officer's discretion in lowering penalties.

Prior administrative penalties action can lead to increased penalties.

Prior administrative enforcement within the last year maybe a factor in determining higher penalties leading up to a **criminal citation**.

Intentional discharge will be a factor to increase penalties leading up to a criminal citation.
SOLANA BEACH
CIVIL PENALTIES MATRIX

History of Violation

Prior violations or warnings issued by other regulatory or City agencies (e.g., County Dept. of Health, County Dept. of Env. Health, RWQCB, FEWD, MWWD) **[Can lead to Increased Penalties]**

Prior warnings (letter or Notice of Violation) from Storm Water Pollution Prevention Program **[Can lead to Increased Penalties]**

Good Faith Efforts to Comply

Responsible Party failed to implement BMPs and should have known of requirement for BMPs (e.g., gasoline service station or construction industry) **[Can lead to Increased Penalties]**

Existing BMPs failed to prevent discharge (e.g., employee failed to comply with documented training and procedures or structural BMP failed to perform to design) **[Can lead to Reduced Penalties]**

Rapid and appropriate response to discharge **[Can lead to Reduced Penalties]**

The Solana Beach Municipal Code 13.10.140 A States the following:

13.10.140 Penalties for violation.

A. Civil Penalties. Any person who violates any of the provisions of this chapter shall be liable for a civil penalty not to exceed $1,000 for **each day such a violation exists**, and all pollution detection and mitigation costs (if applicable).

B. Criminal Penalties. Any person who knowingly or intentionally violates any provision of this chapter shall be subject to liability for a misdemeanor, punishable by imprisonment for a period not to exceed one year, or a fine not to exceed $10,000 for each day such a violation exists, or both.

C. Any monetary penalties collected by the city of Solana Beach pursuant to violations of this chapter shall be returned to the storm water management program to be used for storm water pollution monitoring and management practices. (Ord. 184 § 1, 1993)

13.10.150 Continuing violation.

Unless otherwise provided, a person, firm, corporation or organization shall be deemed to have committed a separate offense for each and every day during any portion of which a violation of this chapter is committed, continued or

permitted by the person, firm, corporation or organization and shall be punishable accordingly as herein provided. (Ord. 184 § 1, 1993)

13.10.160 Concealment.
Causing, permitting, aiding, abetting or concealing a violation of any provision of this chapter shall constitute a violation of such provision. (Ord. 184 § 1, 1993)

13.10.170 Acts potentially resulting in violation of Federal Clean Water Act and/or Porter-Cologne Act.
Any person who violates any provision of this chapter, any provision of any permit issued pursuant to this chapter, or who discharges waste or wastewater which causes pollution, or who violates any cease and desist order, prohibition, or effluent limitation, may also be in violation of the Federal Clean Water Act and/or Porter-Cologne Act and may be subject to the sanctions of those Acts including civil and criminal liability. Any enforcement action authorized under this chapter should also include notice to the violator of such potential liability. (Ord. 184 § 1, 1993)

13.10.180 Violations deemed a public nuisance.
A. In addition to the penalties hereinbefore provided, any condition caused or permitted to exist in violation of any of the provisions of this chapter is a threat to the public health, safety and welfare and is declared and deemed a public nuisance and to impact storm water quality, and such nuisance may be summarily abated and/or restored by any authorized enforcement official. Civil action to abate, enjoin or otherwise compel the cessation of such nuisance may be taken by the city attorney.
B. The cost of such abatement and restoration shall be borne by the owner of the property and the cost thereof shall be a lien upon and against the property and such lien shall continue in existence until the same shall be paid. If the lien is not satisfied by the owner of the property within three months after the completion by the authorized enforcement official of the removal of the nuisance and the restoration of the property to its original condition, the property may be sold in satisfaction thereof in a like manner as other real property is sold under execution.
C. If any violation of this chapter constitutes a seasonal and recurrent nuisance, the city of Solana Beach shall so declare. Thereafter such seasonal and

recurrent nuisance shall be abated every year without the necessity of any further hearing. (Ord. 184 § 1, 1993)

13.10.190 Civil actions.

In addition to any other remedies provided in this section, any violation of this chapter may be enforced by civil action brought by the city of Solana Beach. In any such action, the city of Solana Beach may seek, and the court shall grant, as appropriate, any or all of the following remedies:

A. Injunctive relief;

B. Assessment of the violator for the costs of any investigation, inspection, or monitoring survey which led to the establishment of the violation, and for the reasonable costs of preparing and bringing legal action under this subsection;

C. Costs incurred in removing, correcting, or terminating the adverse effects resulting from the violation;

D. Compensatory damages for loss or destruction to water quality, wildlife, fish and aquatic life. Assessments under this subsection shall be paid to the city of Solana Beach to be used for costs associated with monitoring and establishing storm water discharge pollution control systems and/or implementing or enforcing the provisions of this chapter. (Ord. 184 § 1, 1993)

APPENDIX G: GENERAL CONSTRUCTION "GOOD NEIGHBOR" BROCHURE

PROPERTY OWNERS ARE RESPONSIBLE FOR THE ACTIONS OF THE CONTRACTORS AND SUBCONTRACTORS WORKING ON THEIR PROPERTY.

Construction Hours and Noise Levels:

Construction workers shall not congregate at or report to the site prior to the beginning of construction hours.

Monday - Friday:
7:00 a.m. to 7:00 p.m.

Saturday:
9:00 a.m. to 6:00 p.m.

No construction is permitted on Sundays and Holidays. Please check the City's website for a list of observed holidays at:

www.ci.solana-beach.ca.gov

Construction noise levels shall not exceed 75 decibels for more than eight hours during any 24 hour period.

For information concerning construction hours and noise levels contact the Community Development Department at: (858) 720-2440

Storm Water Best Management Practices (BMPs)

Violations of the storm water regulations can result in penalties, including fines of $1000 per day per violation. These practices are strictly enforced.

Storm Water BMPs Continued:

- **Perimeter Protection Controls: Silt fences, straw wattels, sand bags, etc. must be used to control run-on and run-off from project site.**
- **Tracking Controls: All entrances and exits to the site must have protection measures installed to prevent tracking of sediment off the project site.**
- **Washout Area: All sites must have a designated "wash-out" area to clean equipment and dispose of excess concrete, stucco, and paint.**
- **Concrete Trucks/Pumpers: Concrete trucks and pumpers must have perimeter protection installed around and under them at all times. Any spill must be contained on-site and no washing of equipment permitted without a washout area.**
- **Materials Storage: All materials stored on-site must be contained and covered at all times.**
- **Trash Containers/Portable Restrooms: Dumpsters must be covered and have adequate perimeter protection and all portable restrooms must have secondary containment measures installed.**
- **Storm Drain Inlets: All adjacent storm drain inlets must be protected at all times to prevent pollutants from the project site from entering (including sediment).**

For more information concerning Storm Water BMPs contact the Environmental Services Department at (858) 720-2477.

Fire Safety:

Obey all Fire Codes:

- **Ensure fire lanes are kept clear and unobstructed.**
- **Any combustibles onsite must be stored safely.**
- **Remember oily rags catch on fire spontaneously, even when no ignition source or flame is present.**

For more information concerning fire safety contact the Fire Department at: (858) 720-2410

Encroachment Permits:

Encroachment Permits are required before you start work within the public right of way.

- **Constructing new or repairing old curbs, gutters and sidewalks, constructing new driveways or placing dumpsters in the right of way requires approval from the City and a fee of $245.**
- **The installation of new or repair of existing utilities requires approval from the City and a fee of $575.**

For more information concerning encroachment permits please contact the Engineering Department at: (858) 720-2470

Questions, Comments, Concerns? Contact City Hall at: (858) 720-2400

Construction Site "Golden Rules"

Treat the construction site as if you were living next door to it.

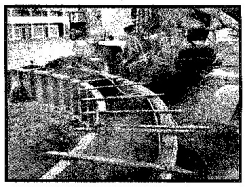
- Communicate construction timetables to the surrounding neighbors. Consider distributing a letter to neighboring properties listing proposed timetables and contact information for the property owner and construction contractor.
- Notify neighbors if you expect excessive noise and/or traffic disruptions on a particular day. For example, if you are planning to demolish an existing residence or if you are expecting heavy equipment onsite to pour concrete.
- Avoid parking in front of neighbors homes and do not run car engines unnecessarily.
- Minimize noise by not using radios and refrain from shouting whenever possible.
- Construction vehicles should be parked legally and accommodated on the construction site whenever possible.
- Use respectful personal conduct by using the onsite restroom facilities and do not use profanity.

Community Development Department

City of Solana Beach
635 South Highway 101
Solana Beach, CA 92075
Phone: (858) 720-2440
FAX: (858) 755-1782
www.ci.solana-beach.ca.gov

City of Solana Beach

Construction Site Supervision in Solana Beach: Code Requirements and Good Neighbor Practices



This fact sheet is provided to increase awareness of the basic rules all construction sites are required to follow by city ordinance. These rules are a minimum, and if not followed can result in penalties if you are found to be in violation of City or State applicable regulations.

In addition, we've provided some tips for additional measures that you can take at the site that would be appreciated by the City and your neighbors. We recognize that a construction site by its nature has a certain amount of noise, debris and inconvenience for the neighborhood. We have found from experience that where you can go above and beyond the minimum City Municipal Code requirements, and implement these good neighbor practices, your project can benefit from the improved neighborhood relations.

APPENDIX H: UNDERGROUND UTILITY DISTRICT SPECIAL BMP HANDOUT

Undergrounding Utility District Construction Best Management Practices

When conducting trenching work, construction Best Management Practices (BMPs) must be utilized at all times. Failure to keep all sediment and debris on your property is a violation of the City's Storm Water Regulations and can result in fines. The following list contains BMPs that may be used to keep sediment onsite and out of the City's storm drain conveyance system:

- Perimeter protection BMPs such as silt fences, straw waddles and/or sand bags can be used to contain sediment onsite.
- Cover all materials and keep above ground when a predicted rain event is to occur (>50% chance).
- Keep all materials/sediment out of street and gutter to prevent nuisance water from washing into storm drain system.
- Prevent sediment tracking into street by placing down gravel where equipment is entering and exiting property and sweeping area frequently.

These are all common general BMPs that can be utilized to prevent discharges into the City's storm drain conveyance system. If you or your contractor have any questions or require additional information on any of this, please feel free to call me at the number below.

Sincerely,

Danny King
Environmental Specialist

APPENDIX I: SPECIAL EVENT VENDOR BMP GUIDELINES

VENDOR GUIDELINES

Fiesta del Sol

- All electric cords should be out of the public access areas. If they must extend into a public access area, the cords must be protected with pedestrian transition molding to minimize the trip hazard.
- All cooking areas and devices shall have at least one 2A-20BC fire extinguisher readily accessible to persons working in the immediate proximity of each device or cooking area and shall be in plain view.
- All portable LP-gas containers, valves, and fittings shall be properly secured in a fixed upright position and protected in accordance with the Uniform Fire Code.
- The following conditions apply to canopies in excess of 400 square feet, and to tents and temporary membrane structures having an area in excess of 200 square feet:
- All tents, temporary membrane structures, and/or canopies that are to be used at the function shall be adequately braced and anchored to prevent weather related collapse. Documentation of structural stability shall be furnished to the Fire Chief on request.
- All tent, canopy, or temporary membrane structure exits shall be in accordance with the Uniform Fire and Building Codes.
- The design and construction of the fabric envelope, method of anchoring, and inflation systems for air-supported and air-inflated structures shall be in accordance with the Building Code.
- The sidewalls, drops and tops of temporary membrane structures, tents and canopies shall be composed of flame-resistant material or shall be treated with flame retardant in an approved manner. Floor coverings, bunting, combustible decorative materials and effects, including sawdust when used on floors or passageways, shall be composed of flame-resistant material or shall be treated with flame retardant in an approved manner. Temporary membrane structures, tents or canopies shall have either a permanently affixed label or a Certificate of Flame Resistance bearing the following information:
  - Identification of the temporary structure's size and fabric or material type.
  - For flame-resistant-treated materials, the date that the temporary membrane structure, tent or canopy and other combustible materials were last treated with an approved flame retardant. The trade name and type of flame retardant utilized in the flame-retardant treatment. The name of the person and firm that applied the flame retardant.
- The following general storm water run-off practices shall apply to the event:
  - No dumping or allowing any material into City storm drains.
  - Install secondary containment around portable restroom facilities when feasible.
  - Prompt and proper clean-up of all trash debris.
  - Do not use water or any liquid to rinse down any debris or dirt on any ground surface. Dry sweeping only of event debris is allowed.
  - Protect all storm drain catch basins/inlets when feasible with proper storm water Best Management Practices implementation.
  - Do not allow excess water to leave the site. Properly contain everything onsite before it enters the City's storm drain system.

APPENDIX J: MANDATORY COMMERCIAL RECYCLING ORDINANCE

ORDINANCE 417

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF SOLANA BEACH, CALIFORNIA, AMENDING SECTIONS OF CHAPTER 6.20 OF THE SOLANA BEACH MUNUCIPAL CODE, ALL RELATED TO RECYCLING

WHEREAS, the City's Solid Waste Collection and Disposal Ordinance (Chapter 6.20 of the Solana Beach Municipal Code) was enacted in 1993 pursuant to Ordinance Number 177; and

WHEREAS, the City's Solid Waste Collection and Disposal Ordinance, Sections 6.20.090 and 6.20.135 were amended in 2006 pursuant to Ordinance Number 345;

WHEREAS, Section 6.20.135 fails to mandate that all business types must recycle;

WHEREAS, Section 6.20.135 does state that residents and businesses may choose other methods to recycle other than through the City's recycling services;

WHEREAS, the City Council desires to update Chapter 6.20 to clarify certain provisions.

NOW THEREFORE, THE CITY COUNCIL OF THE CITY OF SOLANA BEACH DOES ORDAIN AS FOLLOWS:

Section 1. Section 6.20.090 of the Solana Beach Municipal Code is hereby amended as follows:

6.20.090 Containers.

It shall be the duty of the occupants of residential, commercial and industrial occupancies to maintain containers for the accumulation and disposal of garbage, recyclables, combustible and noncombustible rubbish, miscellaneous debris, rubbish, recyclable material and other refuse. All containers or receptacles used for the reception, removal and disposal of garbage, recyclables, food plant wastes, market greens, market refuse and like refuse, should be water-tight, constructed of a material of suitable strength and durability, shall be tight-seamed and provided with handles and tight-fitting lid or cover, which lid shall be and remain affixed to the container at such time as the garbage, recyclables, food plant waste, market greens, market refuse and other refuse are placed within the container. Noncombustible refuse and other like refuse, other than garbage, may be deposited in well-constructed containers having a capacity not in excess of 96 gallons each (residential) and which, when filled, do not collectively exceed a weight of 150 pounds for solid waste and recyclables. Green waste may be deposited in well-constructed containers having a capacity not in excess of 32 gallons each (residential) and which, when filled, do not collectively exceed a

commercial or residential property; or from donating to another entity for reuse or recycling recyclables generated from that business, commercial or residential property.

E. It is unlawful for any person to fail to segregate designated recyclable material. Violations of this section shall be punishable as provided in Chapters 1.16 and 1.18 SBMC. Nothing in this subsection shall prevent the city from obtaining voluntary compliance with the provisions of this section through educational programs, issuance of warning notices, or other means.

EFFECTIVE DATE: This Ordinance shall be effective thirty (30) days after its adoption. Within fifteen (15) days after its adoption, the City Clerk of the City of Solana Beach shall cause this Ordinance to be published pursuant to the provisions of Government Code Section 36933.

INTRODUCED AND FIRST READ at a regular meeting of the City Council of the City of Solana Beach, California, on the 12th day of May, 2010; and

THEREAFTER ADOPTED at a regular meeting of the City Council of the City of Solana Beach, California, on the ____ day of _____, 2010, by the following vote:

AYES: Councilmembers –
NOES: Councilmembers –
ABSTAIN: Councilmembers –
ABSENT: Councilmembers –

_____
THOMAS M. CAMPBELL, Mayor

APPROVED AS TO FORM:

_____
JOHANNA N. CANLAS, City Attorney

ATTEST:

_____
ANGELA IVEY, City Clerk

APPENDIX K: STREET SWEEPING MATERIALS FORM

Employee Name and Organization (below)

Date (above) use N/S below if not scheduled

1st 2nd 3rd 4th Tuesday	Time in: Time out:	Time in: Time out:	Equipment Number: Year, Make & Model

OBSTRUCTIONS (identify as vegetation, vehicle, etc. and provide description).

Reference previous date(s) reported (no entry above required):

End of day Volumn in Cubic Yards:
% (percentage) Sediment:
%(percentage) Organics:
Litter (describe-or-enter –0-)

Operator enter reason(s) for not following schedule or other comments:

C.O.S.B. Initial

Forward to R.W.Q.C.B. (C.O.S.B. Initial on Sending) City of Solana Beach 2004(admf)

APPENDIX L: SMOKING BAN ORDINANCE

ORDINANCE NO. 316

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF SOLANA BEACH, CALIFORNIA, AMENDING SOLANA BEACH MUNICIPAL CODE SECTION 11.12.020 A TO INCLUDE TOBACCO LITTER AND ADDING SECTION 11.12.020 EE TO PROHIBIT SMOKING IN CITY PARKS AND BEACHES

THE CITY COUNCIL OF THE CITY OF SOLANA BEACH DOES HEREBY ORDAIN AS FOLLOWS:

SECTION 1. Findings and Purpose. The City Council of the City of Solana Beach hereby finds and declares that:

A. The City of Solana Beach is committed to keeping its beaches and parks clean, safe, healthy and pleasant for everyone.

B. Smoking is hazardous to health. Numerous studies have shown that second-hand smoke is a significant public health hazard. The U.S. Environmental Protection Agency has classified second-hand smoke as a group A carcinogen, the most dangerous class of carcinogen. Smoking in parks and beaches endangers children and others by exposing them to second-hand smoke. Moreover, children and youth who observe smoking and tobacco use in public beaches and parks may model the behavior.

C. The U.S. Centers For Disease Control and Prevention (CDC) estimates that second-hand smoke causes 3,000 lung cancer deaths per year among adult non-smokers in the U.S. The California Environmental Protection Agency has concluded that second-hand smoke causes coronary heart disease in non-smokers. Second-hand smoke is especially hazardous to particular groups, including those with chronic health problems, the elderly and children. The CDC has found that second-hand smoke causes children to suffer from lower respiratory tract illness, such as bronchitis and pneumonia, exacerbates childhood asthma, and increases the risk of acute chronic middle ear infection in children.

D. Additionally, discarding cigarettes and cigar butts and tobacco onto the ground in City parks and beaches is unsightly, unclean and particularly hazardous to small children who handle and sometimes ingest them. The City must collect tobacco litter in parks and beaches or it will be collected by stormwater and washed directly into our ocean waters in violation of the City's stormwater pollution prevention permit and to the detriment of ocean life and all ocean users.

ORDINANCE NO. 316
No Smoking in Public Beaches and Parks
Page 2

E. The City Council therefore determines that banning smoking and the improper disposal of tobacco products in City parks is necessary to protect the health, safety and welfare of Solana Beach residents and visitors.

SECTION 2. Section 11.12.020 A. of the Solana Beach Municipal Code is hereby amended to read as follows:

A. To dump or deposit any trash, specifically including cigarette and cigar butts and tobacco, refuse, rubbish, litter, or other kind of waste materials, except in approved containers specifically placed and designated to receive such waste materials. No person shall dispose of any animal carcass in or on any beach or park.

SECTION 3. Section 11.12.020 EE of the Solana Beach Municipal Code is hereby added to read as follows:

EE. No person shall smoke within the boundaries of any public beach or park unless the City has designated a specific temporary or permanent signed smoking area.

SECTION 4. If any section, subsection, sentence, clause, or phrase of this Ordinance is for any reason held to be invalid or unconstitutional by a decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this Ordinance. The City Council hereby declares that it would have passed this Ordinance and each section, subsection, sentence, clause, or phrase not declared invalid or unconstitutional without regard to whether any portion of the ordinance would be subsequently declared invalid or unconstitutional.

SECTION 5. This ordinance shall become effective thirty (30) days following its adoption. Within fifteen (15) days after its adoption, the City Clerk shall publish this ordinance, or the title hereof as a summary, in a newspaper of general circulation within the City of Solana Beach as required by law.

APPENDIX M: BEACH BLANKET MOVIE NIGHT FLYER



APPENDIX N: SPECIAL EVENTS PERMIT CONDITIONS OF APPROVAL

NOTICE OF APPROVAL FOR SPECIAL EVENT
CITY OF SOLANA BEACH

The Special Event you have applied for has been approved, according to the following information:

Date Requested: June 12, 2004
Hours: 5:30 a.m. – 2:00 p.m.
Organization: San Dieguito Boys & Girls Clubs
Type of Event: Seaside Stride 5 Mile Walk
Location: See Attached Map
Contact Person: Ellen Flanagan (760) 471-5516

Approved By:_____
Barry Johnson, City Manager

SPECIFIC GUIDELINES:

1. No City services, at the request of the applicant, for the event will be provided by the City.
2. The event participants must utilize the sidewalks and not the roadway where available on the course. If there is no sidewalk, participants must utilize the very outer edge of the roadway.
3. Event organizers must obey all traffic signs, lights, and laws.
4. Event organizers and participants shall utilize public right-a-ways and property for the purpose of this event at their own risk.
5. Event organizers and participants shall obey all traffic laws, signs, and traffic control devices at all times.
6. Event organizers must comply with all applicable water run-off regulations and must use best management practices. There will be absolutely no liquid, solid, or any other by-product generated by the event allowed in the city storm drain system. The parking lot at the conclusion of the event must be cleaned of all debris and disposed of in an acceptable manner to the City's Public Works Department.
7. Roadway and sidewalks and any other public areas utilized by the event participants and audience shall be left in a clean and orderly condition at the conclusion of the special event.
8. Applicant shall be charged for the amount of time to clean-up the areas or facilities used by the event participants if the areas utilized by the attendees of the event are not left in a clean and orderly condition. Estimated cost for retaining one City employee to clean-up refuse, and trash disposal is $ 43.20 per hour.
9. Any damage to public property as the result of this event will encumber full cost recovery from applicant by the City.

10. Event organizers shall at all times comply with any request or orders from the City's public works, lifeguard, law enforcement, or other public safety personnel. Failure to do so will result in the revocation of this permit and an immediate cease event order.

GENERAL GUIDELINES:

1. This permit and any other permits associated with this event will be available at the event.
2. If City services are required, applicant will be billed in advance for any and all City services provided above normally scheduled services. **All fees and charges shall be paid prior to final issuance of a permit for the event. Exception: Costs incurred by the City for clean up or other reasons due to the event, if any, shall be charged to the applicant billed as soon as the total cost is determined.**
3. All vehicles must comply with City parking regulations.
4. The organization and any of its subcontractors in advance of the event must file a business license application and fee, if they do not have a business license.
5. Vehicle loading and unloading cannot block pedestrian access. If required for short durations, signage directing the flow of pedestrian access, including wheelchair access must be established and posted.
6. The City reserves the right to shut down the event at any time, if necessary.
7. Applicant must comply with City noise regulations.
8. **It is the responsibility of the applicant to know and comply with the terms and conditions as stated within this special event permit and all applicable laws that pertain do the event, its organizers, and its participants whether they are stated on this permit or not.**
9. Contact Leah Escarcega or David Ott at (858) 720-2410 if there are any questions regarding the special event permit process.

C: City Manager's Office
Public Safety Director
Public Works Director
Sheriff's Department
Marine Safety Captain

APPENDIX O: FIESTA DEL SOL FLYER 2011



APPENDIX P: EFFECTIVENESS ASSESSMENT TABLE

Inspections	Actual No. of Facilities	2005-2006	Actual No. of Facilities	2006-2007	Actual No. of Facilities	2007-2008	Actual No. of Facilities	2008-2009	Actual No. of Facilities	2009-2010	Actual No. of Facilities	2010-2011
High Priority Facilities	10	10	10	10	10	10	10	10	10	10	10	10
Medium Priority Facilities	1	1	1	1	1	1	1	1	1	1	1	1
Low Priority Facilities	4	4	6	6	6	6	6	6	6	6	6	6
Maintenance												
Material removed from MS4 (storm drain cleaning, public cleanup events, channel clearing)		~4 cubic yards		~7 cubic yards (storm drain and channel clearing) - 325 pounds debris at beach clean up		~3 cubic yards (storm drain and channel clearing) - 485 pounds trash, 120 pounds of recyclables at beach clean up		~5 cubic yards (catch basin and channel clearing)		~3.5 cubic yards (catch basin and channel clearing)		~5 cubic yards (catch basin and channel clearing)
Material prevented from entering MS4 (street sweeping operations)		~4 cubic yards		188lbs street sweeping		275 lbs street sweeping		275 cubic yards street sweeping		207 cubic yards street sweeping		212 cubic yards street sweeping
Number of catch basins cleaned (all catch basins inspected)		N/A		309 inspected / 35 catch basins cleaned		309 inspected / 17 catch basins cleaned		309 inspected / 13 catch basins cleaned		309 inspected / 26 catch basins cleaned		309 inspected / 26 catch basins cleaned
Education												
No. of Presentations to Municipal Employees		4		3		1		2		2		2
Industrial Businesses												
Inspections	**Actual No. of Facilities**	**2005-2006**	**Actual No. of Facilities**	**2006-2007**	**Actual No. of Facilities**	**2007-2008**	**Actual No. of Facilities**	**2008-2009**	**Actual No. of Facilities**	**2009-2010**	**Actual No. of Facilities**	**2010-2011**
High Priority Facilities	1	1	1	1	1	1	1	1 (1 Inspected)	1	1 (1 Inspected)	1	1 (1 Inspected)
Medium Priority Facilities	0	0	0	0	0	0	0	0	0	0	0	0
Low Priority Facilities	0	0	0	0	0	0	0	0	0	0	0	0
Enforcement												
Responses to Hotline Calls in regard to Industrial Businesses		0		0		0		0		0		0
Education/Public Participation												
No. of Workshops hosted for Industrial Business Sectors		0		0		0		0		0		0
No. of Materials Distributed to Industrial Businesses		1 visit (Educational Materials Distributed and Discussed		1 visit (Educational Materials Distributed and Discussed)		1 visit (Educational Materials Distributed and Discussed)		1 visit (Educational Materials Distributed and Discussed During Annual Inspection)		1 visit (Educational Materials Distributed and Discussed During Annual Inspection)		1 visit (Educational Materials Distributed and Discussed During Annual Inspection)
Commercial Businesses												
Inspections	**Actual No. of Facilities**		**Actual No. of Facilities**		**Actual No. of Facilities**	**2007-2008**	**Actual No. of Facilities**	**2008-2009**	**Actual No. of Facilities**	**2009-2010**	**Actual No. of Facilities**	**2010-2011**
High Priority Facilities	88	20%	88	11	88	67 (35 Inspected)	88	67 (67 Inspected)	88	72 (72 Inspected)	88	77 (77 Inspected)
Low Priority Facilities	0	0	0	0	0	10	0	10 (10 Inspected)	0	10 (10 Inspected)	0	10 (10 Inspected)
Enforcement												
Responses to Hotline Calls in regard to Commercial Businesses		3		13		3		6		0		N/A (Will be submitted with IC/ID Component)
Education/Public Participation												

No. of Workshops hosted for Commercial Business Sectors		0		0		0		0		2 (During March "Sustainability Month")		2 (During March "Sustainability Month")
No. of Materials Distributed to Commercial Businesses		0		~150 (3 per week)		~52 (1 per week)		77 (1 per inspection)		82 (1 per inspection)		82 (1 per inspection)
Residential												
Household Hazardous Waste		**2005-2006**		**2006-2007**		**2007-2008**		**2008-2009**		**2009-2010**		**2010-2011**
Quantity of Household Hazardous Waste Collected		HHW Facility does not document amount of waste collected. However, 319 residents utilized this service this reporting period, up from 293 last reporting period		HHW Facility does not document amount of waste collected. However, 379 residents utilized this service this reporting period, up from 319 last reporting period		HHW Facility does not document amount of waste collected. However, 416 residents utilized this service this reporting period, up from 379 last reporting period		298 residents utilized this service this reporting period with a total of 32,823 pounds of material properly disposed of		260 residents utilized this service this reporting period with a total of 38,723 pounds of material properly disposed of		274 residents utilized this service this reporting period with a total of 20,838 pounds of material properly disposed of
Enforcement												
Responses to Hotline Calls in Regard to Residential Activities		11		22		29		11		2		N/A (Will be submitted with IC/ID Component)
Education/Public Participation												
No. of Presentations to Residential Neighborhoods, HOA, Community Groups, Etc.		0		0		12 (Monthly Clean and Green Community Meetings)		23 Total - 12 Monthly Clean and Green Community Meetings and 11 Water Conservation and Storm Water Community Meetings		25 Total - 12 Monthly Clean and Green Community Meetings, 9 Water Conservation Presentation and 4 Sustainability Community Meetings (Sustainability Month)		17 Total - 12 Monthly Clean and Green Community Meetings, 5 Water Conservation Presentation
No. of Cleanup Events Hosted		1		1		2		2		1		1
SUSMP		**2005-2006**		**2006-2007**		**2007-2008**		**2008-2009**		**2009-2010**		**2010-2011**
No. of Developments Subject to SUSMP requirements		2		2		2		0		0		0
Inspections	**Actual No. of Facilities**		**Actual No. of Facilities**		**Actual No. of Facilities**		**Actual No. of Facilities**		**Actual No. of Facilities**		**Actual No. of Facilities**	
High Priority Sites	4	3	4	192 (1 time per month)	4	13 Sites (2x month) = 312	4	2 Sites (2x month during wet season, 1x month during dry) = 40	4	4 Sites (2x month during wet season, 1x month during dry) = 40	3	3 Sites (2x month during wet season, 1x month during dry) = 30
Medium Priority Sites	6	6	8	96 (I time per month)	8	27 Sites (1x per wet, 1x per dry) = 54	8	10 Sites (1x per wet, as needed dry) = 97	7	7 Sites (1x per wet, as needed dry) = 38	13	13 Sites (1x per wet, as needed dry) = 45
Low Priority Sites	9	39	45	90 (1 during wet, 1 during dry)	45	As Needed	45	16 Sites (As Needed) = 74	16	16 Sites (As Needed) = 51	0	25 Sites (As Needed) = 159
Enforcement												
Responses to Hotline Calls in regard to Construction Sites		12		7		10		5		2		N/A (Will be submitted with IC/ID Component)
Education/Public Participation												
No. of Workshops Hosted for Construction/Development Community		1		0		1 (Construction and Demolition Debris Recycling)		0		1 (During March "Sustainability Month")		0
No. of Materials Distributed to Construction/Development Community		~600		521		470		224		~200		~180

Dry Weather Sampling	Actual No. of Locations	2005-2006	Actual No. of Locations	2006-2007	Actual No. of Locations	2007-2008	Actual No. of Locations	2008-2009	Actual No. of Locations	2009-2010	Actual No. of Locations	2010-2011 (Placeholder, will be submitted with IC/ID in December)
No. of Locations Monitored	260	29	309	28	309	28	309	28	309	29	309	N/A
No. of Exceedances		5		8		8		1		2		N/A
Nitrate		0		0		0		0		0		N/A
Reactive Phosphorus		2		2		1		0		0		N/A
Bacteria		3		6		5		0		2		N/A
Cadmium		0		0		0		0		0		N/A
Lead		0		0		0		0		0		N/A
Ammonia		0		0		2		1		0		N/A
Coastal Monitoring												
No. of Exceedances	1	0	0	0	0	0	0	0	0	0	0	N/A
Total Coliform		0		0		0		0		0		N/A
Fecal Coliform		0		0		0		0		0		N/A
Enterococcus		0		0		0		0		0		N/A

APPENDIX Q: LEAF BLOWER BAN – ORDINANCE 399

ORDINANCE NO. 399

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF SOLANA BEACH, CALIFORNIA, AMENDING AND REPEALING SECTIONS OF CHAPTER 7.34 OF THE SOLANA BEACH MUNUCIPAL CODE, ALL RELATED TO NOISE ABATEMENT AND CONTROL AND AMENDING SECTION 13.10.030 OF THE SOLANA BEACH MUNICIPAL CODE, RELATED TO STORM WATER MANAGEMENT

WHEREAS, the City's Noise Abatement and Control Ordinance (Chapter 7.34 of the Solana Beach Municipal Code) was enacted in 1991 pursuant to Ordinance Number 147; and

WHEREAS, no amendments have been made to Chapter 7.34 of the Solana Beach Municipal Code since its enactment;

WHEREAS, the City Council desires to update Chapter 7.34 to clarity certain provisions and to repeal sections that are unnecessary.

WHEREAS, the City of Solana Beach's storm water management and discharge control ordinance, Chapter 13.10 of the Solana Beach Municipal Code, provides for the prevention and enforcement of certain discharges into the storm water system within the City; and

WHEREAS, organic contaminants whose presence degrades the quality of the receiving waters in violation of basin plan, enclosed bays and estuaries plan, inland surface water plan, and California ocean plan standards including but not limited to leaves, grass clippings and yard waste and trimmings must be prevented from entering the storm drain conveyance system, which includes, among other things, the streets, gutters, and catch basins.

WHEREAS, leaf blowers can contribute to the discharge of pollutants, specifically organic contaminants, into the City's storm drain conveyance system; and

WHEREAS, the SBMC section 13.10.030 needs to be amended to expand the definition of pollutants to specify leaves, grass clippings, and yard waste and trimmings as organic contaminants.

NOW THEREFORE, THE CITY COUNCIL OF THE CITY OF SOLANA BEACH DOES ORDAIN AS FOLLOWS:

Section 1. Section 7.34.040.A of the Solana Beach Municipal Code is hereby amended as follows:

7.34.040 Sound level limits.

A. Unless a permit has been applied for and granted pursuant to this chapter, it shall be unlawful for any person to cause or allow the creation of any noise to the extent that the one-hour average sound level, at any point on or beyond the boundaries of the property on which the sound is produced, exceeds the applicable limits set forth below except as provided in SBMC 7.34.170 and construction noise level limits governed by SBMC 7.34.100. The noise subject to the limits set forth below is that part of the total noise at the specified location that is due solely to the action of said person. The limits apply to the source of the noise only, not the source of the noise plus the ambient noise level.

Applicable Limit
One-Hour Average
Sound Level

Zone	(Time)	(Decibels)
ER1, ER2, LR,		
LMR, MR	7 a.m. to 10 p.m.	50
Residential	10 p.m. to 7 a.m.	45
MHR, HR	7 a.m. to 10 p.m.	55
Residential	10 p.m. to 7 a.m.	45
C, LC, OP	7 a.m. to 10 p.m.	60
Commercial Office	10 p.m. to 7 a.m.	55
LI, SC		
Light Industrial and	7 a.m. to 10 p.m.	70
Special Commercial	10 p.m. to 7 a.m.	60
Public/Institutional	7 a.m. to 10 p.m.	60
	10 p.m. to 7 a.m.	45
Park/Recreational	7 a.m. to 10 p.m.	60
	10 p.m. to 7 a.m.	45

B. In the event the alleged offensive noise, as judged by the noise control officer, contains a steady, audible tone such as a whine, screech, or hum, or is a repetitive noise such as hammering or riveting, the applicable limits set forth above shall be reduced by five dB. The noise control officer may use an octave band spectral filter coupled to a sound level meter to aid in the judgment of the presence of an audible tone. If the sound intensity measured in any audible octave band exceeds that in adjacent bands by five dB, then an audible tone shall be judged as present.

C. The sound level limit at a location on a boundary between two zoning districts is the arithmetic mean of the respective limits for the two districts.

D. Fixed location public utility distribution or transmission facilities located on or adjacent to a property line shall be subject to the noise level limits of this section,

measured at or beyond six feet from the boundary of the easement upon which the equipment is located.

Section 2. Section 7.34.070 of the Solana Beach Municipal Code is hereby amended as follows:

7.34.070 Solid waste management vehicles and parking lot and sidewalk vacuums.

No person shall operate, or permit to be operated, a refuse compacting, processing, or collection vehicle or a parking lot or sidewalk vacuum between the hours of 6:00 p.m. and 6:30 a.m. in or immediately adjacent to any residential area of the city unless a permit has been applied for and granted pursuant to this chapter.

Section 3. Section 7.34.080 of the Solana Beach Municipal Code is hereby amended as follows:

7.34.080 Leaf blowers.

A. Regulation. It is unlawful for any person to use or operate within the city limits any leaf blower powered by a 2-stroke gas-powered engine to blow leaves, dirt and other debris off sidewalks, driveways, lawns and other surfaces, except between the hours of 9:00 a.m. and 5:00 p.m. Only non-commercial residential uses of leaf blowers are permitted on Sundays.

B. No person shall operate any leaf blower without attachment of all mufflers and full extension tubes supplied by the manufacturer for that leaf blower.

C. Beginning January 1, 2011, no leaf blower powered by a 2-stroke gas engine shall be permitted to operate within the city.

Section 4. Section 7.34.140 of the Solana Beach Municipal Code is hereby amended as follows:

7.34.140 General noise regulations.

A. General Prohibitions. It is unlawful for any person to make, continue or cause to be made or continued, within the limits of the city, any disturbing, excessive or offensive noise which causes discomfort or annoyance to reasonable persons of normal sensitivity residing in the area.

The characteristics and conditions which should be considered in determining whether a violation of the provisions of this section exists, include, but are not limited to, the following:

1. The level of noise;
2. Whether the nature of the noise is usual or unusual;
3. Whether the origin of the noise is natural or unnatural;
4. The level of the background noise;
5. The proximity of the noise to sleeping facilities;
6. The nature and zoning of the area within which the noise emanates;
7. The density of the inhabitation of the area within which the noise emanates;
8. The time of the day or night the noise occurs;
9. The duration of the noise; and

APPENDIX R: COMMERCIAL FACILITY LITTER REDUCTION ORDINANCE

ORDINANCE 419

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF SOLANA BEACH, CALIFORNIA, AMENDING SECTIONS OF CHAPTER 6.12 AND 11.16 OF THE SOLANA BEACH MUNICIPAL CODE, ALL RELATED TO LITTER CONTROL AND REMOVAL

WHEREAS, the City's Litter Control Ordinance (Chapter 6.12 of the Solana Beach Municipal Code) was enacted in 1987 pursuant to Ordinance Number 46; and

WHEREAS, the City's Sidewalk Ordinance (Chapter 11.16 of the Solana Beach Municipal Code) was enacted in 1988 pursuant to Ordinance Number 75; and

WHEREAS, Chapter 6.12 does not require all business to remove litter generated by their establishments; and

WHEREAS, Section 6.12.030 is silent in prohibiting all persons from depositing litter into gutters; and

WHEREAS, Section 11.16.050 does not specifically require all property owners to keep abutting sidewalks free of litter; and

WHEREAS, the City Council desires to update Chapters 6.12 and 11.16 to clarify certain provisions.

NOW THEREFORE, THE CITY COUNCIL OF THE CITY OF SOLANA BEACH DOES ORDAIN AS FOLLOWS:

Section 1. Section 6.12.030 of the Solana Beach Municipal Code is hereby amended as follows:

6.12.030 Prohibition.

A. It shall be unlawful for any person to throw, deposit, cause to be deposited, or leave litter in or upon any public street, alley, gutter, sidewalk, beach, public right-of-way or public place within the city except in public receptacles or authorized private receptacles.

B. It shall be unlawful for any person to throw, deposit, cause to be deposited, or leave any litter in or upon any private property within the city, vacant or occupied, other than the owner of the private property.

Section 2. Section 6.12.070 is hereby added to Chapter 6.12 of the Solana Beach Municipal Code as follows:

6.12.070 Duty to remove litter.

Any persons owning or occupying a place of business within the City of Solana Beach shall implement a general litter removal program within an area of two hundred (200) feet of their commercial establishment so as to remove litter generated by said business at least once each business day. This litter removal program shall not permit the business owner or its employees to trespass upon private property. However, the business shall attempt to gain permission of the owner of the private property for said purposes. In addition, this litter removal program requires the business owner or its employees to remove litter from public property with the exception that they are not required to remove litter from any area within a public street or highway.

Section 3. Section 11.16.050 of the Solana Beach Municipal Code is hereby amended as follows:

11.16.050 Maintenance by lot owners.

A. The owners of each lot fronting on any portion of a public street or place where the street or place is improved with a sidewalk shall maintain the sidewalk in such a condition that the sidewalk will not endanger persons or property and in a condition which will not interfere with the public convenience in the use of those works or areas, including keeping the sidewalk free of litter. The owners' obligations shall not apply to those conditions created or maintained in, upon, above or in connection with such sidewalk by any person other than the owner of the lot, where the person is authorized to do work or to maintain encroachments by virtue of a permit or right granted to the person by law or by the city. The person creating the condition pursuant to a permit shall have the duty otherwise imposed by this section upon the lot owner. The obligations of this subsection also apply to lots where the area between the property line of the privately owned lot and the back of the street line is maintained as a parkway, park or parking strip.

B. The city manager is authorized to enforce subsection A of this section, pursuant to the provisions of the State Streets and Highways Code, Division 7, Part 3, Chapter 22, commencing with Section 5600.

C. For the purposes of this section, the term sidewalk includes a park or parking strip maintained in the area between the property line and the street line and also includes curbing, bulkheads, retaining walls or other work for the protection of any sidewalk, park or parking strip.

EFFECTIVE DATE: This Ordinance shall be effective thirty (30) days after its adoption. Within fifteen (15) days after its adoption, the City Clerk of the City of Solana Beach shall cause this Ordinance to be published pursuant to the provisions of Government Code Section 36933.

INTRODUCED AND FIRST READ at a regular meeting of the City Council of the City of Solana Beach, California, on the 25th day of August, 2010; and

THEREAFTER ADOPTED at a regular meeting of the City Council of the City of Solana Beach, California, on the ___ day of _____, 2010, by the following vote:

AYES: Councilmembers –
NOES: Councilmembers –
ABSTAIN: Councilmembers –
ABSENT: Councilmembers –

_____
THOMAS M. CAMPBELL, Mayor

APPROVED AS TO FORM:

_____
JOHANNA N. CANLAS, City Attorney

ATTEST:

_____
ANGELA IVEY, City Clerk

APPENDIX S: SUMMER CAMP PROGRAMS/CLASSES

CITY OF SOLANA BEACH PARKS & RECREATION

2010 Kids Summer Day Camp for Ages 6–12



All Sessions will meet Monday–Friday from 8:30 a.m. to 2:00 p.m. at Fletcher Cove Community Center, 133 Pacific Ave. The fee is $106/week per child and includes activities such as beach walks, swimming at the Boys and Girls Club, arts & crafts, Library visit, fun games, friends, and a weekly field trip to an exciting destination. After-care is offered from 2:00 p.m.–5:00 p.m. ($27/week). Our popular "Leader in Training" program is also available again this summer for 13–17 year olds for only $40/week!

1 ENVIRONMENTALLY FRIENDLY... June 21-25



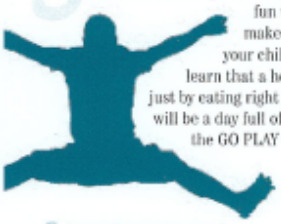
There are many exciting ecological discoveries to be investigated here in Solana Beach. Find out how simple it is to appreciate the simple aspects of the world around you. Campers will discover ways in which they can help save the environment, explore the world of creepy crawly insects, and even discover the local San Elijo Lagoon through a nature walk for this week's field trip.

2 SPLISH SPLASHTACULAR... July 5-9



Is your child half amphibian? This is a perfect week for campers to explore the various ways to enjoy the water through water related crafts, water balloons and water relays. From the ocean, to the pool, and The Wave Water Park. . . come splish and splash with us!

3 FUN TO BE FIT... July 12-16



Challenge your camper to a world of healthy living. Kids will get to learn how to incorporate healthy aspects into their lives in a fun way. Learning simple changes can make a world of difference in the way your child feels and lives. Campers will learn that a healthy lifestyle can be easy and fun just by eating right and staying active. The field trip will be a day full of active fun at Coronado Island for the GO PLAY GET FIT day.

4 UNDER THE SEA ... July 19-23

Come test your knowledge of the big body of water that we are fortunate enough to live by. Explore the ocean through beach activities, crafts and a day of exploration at **Scripps Birch Aquarium**. Learn about dolphins, sharks, whales, starfish and sea cucumbers. Tour the Solana Beach lifeguard tower and learn to have fun safely at the beach..

5 AWESOME ASTRONOMY ... July 26-30



Ever imagine seeing Earth from space or wanted to be an astronaut? This week campers will each get a chance to explore the universe beyond our planet and even how things work on Earth versus other planets. Kids will get to learn about what it takes to be an astronaut and the world above our heads through games, crafts and even a trip to the **Ruben H. Fleet Science Center** at Balboa Park.

6 RAINFOREST EXPLORERS ... August 2-6

There's the Grasslands, Jungle, Rainforest, and even your local beach that contains hundreds of animals that campers will get a chance to learn about and explore. Learn all about the crazy life of animals of all kinds with theme related crafts and discussions as well as a chance for the campers to explore our own **San Diego Zoo.**

7 WATER ADVENTURES... August 9-13

You don't have to be an underwater animal to enjoy the wonderful world of water. Campers will learn about the various underwater creatures as well as explore all the fun that one can have in and around water. Not only will campers get to enjoy the beach but this week's field trip will be to the **Wave Water Park** where kids can experience the fun that comes with water, without having to grow gills.

APPENDIX T: 2010 DRY WEATHER MONITORING PROGRAM RESULTS

As a result of Addendum No. 2 adopted by the RWQCB in September 2008, this section will be submitted along with Chapter 7 "Illicit Discharge Detection and Elimination Component" in December 2011.

CITY OF SOLANA BEACH

JURISDICTIONAL URBAN RUNOFF MANAGEMENT PROGRAM (JURMP) ANNUAL REPORT

SEPTEMBER 2012

Reporting Period:
July 1, 2011 to June 30, 2012

Respectfully Submitted to:
San Diego Regional Water Quality Control Board
In compliance with:
Order No. 2007-0001, NPDES Permit No. CAS0108758

CITY OF SOLANA BEACH
ANNUAL REPORT
STORM WATER PROGRAM
SEPTEMBER 2012

Copermittee:	City of Solana Beach
Contact Person:	Mohammed Sammak, P.E. Director of Public Works/City Engineer (858) 720-2470
Day-to-Day Contact	Taryn Dunbar Assistant Civil Engineer (858) 720-2487
Emergency Contact	Public Works Emergency Phone Line (858) 720-2479
Storm Water Hotline	24-hour message service (858) 720-4424
Address:	635 South Highway 101 Solana Beach, CA 92075
Reporting Period:	July 1, 2011 to June 30, 2012
Report Prepared by:	Taryn Dunbar Assistant Civil Engineer

ACKNOWLEDGEMENTS

The City of Solana Beach wishes to expressly thank each Copermittee Storm Water Program Manager/Coordinator and their staff for their efforts during the Regional Storm Water Management Committee meetings and the workgroups and their development and continued implementation of model program components, the sharing of ideas and willingness to cultivate program consistency throughout San Diego County as an effective means of improving water quality in the Region. The level of collaboration among agencies and across jurisdictional boundaries is unique and a credit to the professionalism and efforts of the San Diego County Copermittees.

The activities described in this report are not merely *written words on a page*, but are the result of *tremendous efforts* of City staff to integrate many new activities into their daily routines and tasks. The City's Fiscal Year 2011/2012 (FY 11/12) Storm Water Program Manager wishes to thank the City's Storm Water Team for their assistance, dedication and collaboration to make the City's FY 11/12 storm water program successful *and meaningful.*

Storm Water Team:

Code Enforcement Officer, Tom Warden

City Manager/Fire Chief/Director of Public Safety, David Ott

Operations Manager, Steve Kerr

City Inspector, Hector Ezquerro

Principle Engineer, Dan Goldberg

Director of Public Works/City Engineer, Mohammed Sammak

Community Services Director, Wende Protzman

Associate Engineer, Jim Greenstein

Associate Planner, Corey Johnson

Assistant Planner, Greg Hueners

Senior Engineering Technician, Robert Martinez

Management Analyst, Danny King

A big thank-you also to the Public Works Crew for all their hard work!

Lead Maintenance Worker, Danny Hernandez

Maintenance Worker, Bill Stedman

Maintenance Worker, Dave Thomas

Maintenance Worker, Josh Blea

CITY OF SOLANA BEACH
ANNUAL REPORT/ STORM WATER PROGRAM
SEPTEMBER 2012

TABLE OF CONTENTS

ACKNOWLEDGEMENTS ii
Acronyms ix
Executive Summary 2
Certification Statement 6
Chapter 1: Introduction 8
1.1 Report Organization 8
1.2 Common Activities 9
1.3 Report Content 9
1.4 Program Goals 10
CHAPTER 2: Development Planning Component 14
2.1 Assessment and Modification of General Plan 14
2.2 Project Approval and Environmental Review Process Modifications 15
2.2.1 Project Requirements 17
2.2.2 SUSMP 19
2.2.3 Low Impact Development (LID) 20
2.2.4 Treatment Control BMP Maintenance Tracking 20
2.2.5 Treatment Control BMP Maintenance Inspections 21
2.2.6 Priority Development BMP Verification Prior to Occupancy 21
2.2.7 Hydromodification Plan (HMP) 22
2.3 Education 22
2.4 New Activities and Improvement for FY 12/13 24
2.5 Summary 24
CHAPTER 3: Construction Component 27
3.1 Introduction 27
3.2 Modification of Grading Ordinance 27
3.3 Modification of Construction and Grading Approval Process 28
3.3.1 SUSMP BMPs Installation and Tracking 28
3.4 Construction Site Inventory 29
3.5 Construction Follow-Up Activities: 33
3.6 Capital Improvement Projects Inventory 33
3.6.1 Significant CIP Project Narratives 36
3.7 Threat to Water Quality Prioritization 37
3.8 BMPs and Pollution Prevention Methods 38
3.9 Enforcement and Inspections 39
3.10 New Activities and Improvements in FY 12/13 45
3.11 Summary 46
Chapter 4: Municipal Component (Existing Development) 49
4.1 Introduction 49

4.2 Inventory of Municipal Facilities 49
4.2.1 Inspection Frequency of Municipal Sites 50
4.2.2. Follow-up Activities 52
4.2.3 Implementation of Pesticides, Herbicides and Fertilizer BMPs 52
4.3 Pollutant Source Identification 53
4.4 Threat to Water Quality Prioritization 54
4.5 Pollution Prevention Methods 55
4.5.1 Proactive Approach to Pollution Prevention – JURMP Requirements 57
4.6 Pollution Prevention Strategy Effectiveness 68
4.7 New Activities and Improvements for FY 12/13 71
4.8 Summary 72

Chapter 5: Industrial And Commercial Component 75
5.1 Introduction 75
5.2 Industrial Facilities 76
5.2.1 Inventory of Industrial Facilities 76
5.2.2 Pollutant Source Identification 76
5.2.3 Threat to Water Quality Prioritization 78
5.2.4 Pollution Prevention Methods 78
5.2.5 Industrial Inspections 79
5.2.6 New Activities and Improvements for FY 12/13 79
5.2.7 Summary of Industrial Section 80
5.3 Commercial Facility 80
5.3.1 Inventory of Commercial Facilities 80
5.3.2 Pollutant Source Identification 86
5.3.3 2011 Dry Weather Monitoring Results 88
5.3.4 Threat To Water Quality Prioritization 88
5.3.5 Business Community Education Campaign 89
5.3.6 Pollution Prevention Methods 90
5.3.7 New Pollution Prevention Methods 91
5.3.8 Ensuring Implementation through Commercial Property Inspections 92
5.3.9 Enforcement 93
5.3.10 Mobile Businesses 94
5.3.11 New Activities and Improvements for FY 12/13 95
5.3.12 Summary 96

CHAPTER 6: Residential Component 99
6.1 Introduction 99
6.2 Pollution Prevention Methods 99
6.3 BMP Implementation 100
6.3.1 Hazardous Waste and Used Oil Collection and Recycling 100
6.3.2 Annual Bulky Item Clean-up Day and Coastal Clean-Up Day 103
6.3.3 24-hour Hotline 103
6.3.4 Pet Waste Bag Dispensers 104
6.3.5 Education and Outreach 104
6.4 Threat to Water Quality Prioritization 108
6.5 Implementation of BMPs 108
6.6 Enforcement Actions 109
6.7 New Activities and Improvement for FY 11/12 109
6.8 Summary 110

CHAPTER 7: Illicit Discharge Detection and Elimination Component 112

CHAPTER 8: Education Component 114
8.1 Introduction 114
8.2 Pollution Prevention through Education – Jurisdictional Activities 115
8.2.1 Staff Training 116
8.2.2 Annual Beach Cleanup Days 116
8.2.3 Storm Drain Tile Marker Installation 116
8.2.4 Local Community Events 117
8.2.5 School Programs 118
8.2.6 Marine Safety Department Educational Presentations 119
8.2.7 Kids Korps Educational Presentations 119
8.2.8 Targeted Education for Underserved Community 119
8.2.9 Water Conservation 120
Due to limited staff resources, SFID only co-hosted one workshop during this reporting period. However, they continually educate their residents on water conservation through their website and informational brochures. 121
8.2.10 Educational Brochures 121
8.2.11 City Newsletter (Shorelines) 122
8.2.12 Website 122
8.2.13 Business Community 122
8.2.14 Special Events Permit 123
8.3 Pollution Prevention through Education – Regional Activities 123
8.3.1 Regional Monitoring 124
8.3.2 Model Programs 124
8.3.3 Linking to Regional Resources 125
8.4 Pollution Prevention through Education – Watershed Activities 125
8.5 New Activities and Improvements for FY 12/13 126
8.6 Summary 127
Chapter 9: Public Participation Component 130
9.1 Introduction 130
9.1.1 Chapter Content 131
9.2 Community Events 131
9.2.1 Fiesta Del Sol 131
9.2.2 Beach Clean Up Opportunities 132
9.2.3 Adopt-A-Beach Program 132
9.2.4 Beach Blanket Movie Night 133
9.3 City Council Meetings 133
9.4 Copermittee Meetings 133
9.5 Collaborative Community Partnerships 134
9.5.1 Solana Beach Clean and Green Community Committee 136
9.6 Other Opportunities 137
9.6.1 City Storm Water Hotline 137
9.6.2 Website 138
9.6.3 Local Media 138
9.7 New Activities and Improvements for FY 12/13 138
9.8 Summary 139
CHAPTER 10: Fiscal Analysis 141
10.1 Introduction 141
10.2 General Budget Information 141

10.3 Fiscal Analysis Methods 142
10.4 Fiscal Analysis Results 142
10.4.1 JURMP Expenditures 142
10.4.1.1 Administration 143
10.4.1.2 Development Planning 143
10.4.1.3 Construction 143
10.4.1.4 Municipal 143
10.4.1.5 Industrial and Commercial 143
10.4.1.6 Residential, Education, and Public Participation 144
10.4.1.7 Illicit Discharge Detection and Elimination 144
10.4.1.8 WURMP Expenditures 144
10.4.1.9 RURMP Expenditures 144
10.5 Funding Sources 145

CHAPTER 11: Effectiveness Assessment Component 147
11.1 Introduction 147
11.2 "A Framework for Assessing the Effectiveness of Jurisdictional Urban Runoff Management Programs" 147
11.3 Level 1: Compliance with Activity-Based Permit Requirements 149
11.4 Levels 2&3: Changes in Knowledge/Awareness and Behavioral Changes 149
11.5 Level 4: Load Reductions 165
11.6 Levels 5&6: Changes in Discharge and Receiving Water Quality 167
11.6.1 Dry Weather Monitoring Data 167
11.6.2 Coastal Water Quality 168

CHAPTER 12: Special Investigations 171
12.1 Introduction 171
12.2 Bacteria at Seascape Sur 171
12.2.1 Background 171
12.2.2 History 172
12.2.3 The 2002 Investigation 173
12.2.4 Additional Testing 174
12.2.5 Traveling Further Upstream 175
12.2.6 Brainstorming 177
12.2.7 Action Taken By Property Owners during FY 03/04 Annual Reporting Period 178
12.2.8 Progress in FY 04/05 180
12.2.9 Special Pilot Program FY 07/08 181
12.2.10 Timeline of Significant Actions 183
12.2.11 Where We Are Now 185
12.2.12 Future Activities 189
12.3 Summary 190

CHAPTER 13: Non-Emergency Fire Fighting 192

CHAPTER 14: JURMP Revisions 194

CHAPTER 15: Conclusion and Recommendations 196
15.1 Conclusion 196
15.1.1 2011/2012 Accomplishments 197
15.2 Recommendations 199

Appendix A: Construction BMP Brochure 202

Appendix B: Storm Water Plan Check Comment Form.....204
Appendix C: Building Plan Check Routing Form.....206
Appendix D: Rainy Season Reminder (Sample).....207
Appendix E: Public Project Pre-Con Meeting Agenda.....209
Appendix F: Civil Penalty Matrix 211
Appendix G: General Construction "Good Neighbor" Brochure.....217
Appendix H: Underground Utility District Special BMP Handout.....219
Appendix I: Special Event Vendor BMP Guidelines.....220
Appendix J: Mandatory Commercial Recycling Ordinance 221
Appendix K: Street Sweeping Materials Form.....223
Appendix L: Smoking Ban Ordinance.....224
Appendix M: Single-Use Plastic Bag Reduction 226
Appendix N: Beach Blanket Movie Night Flyer 233
Appendix O: Special Events Permit Conditions of Approval.....234
Appendix P: Fiesta Del Sol Flyer 2012 236
Appendix Q: Effectiveness Assessment Table 237
Appendix R: Leaf Blower Ban – Ordinance 399 240
Appendix S: Commercial Facility Litter Reduction Ordinance 243
Appendix T: Summer Camp Programs/Classes.....246
Appendix U: 2010 Dry Weather Monitoring Program Results.....247

ACRONYMS

Acronym	Description
BMP	Best Management Practices: minimum standards that everyone and every business must adopt to reduce or eliminate urban runoff. BMPs are part of all storm water programs.
DWMP	Dry weather monitoring program: the procedures, requirements and program to collect samples during the dry season each year. Samples are typically collected over a one-two day period and then sent to the lab for analysis.
HHW	Household Hazardous Waste
IC/ID	Illegal Connection and Illicit Discharge: the term used to discuss connections to the MS4 that are not approved (illegal) or non-storm water (illicit) discharges.
JURMP	Jurisdictional Urban Runoff Management Program
MEP	Maximum Extent Practical: A term used by the RWQCB, and Copermittees to refer to the "best efforts," or "as much as possible."
MS4	Municipal Separate Storm Sewer System: references the City's storm water drainage system and the City's wastewater conveyance system.
NPDES	National Pollution Discharge Elimination System: the Federal program created by the 1972 Clean Water Act that governs State water quality / storm water programs.
Permit	Order 2007-0001 issued by the RWQCB, which requires cities to adopt and implement the JURMP, WURMP, and SUSMP.
PPM	Pollution Prevention Measure: a method, procedure, and/or process to control, reduce, prevent, or eliminate pollution.
RWQCB	Regional Water Quality Control Board. The Board is a California board, but for the *purposes of this report,* RWQCB represents the local water quality board (San Diego Regional Water Quality Control Board).
SUSMP	Standard Urban Storm water Mitigation Plan: a plan as to how the City will alter its review of construction plan (public and private) and estimate the extent of pollutant contributions from the site; the plan must specify BMPs that the City will require.
TMDL	Total Maximum Daily Loads: a calculation of the maximum amount of a pollutant that a waterbody can receive and still safely meet water quality standards.
WURMP	Watershed Urban Runoff Management Program: programs that focus on urban water runoff from a larger point-of-view, which is the entire watershed (a watershed is also referred to as a hydrological unit). Programs must specify how cities will work together on planning urban projects and solving water quality problems.
WWMP	Wet weather monitoring program: the procedures, requirements and program to collect samples during the wet season each year. Samples are collected on a monthly basis, depending on weather.

EXECUTIVE SUMMARY

EXECUTIVE SUMMARY

During reporting period Fiscal Year 2011/2012 (FY 11/12), the City worked with the other Copermittees to continue developing model programs and implementing all the established requirements of Permit No. R9-2007-0001 (Permit). This was the fourth complete year of implementation of the City's new Jurisdictional Urban Runoff Management Program (JURMP) that was developed and submitted in March, 2008 to comply with the new Permit, Order R9-2007-0001. This Annual Report (Report) incorporates the changes recommended by Regional Board Staff after review of last year's Annual Report, and complies with the requirements of each section of the Permit.

This is the fourth full year implementing the new JURMP, in compliance with the Permit regulations. The new activities will be discussed in their respective chapters of this Report, with some chapters modified or removed. The City began the process of developing the new programs in cooperation with the other Copermittees, and any new programs that were actually implemented in this reporting period will be discussed in this Annual Report.

The City is confident that it has implemented all programs required of them during the five year permit cycle of Order 2001-01. The City is also actively working on developing and implementing improved programs for the next five year permit cycle in compliance with Order R9-2007-0001. During the last five year permit cycle, the City created a storm water team consisting of staff from various departments, implemented all of the components of the JURMP and trained all pertinent Staff as to the expectations of the Permit.

Accomplishments to prevent and reduce pollution, eliminate contamination and improve water quality include the following:

- *The City successfully implemented comprehensive educational, inspection and enforcement procedures for municipal, commercial, residential, industrial and construction component activities as described in the City's JURMP.*
- *The City monitors a dedicated Storm Water Hotline and email address to receive complaints, questions, and general information 24 hours a day, seven days a week, 365 days a year.*

- *The City maintains an inventory of all municipal, commercial and industrial properties in the City, including prioritization of those that pose a threat to water quality.*
- *The City inspected the minimum amount of high priority businesses as stated in the new JURMP and notified all high-priority businesses of specific BMPs related to each type of business.*
- *The City collaborated with neighboring jurisdictions within their respective watersheds to develop educational brochures, surveys, and host community events and distributed hundreds of brochures to residents and the business community.*
- *The City continues to modify plan-check review processes to include a requirement for Erosion Control Plans, BMPs, and runoff mitigation alterations in project proposals and/or construction activities.*
- *The City participated in the 2011/2012 San Diego County Wet Weather Monitoring Program.*
- *The City continues to enforce a smoking ban at all local beaches and parks, the first jurisdiction in the nation to do so. In addition, the City strengthened its tobacco ordinance to ban smoking in all public parks, restaurants and buildings.*
- *The City implemented a plastic bag use reduction ordinance to help reduce single use plastic bag usage in the City.*
- *The City provided several opportunities for public participation including educational workshops/classes, community events, Copermittee meetings and Household Hazardous Waste home pick-up and permanent drop-off collection sites.*
- *The City continues to implement the new "Environmental" review to ALL building/grading permit applications to ensure every project that gets approved by the City is reviewed for storm water management.*
- *The City co-sponsored the seventh annual "Beach Blanket Movie Night" that provided residents a night of free movies and environmental education. The City had a booth co-sponsored by the Solana Center for Environmental Innovation that contained educational materials and games for attendees, and the films shown were dedicated to environmental protection of our ocean resources.*
- *The City authorized a part-time Code Enforcement Officer to continue weekend and off-hour patrols for storm water violations.*
- *The City added storm water specific language and reporting duties to new "standard" street sweeping contract to be used in all current and future contracts.*

- *The City modified its Municipal Code to comply with the new requirements of the Permit.*
- *The City implemented the new model SUSMP.*
- *The City participated in the development and implementation of the new Low Impact Development (LID) and Hydromodification Plan (HMP).*
- *The City developed and implemented the post-construction BMP verification, tracking and inspection program.*

CERTIFICATION STATEMENT

CERTIFICATION STATEMENT

I certify that the work performed, and the report prepared herein, was conducted under the supervision and guidance of the City of Solana Beach Public Works/ Engineering Department to meet the requirements of the *Waste Discharge Requirements for Discharges of Urban Runoff from the Municipal Separate Storm Sewer Systems (MS4s) Draining the Watersheds of the County of San Diego, the Incorporated Cities of San Diego County, the San Diego Unified Port District, and the San Diego County Regional Airport Authority* (NPDES No. CAS0108758). I am aware that there are significant penalties for submitting false information including the possibility of fine and imprisonment for knowing violations.

M. Sammak 9/19/12

Mohammed Sammak, P.E. **Date**
Director of Public Works/City Engineer
City of Solana Beach



CHAPTER 1
Introduction

CHAPTER 1: INTRODUCTION

The City of Solana Beach (hereinafter, referred to as "City") has prepared this report in compliance with Order No. R9-2007-0001, NPDES Permit No. CAS0108758, *Water Discharge Requirements for Discharges of Urban Runoff From Municipal Separate Storm Sewer Systems Draining Watersheds of the County of San Diego, the Incorporated Cities of San Diego County and The San Diego Unified Port District and the San Diego County Regional Airport Authority* (hereinafter referred to as "Permit"). The California Regional Water Quality Control Board, San Diego Region (hereinafter, referred to as "RWQCB") issued the new Permit to all "Copermittees" (all cities in San Diego County, the County of San Diego, the Airport Authority and the Port District) in January, 2007.

Under the Permit, each Copermittee is required to submit an Annual Report in September of each year describing its jurisdictional program for the previous fiscal year (July 1 to June 30). The purpose of the report is to document to the RWQCB the City's progress and program accomplishments during the reporting period.

The Permit, first adopted on February 21, 2002 and subsequently updated in March, 2008, requires Copermittees to implement a comprehensive storm water program (Jurisdictional Urban Runoff Management Program [JURMP]) and submit a copy of the program to the RWQCB. The implementation of this program occurred during the reporting period covering July 1, 2011 to June 30, 2012 for this 2012 Annual Report. This Annual Report will cover the fifth year of implementation under Permit Order No. 2007-0001, but the fourth full year of implementation of the new JURMP.

1.1 Report Organization

This Report contains a description of all activities conducted to meet the requirements of the Permit. The information will be discussed in chapters applicable to each component of the JURMP, which occurred during this reporting period.

The organization of this report follows the outline of the new JURMP and includes the following sections:

- Development Planning Component
- Construction Component

- Municipal (Existing Development) Component
- Industrial and Commercial (Existing Development) Component
- Residential (Existing Development) Component
- Illicit Discharges Detection and Elimination Component
- Education Component
- Public Participation Component
- Fiscal Analysis Component
- Effectiveness Assessment Component
- Special Investigations
- Non-Emergency Fire Fighting
- JURMP Revisions
- Conclusions and Recommendations

1.2 Common Activities

The City participated with the Copermittees in several common activities (workshops, educational program component elements, model programs, etc.) that allowed for a sharing of resources and knowledge, which will provide a more cohesive message to the community. The common activities are described in the Copermittee Unified Urban Runoff Management Program (URMP) Annual Report, submitted with this report by the County of San Diego and incorporated herein by reference.

1.3 Report Content

The content of this report includes the activities associated with implementing the storm water program (JURMP). The development of the City's JURMP required the City to inventory and prioritize its municipal facilities, commercial and industrial businesses, develop a method to educate the business and residential community about the new requirements, evaluate existing municipal ordinances, and adopt new laws if needed to ensure enforcement action was available, develop a method for educating agency staff, and develop a commercial, industrial and construction site inspection program. Each subsequent year of Permit implementation requires the City to revisit these items and update as necessary. This Report contains those updates, where applicable.

The content of this report will include discussions about the programs and activities that occurred during this reporting period (July 1, 2011 to June 30, 2012). The City presumes that RWQCB staff recognizes that significant activity may occur subsequent to the end of the reporting period for this report. As a

result, throughout this report a summary of post-reporting period activities will be discussed (where appropriate) to assist the RWQCB in understanding the City's efforts to reduce urban runoff and pollution and to comply with the Permit.

1.4 Program Goals

The primary goal of the City's JURMP is to reduce or eliminate pollutant discharges into the City's MS4 (municipal separate sewer storm system) and receiving water bodies, including the Pacific Ocean, thus improving the quality of water in the City, neighboring jurisdictions, and region-wide.

The City recognizes that a *scientifically measurable* change in water quality is a long-term goal that would require many years of data collection, research and analysis, extending beyond the life of the current Permit (which expires in 2012). As a result, the City's program includes short-term goals expected to focus the City's program on permit compliance as well as water quality improvements. The following summarizes the City's past and current short-term annual program goals:

FY 02/03: Integration of WURMP(s), SUSMP and JURMP activities

FY 03/04: Complete assessment of JURMP (using regional strategy)

FY 04/05: Complete overall assessment of Regional Programs JURMP, WURMP and SUSMP; prepare for new Permit from RWQCB

FY 05/06: Assessment of JURMP, WURMP and SUSMP in preparation of new Permit anticipated to be adopted in early 2007. This involves the assessment of water quality data to focus on the sources of high priority pollutants locally as well as watershed and regionally.

FY 06/07 Further assessment of JURMP, WURMP and SUSMP to effectively develop new programs for incorporation in the new JURMP, WURMP and SUSMP that will be required by the new Permit (adopted January 2007). The complete program will be assessed to determine the effectiveness of existing programs and to develop better, more efficient programs to include in the next Permit cycle.

FY 07/08 Development and implementation of new JURMP to comply with Permit Order No. 2007-0001. The new Permit includes additional and improved requirements from those included in Order No. 2001-01. Although the City continued the implementation of Order 2001-01 during FY 07/08, significant time and resources were spent developing the new programs included in Order 2007-0001.

FY 08/09 Continue developing the new programs and activities under Permit Order No. 2007-0001, such as the Low Impact Development (LID) and Hydromodification Plan (HMP). In addition, track all SUSMP project post-construction BMPs and develop inspection protocol for annual inspections.

FY 09/10 Continue implementation of the new JURMP to further reduce and eliminate pollutant discharges into the City's MS4 system. The focus of new water quality regulations are shifting to development and implementation of Total Maximum Daily Loads (TMDLs), which the City will actively participate in. The City will continue to be involved in the LID, HMP and new SUSMP requirements development for future implementation.

FY 10/11 Continue implementation of the JURMP to further reduce and eliminate pollutant discharges into the City's MS4 system. The focus of new water quality regulations are shifting to development and implementation of Total Maximum Daily Loads (TMDLs), which the City will actively participate in. The City will continue to implement the LID, HMP and new SUSMP requirements on priority projects. The City will continue assessing the Storm Water Program to determine if there are any other areas where the utilization of specialized consultants will bring a higher value to the community while at the same time assisting Staff with Permit compliance as resources continue to dwindle during these tough economic times. Currently, Staff utilizes outside consultants to assist with:

- Commercial/Industrial facility inspections
- Dry Weather Monitoring Program
- Department specific specialized Staff trainings

All aspects of the Permit are under review by Staff to determine the most effective and efficient means of compliance. The City is fortunate to have a voter approved NPDES fee, so funding is not a problem, but Staff's resources are. So, outsourcing certain aspects of the storm water program may be a benefit to the City as well as the community.

FY 11/12 Continue implementation of the JURMP to further reduce and eliminate pollutant discharges into the City's MS4 system. The City will continue to implement the LID, HMP and new SUSMP requirements on priority projects. Continued use of outside consultants to assist with commercial/Industrial facility inspections, dry Weather Monitoring Program, and department specific specialized Staff trainings. Continue updating commercial/industrial inventory as new businesses are established. Continue educating the public about the importance of eliminating storm water runoff from residences, businesses, construction sites, and public facilities. Preparation for new permit requirements.

FY 12/13 The RWQCB is currently in the process of issuing a new permit. This permit is currently under review by the Copermittees in San Diego, Orange, and Riverside Counties, along with non-governmental organizations (NGOs) such as Coast Keeper and The Sierra Club and interested members of the public. Since the

new permit requirements are still in the development process, the City will continue with the current program to further reduce and eliminate pollutant discharges into the MS4 system. The City will continue to implement the LID, HMP and new SUSMP requirements on priority projects. Continued use of outside consultants to assist with commercial/Industrial facility inspections, dry Weather Monitoring Program, and department specific specialized Staff trainings. Continue updating commercial/industrial inventory as new businesses are established. Continue educating the public about the importance of eliminating storm water runoff from residences, businesses, construction sites, and public facilities. The City will prepare for new permit requirements as they become available. The City was also involved with creating a TMDL for sediment along with the other Copermittees in the San Dieguito Watershed.

CHAPTER 2
Development Planning Component

CHAPTER 2: DEVELOPMENT PLANNING COMPONENT

In accordance with Permit Section D.1, this section of the report describes the City's efforts to reduce Development Project discharges of pollutants from the MS4 to the Maximum Extent Practicable (MEP); to prevent Development Project discharges from the MS4 from causing or contributing to a violation of water quality standards; and to manage increases in runoff discharge rates and durations from Development Projects that are likely to cause increased erosion of stream beds and banks, silt pollutant generation, or other impacts to beneficial uses and stream habitat due to increased erosive force.

In each Annual Report to the RWQCB, this section will include new modifications to the City's General Plan (if any), review process for new and redevelopment projects, inventory of current public and private projects and activities associated with the Standard Urban Storm Water Mitigation Plan (SUSMP). Activities conducted post-reporting period may be included if the activity is deemed essential to understanding the City's efforts at reducing urban runoff or permit compliance.

The JURMP (Section 4.0: Development Planning Component) describes the City's plans to integrate new project review processes to require mitigation of urban runoff. In addition, the City adopted the new model SUSMP in February, 2008.

2.1 Assessment and Modification of General Plan

Effective land use planning can provide important water quality protections by controlling the type and placement of activities allowed in critical areas, and by providing a framework within which site-specific control measures may be identified and imposed during land development and redevelopment activities. As such, the General Plan is crucial to the long-term success of its water quality and environmental programs.

There were *no changes* to the General Plan during this reporting period. However, the City is currently working on the General Plan update. It has been included in the City Council's FY 2011/2012 Workplan and is a priority project. Updates will be given in subsequent annual reports.

2.2 Project Approval and Environmental Review Process Modifications

The City is tasked with ensuring that land uses in Solana Beach comply with City codes, the General Plan, City Council policies, Engineering standards and State law requirements. Approval of projects through the discretionary review process is generally, but not always, required prior to issuing grading, building and right-of-way permits. The City's Municipal Code (Code) requires compliance with storm water regulations for all discretionary approvals and ministerial permits. The Planning, Engineering, Environmental, Building and Fire Departments review all building plans that are submitted to the City. The Engineering and Environmental Departments administer all aspects of design and construction for public improvement projects. The Planning Department administers the environmental review (Initial Studies, Negative Declarations, EIRs, etc.) of both public and private projects.

The City has reviewed its General Plan and Municipal Codes and determined that the General Plan meets the requirements of Order No. 2007-0001. The following is a short list of recent improvements to the project review process that ensures all projects are reviewed and properly address storm water concerns:

FY 05/06 - Every applicant who inquires about a particular project at the City Hall counter was given a copy of the City's Construction BMP Brochure (Appendix A). This is being done to ensure that every person will have received a copy of the City's educational guide, often times more than once.

FY 05/06 - Any project that increases the impervious area of a site by a minimum of 1,000 square feet must complete a Storm Water Plan Check Comment Form (Appendix B). This sheet requires a variety of information to ensure that there will be no additional run-off as a result of the project. The first requirement is the preparation of an Erosion Control Plan. Also, the applicant must demonstrate that the project *does not increase storm water runoff*. Lastly, the applicant must demonstrate that they are implementing and maintaining all precautionary measures necessary to ensure that pollutant discharges from the site *will be reduced to the maximum extent practicable*. All additional storm water must be completely contained and treated onsite. This is not required by the Permit, but the City believes that it would be prudent to address this issue on such a small scale because of the relative abundance of these smaller projects within the jurisdiction and the lack of larger scale projects that would otherwise be dealt with through the SUSMP process. Instead of ignoring these projects all together, the City felt it would be in its best interests to review these "minor" projects to

ensure that most new construction and redevelopment would address these storm water concerns.

FY 06/07 - City continued to evaluate its project approval process and made some modifications to the process for approving new and redevelopment projects. The plan check routing sheet was further modified to include additional information regarding storm water management. The intent of the modifications is to ensure that pollutants and runoff from development will be reduced to the maximum extent practicable (MEP) standard and/or will not contribute to an exceedance of receiving water quality objectives.

FY 06/07 - Project Applicants (Applicants) are required to submit a detailed project application, which addresses a variety of concerns, including urban runoff and environmental impacts. The project application provides an opportunity for City staff to determine whether or not the project will be exempt from the California Environmental Quality Act (CEQA) process. If the project is subject to CEQA, the environmental impacts of the project must be reviewed and depending on the potential impacts, a more substantial environmental impact report (EIR) may be required.

FY 07/08 - The plan check routing sheet was further modified to include another section titled *Environmental* (Appendix C). This section was included to ensure that *all* plans submitted would be reviewed for storm water implications, no matter how small or relatively insignificant. Previously, plans would be routed through the Engineering Department and if the Engineering Technician determined that it warranted further review, the plans would be passed through to the Environmental Programs Manager. The process was modified to ensure that all plans would be reviewed just in case something was missed or overlooked. The City believes that plan review is essential to ensuring storm water compliance, so we are doing everything possible to make sure it is done thoroughly and accurately.

FY 08/09 – The City implemented a complex and highly efficient computer database (BEACH) that greatly improved the internal plan review process. This database was developed by a local resident and was tailored to the specific needs of the City's departments. The database was built after extensive comment and review from the various departments to maximize the efficiency and streamline the process, while at the same time incorporating all the necessary information for each department. This process and subsequent database has greatly improved the Environmental plan review process by

ensuring that all comments of the Environmental review are addressed prior to initial permit issuance, as well as final permit occupancy. This will be explained in further detail later in the Report and has been a tremendous success.

In addition to the CEQA review process, all applicants must obtain a permit from the California Coastal Commission (CCC) because the City does not have a Local Coastal Plan. The City also has strict environmental standards requiring compliance and governing land-use planning and construction.

The application includes some of the following questions:

- Financial interest of all parties who own, or intend to own the property.
- Proof that all owners of record within 300 feet of the exterior boundaries of the property have been notified of the intent to develop (this allows opportunity for public participation in the process).
- Present use of property and proposed development description (commercial, residential, mixed use, etc.).
- Current floor area ratio (FAR), this allows review of the proposed change in impervious to pervious surface area. The City has a strict FAR and prohibits development within 40 feet of the western edge of the coastal bluffs.
- Proposed area to be graded (this allows the Engineering Department to assess potential erosion and runoff).
- Environmental condition of property (vegetation, drainage, noise, etc.) and neighboring properties.
- Business Applicants are required to submit information pertaining to the types of hazardous materials and whether or not industrial wastewater will be discharged in the property *and/or* off the property.

2.2.1 Project Requirements

As mentioned above, applicants are required to submit plans for all new and redevelopment of private properties to both the Planning and Engineering departments prior to approval. The Engineering Department (which includes Environmental Review) reviews the project's grading and construction plans for a

project's potential pollutant contribution to urban runoff. The City Engineering Department also determines the appropriate pre, during and post BMP requirements for each project and attaches the Storm Water Plan Check Comment form to the project plans and returns the plans to the applicant for modification, if required. Applications may be required to submit one or more of the following:

- An Erosion Control Plan (which requires BMPs to manage storm water and non-storm water discharges from the site at all time and shall emphasize sediment control).

- Evidence that the project will not increase storm water runoff.

- Storm Water and Non-Storm Water Runoff Control (this requirement address long-term control of runoff and may require structural modifications to direct discharges into permeable areas such as landscaping).

In addition, all grading projects are required at a minimum to include the following:

- Source control BMPs for all projects expecting to generate runoff.

- Implementation of site design/landscape measures to reduce and slow runoff, minimize impervious to previous ratio, maximize infiltration and promote alternative driveways and parking lots to include pervious land surfaces (as described in detail in the City's JURMP).

- Implementation of buffer zones for natural water bodies, where feasible and if not, trees, lighting and access restrictions are required.

Industrial applicants are also required to provide evidence of coverage under the California General NPDES Permit for Storm Water Discharges Associated with Industrial Activities.

Applicants are required to be in compliance with the City's current grading and storm water management ordinances, inspection requirements, general requirements for construction activities during the wet and dry season and implementation of appropriate BMPs to control erosion and runoff.

2.2.2 SUSMP

The City participated with other Copermittees in the development of the original model Standard Urban Storm Water Mitigation Plan (SUSMP), which was approved by the RWQCB on June 13, 2002. The Solana Beach City Council adopted the City's SUSMP on December 3, 2002, which was submitted to the RWQCB on December 13, 2002. The City also participated in the development of the new SUSMP in accordance with the current Permit. The City Council adopted the updated model SUSMP in February 2008.

The SUSMP addresses post-construction urban runoff pollution from new development and redevelopment projects that are designated as "priority projects" under the Permit. Most of the criterion that specifies which projects will be priority projects will not be applicable to the majority of City projects. The reason for this is that the City of Solana Beach is more than 95% "built-out" and primarily a residential community with small commercial properties. As a result, the City made few modifications to the Model SUSMP that was developed collectively by the Copermittees for its SUSMP. Over time, City staff will evaluate the effectiveness of the SUSMP and discuss changes, if necessary, in this section of the Annual Report.

During this reporting period, the City of Solana Beach had *one SUSMP project.* The Highway 101 Westside Street Improvement Project is a Risk Level 1 project. This risk level determines the minimum level of BMPs that will be acceptable based on the project site and the project construction activities. The risk level is based on project duration, proximity to impaired receiving waters, and soil conditions.

The City's Planning Department (also referred to as Community Development Department) is well aware of the SUSMP requirements and is consistently on the lookout for potential projects that may fall under the SUSMP requirements. The Engineering Department handles all of the BMP review for the City, however, the Planning Department is the first department to review applicant plans. Often times for larger projects, meetings are held between City Staff and the applicants well before the plans are submitted. At this time, Planning Staff works with the applicants to ensure the project complies with the SUSMP regulations. This helps to avoid costly delays in the project timeline by ensuring the applicant is aware of the SUSMP requirements and incorporates them into the project prior to submittal. It's a very proactive approach that has proven successful on all large projects in the City, not just SUSMP projects.

2.2.3 Low Impact Development (LID)

LID is one of the most significant new requirements of the Permit. The Permit states that each Copermittee shall develop and require each Priority Development Project to implement LID BMPs which will collectively minimize directly connected impervious area and promote infiltration. The City's JURMP describes the LID site design BMPs required at each Priority Development Project. The LID requirements were developed by the Copermittees, which promoted consistency throughout the region for the development community. The City has incorporated the LID requirements into the development review process. This year, the City had their first SUSMP project as discussed above. La Colonia Park and Community Center Renovation is another CIP project that could be subject to the SUSMP or LID requirements. If this project is finalized, it will be reported on in the next reporting period.

2.2.4 Treatment Control BMP Maintenance Tracking

The City has developed a database to track and inventory approved treatment control BMPs and treatment control BMP maintenance for Priority Development Projects within the City. The database contains all necessary information as required by the Permit. In addition, the City has developed a program to verify that approved treatment control BMPs are operating effectively and have been adequately maintained. The City's current treatment control BMP inventory is listed below. Not all projects are a result of the SUSMP process because they were built prior to the requirements; however the City still lists them in their inventory and inspects annually.

Table 2-1 Private Project Treatment Control BMP Inventory

Address	Type of Project	Type of BMP(s) Installed	Maintenance Agreement	Inspection Date
533 Lomas Santa Fe	Boys and Girls Club Remodel/ Construction	CDS Unit (1), Storm Chamber Infiltration Basins (2), Drainage Inserts (2)	Yes	6/14/12
420 Steven's Avenue	Office Building Construction	CDS Units (3)	Yes	6/14/12

667 San Rodolfo	Shopping Center Remodel	CDS Unit (1)	Yes	6/14/12
634 Steven's Ave	Commercial Building Construction	Bio-Swale	No	6/14/12
601 North Cedros Ave	Single Family Sub-Division (23 Units)	CDS Unit (1)	No – City Maintained	6/14/12
641 Valley Ave	Mixed Use Comm/Res	Bio-Swale, pervious concrete	No	6/14/12
715 Valley Ave	Park	Bio-Swale	No - City Maintained	6/14/12
111 South Sierra Ave	Park	CDS Unit, Low Flow Diverter	No- City Maintained	6/14/12
749 Genevieve St	Parking Lot >15 spaces	Bio-Swale, Pervious Pavers	No	6/14/12

2.2.5 Treatment Control BMP Maintenance Inspections

According to the City's JURMP, annual inspections will be completed on an annual basis prior to October 1st. City Staff conducted the annual inspections of the projects listed above as required by the Permit prior to October 1st (6/14/12). Due to the relatively small amount of projects, Staff plans to inspect all treatment control BMPs annually, regardless of their frequency priority. *The City is happy to report that all properties were in full compliance during the first inspection.*

2.2.6 Priority Development BMP Verification Prior to Occupancy

Although there were no priority development projects approved during this reporting period, the City does have a BMP verification process set up to ensure all BMPs are installed prior to occupancy. This process is not only conducted for priority development projects, but grading and building projects that require post construction BMPs (small infiltration pits, roof drains to landscaping, etc) as well.

As mentioned in previous Annual Reports, the building permit routing sheet that goes to each department reviewing the plans was modified to include check boxes in the "Environmental Review" section. These check boxes are for projects that require a post construction BMP of any kind, and if they are checked for any project, the Building Department will not issue final occupancy permits until the Environmental section is complete. This includes an inspection either during construction for BMPs underground (to ensure they were installed prior to being covered by landscaping) or final inspection if the BMPs can be identified at the end of the project. It is the responsibility of the contractor to notify the Environmental staff for inspection or the "pink card" will not be signed and the final Permit will not be issued. City Staff has required contractors to dig up and remove landscaping in order to show that the BMP was actually installed according to the plans if the contractor failed to properly notify Staff for an inspection. This ensures that all post-construction BMPs are installed prior to the final permit being issued for occupancy.

2.2.7 Hydromodification Plan (HMP)

The HMP was finalized and adopted by the Regional Board in July 2010. As mentioned in last year's Annual Report, Staff does not anticipate that any projects in Solana Beach will be subject to the new HMP requirements. The City participated in the development of the HMP and has paid our share for the development costs, realizing that this is a regional issue and as a Copermittee we have a responsibility to assist the other Copermittees in complying with the Permit requirements. If any project is subject to the HMP, it will be reported in this section of each Annual Report.

2.3 Education

Municipal Staff Education

The City of Solana Beach is a very intimate, cooperative group. All departments work very well with one another because they are forced to work together on a daily basis to serve the relatively small community. This makes training and education a much easier task.

The previous formation of the storm water team brought together the directors of all the different departments Planning, Engineering, Public Works, City Manager's, Public Safety (Fire and Marine Safety, Code Enforcement), Environmental, City Attorney's and City Inspector and provided them a forum to discuss storm water issues, keep everybody in the loop on ongoing issues and

develop solutions collectively. In turn, the directors would educate their respective employees on the specific tasks they were to perform. This was a very effective and efficient way to educate the Municipal Staff when the Permit was first adopted and the JURMPs were initially being implemented.

City staff welcomes additional training opportunities and often seeks outside training to keep up with new storm water issues. In addition, Staff welcomes presentations from consultants regarding the latest technologies in the protection of water resources, including techniques to reduce erosion, bacteria and other COCs in urban runoff. Specific trainings are listed in their appropriate sections throughout this Report.

Owner / Developer Education

The City, along with the other North County Copermittees, developed a Construction BMP Brochure (Appendix A) which describes the construction storm water regulations and required BMPs. The BMPs are generic with a simple diagram of a "typical" construction site, which has been very well received by the development community. It is simple and easy to understand, and City staff makes certain developers and contractors know every site is different and has unique characteristics. These brochures are distributed at the counter, at pre-construction meetings and in the field during inspections.

In addition, the City sends a "Rainy Season Reminder" (Appendix D) to all current and active private projects within the City as a tool to educate and remind project owners and developers about the need to strictly adhere to the erosion control requirements during the rainy season. These letters are sent out in the beginning of October as a "friendly reminder" that they need to ensure their sites are in compliance before the rain events start, or risk increased enforcement actions.

Inspections are another opportunity staff utilizes to educate owners and developers about City and State runoff and erosion requirements. During inspections, the City Inspector notes problem areas and requires mitigation compliance immediately. If an owner or developer fails to comply, increased enforcement including fines can be levied and the City Inspector has the authority to halt construction activities with a Stop Work notice.

The City has implemented similar procedures for public projects as those utilized for private projects. During mandatory pre-construction meetings (for all grading and public projects) the requirements for erosion control and runoff management

are discussed. In addition, City staff notifies the primary contractor that they are ultimately responsible for all actions of their subcontractors, and violations of the City's storm water requirements will result in enforcement actions.

2.4 New Activities and Improvement for FY 12/13

The City will continue implementing the activities described in the Development Planning Component of the City's JURMP. In addition, to the development and implementation of the new SUSMP, LID and HMP requirements, the focus for FY 12/13 will include the continued implementation and education of planning/engineering Staff, builders, residents, and the community at-large as to how regulations of the SUSMP, LID and potentially HMP will impact construction. The City will also implement any new requirements required under the new permit.

The BEACH database will continue to be implemented and updated during this reporting period with improvements and advancements made as necessary. The goal is to modify the database to include maintenance and inspections records so that all information on a particular project will be contained in one electronic location. Currently, these maintenance records are being kept in an Excel spreadsheet, but the BEACH database will ultimately be the most effective and efficient location for all project records.

The City will also prepare for the new permit to be adopted in the spring of 2013 and any new requirements that may come along with it.

2.5 Summary

The City has successfully implemented the Development Planning Component of the JURMP. Some of the key accomplishments include:

- Education of planning Staff, owners/developers and the community regarding changes in planning processes.
- Implementation of new procedures to ensure new and redevelopment projects do not contribute to an exceedance in water quality standards.
- Addition of Environmental section of permit routing sheet to ensure *all* plans/projects are reviewed by Environmental Specialist for storm water issues. Addition of post-construction BMP tracking and inspection box on routing sheet to ensure all BMPs are installed according to approved plans.

- Increased cooperation between City departments in implementing SUSMP requirements.
- Developed and implemented new post-construction BMP inventory and inspection tracking database.
- Developed and implemented new BEACH database to store all pertinent information regarding parcels in Solana Beach. This includes environmental fields that are used during plan review and permit issuance as well as housing all the necessary information for post-construction BMP tracking and maintenance.
- Participated in various workshops held by the Board to better understand and help provide input regarding the new draft permit.

CHAPTER 3
Construction Component

CHAPTER 3: CONSTRUCTION COMPONENT

3.1 Introduction

In accordance with Permit Section D.2, this section of the report describes the City's efforts to reduce construction site discharge of pollutants from the MS4 to the MEP and prevent construction site discharges from the MS4 from causing or contributing to a violation of water quality standards.

In each Annual Report to the RWQCB, this section will include modifications to the City's inventory of active construction sites (private and public), modifications to the City's policies or Municipal Code with respect to construction activities, and modifications to identified potential threats to water quality. In addition, this section of each Annual Report will include results from the City's efforts to require BMPs at construction sites and program accomplishments. Also, a summary of activities conducted post-reporting period may be included if the activity is deemed essential to understanding the City's efforts at reducing urban runoff or Permit compliance.

During this reporting period, the City conducted an evaluation of its construction practices and inventoried existing construction sites in an effort to understand potential sources of pollution, threats to water quality, and to develop a plan to mitigate or eliminate urban runoff and pollution from these construction sites by requiring BMPs.

3.2 Modification of Grading Ordinance

There were *no significant modifications* of the Grading Ordinance during this reporting period as a result of new requirements in the Permit. As reported in previous annual reports, Chapter 15.54 (Excavating and Grading) was modified on February 13, 2008 to include the new requirements of the Permit. The amendments updated and strengthened the City's regulations regarding storm water pollution controls. The two main areas of impact in the updated ordinance dealt with two new concepts (Hydromodification Plan (HMP) and Low Impact Development (LID)). As mentioned previously, Hydromodification is a state mandate that requires all local jurisdictions to regulate erosion control and other land-shaping impacts from storm water runoff on priority projects.

Low Impact Development is a new requirement included in the new storm water permit. It deals with using various techniques to channel storm water runoff and

the pollution it contains away from the storm water conveyance system and into landscaping and other on-site features to limit the amount of pollution escaping from individual parcels.

Previously, the last significant modification to the City's grading ordinance occurred June 30, 2005 in which the grading threshold was lowered from 200 cubic yards to 50 cubic yards for all construction projects. This resulted in much smaller projects which would not normally be scrutinized for storm water management, would now be required to go through the grading permit process. This gave City Staff more discretion on smaller projects to require storm water mitigation, and with it, gave Staff more power to enforce the installation and/or site design modifications that would not have been required if a grading permit were not necessary.

3.3 Modification of Construction and Grading Approval Process

The modifications to the City's processes for project approvals are described in detail in the previous chapter of this report (Chapter 2). Although Chapter 2 specifically addresses Development Planning, the discussion included a description of various processes that project applicants must proceed with in order to obtain approval of their construction plans. Chapter 2 also describes the improvements made to the plan check database BEACH as well as the increased education efforts City staff has made to ensure Permit compliance.

The Storm Water Plan Check Comment Form (see Appendix B) may require the applicant to submit an Erosion Control Plan, proof that the project does not increase runoff from the property and/or implementation of structural changes to redirect runoff onto impervious surfaces.

3.3.1 SUSMP BMPs Installation and Tracking

The City continued implementation of the updated SUSMP process during this reporting period. Although construction began on the Highway 101 Westside Street Improvements Project after the reporting period (July 5, 2012), this project is the first City project to be subjected to SUSMP requirements.

Because of the scale of this project (25 acre construction site area), the City hired a consultant to be the onsite construction inspector. The construction inspector is well trained in stormwater requirements and is onsite daily to ensure the proper BMPs are installed and maintained. A copy of the project's Stormwater Pollution Prevention Plan (SWPPP) is available at City Hall and on

the job site at all times. A Qualified SWPPP Practitioner (QSP) visits the site weekly and completes a Stormwater Site Inspection Report. These reports are kept in a file at City Hall.

Since this project falls outside the current reporting period, it will be reported on in more detail in next year's report.

The City does not anticipate many projects that will fall under the SUSMP guidelines, since the City is 95% "built out." However, any project that may be proposed that fall under the guidelines will be put through the process. Planning Staff and Engineering Staff have been trained and are aware of the SUSMP requirements, and will implement the program when appropriate.

As reported in previous Annual Reports, a significant improvement to the building permit routing sheet was the addition of the *Environmental* review section (Appendix C). As noted previously in this Report, the routing sheet was modified to ensure *all* permit applications were thoroughly reviewed by Environmental Staff. This is significant because no projects will slip through the cracks, and all will be required to address storm water concerns. In addition, as mentioned above, the routing sheet also contains an area to mark if the project requires the installation of post-construction BMPs. Final permit approval and building occupancy will not be granted until a final inspection confirms the BMPs were installed correctly, according to the approved plans.

3.4 Construction Site Inventory

This section of the Annual Report will include an inventory of construction sites active during this reporting period. Given that the reporting period for these Annual Reports ends prior to the submittal of the report, the inventory will most likely be slightly outdated by the time the report is reviewed by the RWQCB. However, the City maintains an inventory of current construction project sites, which is always available for review.

The construction inventory is updated periodically, but at a minimum monthly, to ensure all active projects are included and inspected according to the frequency set forth in the JURMP. The update process consists of reviewing the Building Department files of active sites. In the past, the inventory was updated as soon as a building permit was approved. However, it was discovered that often times, construction activities would not commence for many months after permit issuance. This led to a significant amount of wasted time and resources for

limited City Staff to visit multiple sites where there were no construction activities occurring. Since the City's Building Department Staff is required to be onsite when the project begins, review of their files is the most appropriate and accurate manner to update the construction inventory. Review of the Building Department files is now possible due to the fact that they are now housed at the City of Solana Beach City Hall. This is a major improvement over the last few years when the files were located at the City of Encinitas City Hall, along with Building Department Staff.

As shown on Table 3-1, there are currently 12 construction sites that required a grading permit active within the City. In addition, City Engineers are in constant discussions with private project property owners during the plan check process to ensure their projects include an Erosion Control Plan, modify drainage alterations to re-route runoff to pervious surface areas, proof that the project would not result in an increase in runoff from the site or other various structural BMPs, and require all projects to control and mitigate all run-off before it reaches the City's MS4 system. Table 3-2 shows all construction projects that have a potential to discharge pollutants but did not require a grading permit. These projects had extensive plan review by City Staff and storm water/erosion control conditions placed on them even though a grading permit was not required. Table 3-3 shows all Capital Improvement Projects (CIP) and their priority and inspection frequencies.

Table 3-1 Construction Site Inventory Grading Projects 2011/2012

Project Name and Location	Inspection Frequency	Type of Construction	Start Date	Project Status	Project Size	Watershed	FY 11/12 Active Wet Season / # Inspections	FY 11/12 Active Dry Season / # Inspections	FY 11/12 Total # Inspections
235 S. Granados	Medium	Single Family Home	Jul-10	Ongoing	< 1 acre	San Dieguito	28 Weeks / 15 Inspections	24 Weeks / 5 Inspections	20
461 Marview	Medium	Single Family Home	Feb-11	Ongoing	< 1 acre	Carlsbad	28 Weeks / 10 Inspections	24 Weeks / 5 Inspections	15
233-237 N. Rios	Medium	3 Condo Grading	Feb-11	Completed May 2011	< 1 acre	Carlsbad	10 Weeks / 4 Inspection	2 Weeks / 1 Inspection	5
1067 Cerro Verde	Medium	Grading	Aug-11	Ongoing	< 1 acre	San Dieguito	28 Weeks / 15 Inspections	20 Weeks / 5 Inspections	20
624 Mar Vista	Medium	Single Family Home	Sep-11	Completed July 2012	< 1 acre	Carlsbad	28 Weeks / 10 Inspections	22 Weeks / 5 Inspections	15
920 Avocado	Medium	Single Family Home	Jul-11	Ongoing	<1 acre	San Dieguito	28 Weeks / 15 Inspections	16 Weeks / 7 Inspections	22
524 Pacific	Medium	Single Family Home	Jul-11	Completed September 2012	< 1 acre	Carlsbad	28 Weeks / 15 Inspections	16 Weeks / 7 Inspections	22
505 Ford	Medium	Single Family Home	Aug-11	Ongoing	< 1 acre	Carlsbad	28 Weeks / 15 Inspections	14 Weeks / 5 Inspections	20
225 Stevens	Medium	Parking Lot/Playground Reconfiguration	Aug-11	Completed July 2012	< 1 acre	San Dieguito	28 Weeks / 15 Inspections	14 Weeks / 5 Inspections	20
336 N. Granados	Medium	Single Family Home	Nov-11	Ongoing	< 1 acre	Carlsbad	22 Weeks / 10 Inspections	8 Weeks / 3 Inspections	13
536 S. Granados	Medium	Single Family Home	Jun-12	Ongoing	< 1 acre	San Dieguito	28 Weeks / 15 Inspections	24 Weeks / 5 Inspections	20
460 Palmitas	Medium	Single Family Home	Jul-12	Ongoing	< 1 acre	San Dieguito	0 Weeks / 0 Inspections	0 Weeks / 0 Inspections	0

Table 3-2 Construction Site Inventory Small Private Projects 2011/2012

Project Name and Location	Inspection Frequency	Type of Construction	Start Date	Project Status	Project Size	Watershed	FY 11/12 Active Wet Season / # Inspections	FY 12/12 Active Dry Season / # Inspections	FY 11/12 Total # Inspections
1441 Calle Santa Fe	Low	Addition/Remodel	Oct-11	Completed	< 1 acre	San Dieguito	8 Weeks / 4 Inspections	0 Weeks / 0 Inspections	4
653 Canyon	Low	Addition/Remodel	May-12	Completed	< 1 acre	Carlsbad	0 Weeks / 0 Inspections	4 Weeks / 2 Inspections	2
638 W. Circle	Low	Addition/Remodel	Oct-11	Completed	< 1 acre	Carlsbad	8 Weeks / 4 Inspections	0 Weeks / 0 Inspections	4
631 Glenmont	Low	Addition/Remodel	July-11	Completed	< 1 acre	Carlsbad	0 Weeks / 0 Inspections	10 Weeks / 3 Inspections	3
536 S. Granados	Low	Addition/Remodel	Apr-12	Completed	< 1 acre	San Dieguito	2 Weeks / 1 Inspections	7 Weeks / 2 Inspections	3
420 Loma Larga	Low	Addition/Remodel	May-12	Ongoing	< 1 acre	San Dieguito	0 Weeks / 0 Inspections	12 Weeks / 4 Inspections	4
639 Marsolan	Low	Addition/Remodel	Aug-11	Completed	<1 acre	San Dieguito	4 Weeks / 2 Inspections	6 Weeks / 2 Inspections	4
808 Ocean Surf	Low	Addition/Remodel	Feb-12	Completed	< 1 acre	San Dieguito	10 Weeks / 2 Inspections	2 Weeks / 1 Inspections	3
1136 Santa Madera	Low	Addition/Remodel	May-12	Ongoing	< 1 acre	Carlsbad	0 Weeks / 0 Inspections	12 Weeks / 4 Inspections	4
329 N. Sierra	Low	Addition/Remodel	Mar-12	Completed	< 1 acre	San Dieguito	6 Weeks / 2 Inspections	4 Weeks / 2 Inspections	4
591 S. Sierra	Low	Addition/Remodel	Oct-11	Completed	< 1 acre	San Dieguito	12 Weeks / 4 Inspections	0 Weeks / 0 Inspections	4
785 Solana Circle E.	Low	Addition/Remodel	Jan-11	Completed	< 1 acre	San Dieguito	12 Weeks / 4 Inspections	0 Weeks / 0 Inspections	4
324 Via de Vista	Low	Addition/Remodel	May-12	Ongoing	< 1 acre	San Dieguito	0 Weeks / 0 Inspections	7 Weeks / 2 Inspections	2

3.5 Construction Follow-Up Activities:

The City is very aggressive with its construction inspections and follow-up, and unless otherwise stated, all follow-up corrective activities were properly addressed and corrected within seven (7) working days. Many times the corrections are made immediately, however the City's policy is to allow the responsible party seven days to correct the violation. That being said, if there is an immediate threat to public health or safety, the City can, and will, require immediate corrective actions.

As stated above, the City takes a very pro-active approach toward construction projects. Plans are heavily scrutinized and discussions with the contractors often happen before the project even begins. The City has found that initiating contact with the contractor before the project begins and maintaining contact throughout the construction process leads to continued compliance with storm water regulations. Since the City of Solana Beach is relatively small, the City's inspector has the ability to visit sites almost daily, and at a minimum weekly. Due to this high level of supervision, sites remain in compliance with storm water BMPs. That being said, there are instances where accidents do take place, most often when concrete trucks and pumpers are involved.

It is important to note that there were no significant violations from construction sites during this reporting period. There were minor issues that Staff encountered during inspections such as open trash dumpsters, minor sediment tracking or BMPs that were improperly installed or needed replacing, but there were no citations issued. Staff believes that the proactive approach to construction inspections, pre construction meetings and constant contact in the field from the Assistant Civil Engineer and EsGil Inspector all helped to keep the construction sites in compliance. Also, due to the lengthy drought the region is experiencing, there were relatively few rain events that occurred.

3.6 Capital Improvement Projects Inventory

In addition to the inventory for private projects, City staff believes it is equally important to discuss public Capital Improvement Projects (CIPs) under construction.

CIPs are held to the same *or stricter* standards for reducing runoff as private projects. BMPs, Erosion Control Plans, and structural changes to reduce or mitigate runoff pre, during and post-construction are required. Most, if not all, CIPs in Solana Beach are constructed by private contractors selected through the standard public construction bid process. Contractors are informed *prior to submitting a bid,* that the City requires adherence to RWQCB standards, Permit and City storm water regulations. To ensure compliance, the city inspector

conducts a daily inspection of each CIP site during construction. Stop Notices are issued if the contractor fails to comply with any storm water / erosion control regulations.

Additionally, the Assistant Civil Engineer is included in pre-construction meetings that are required for *all* public projects. A line item discussing NPDES regulations and requirements is standard for all public project agendas (Appendix E). This is another way to ensure that all contractors are aware of the requirements before the project begins, and to help with possible enforcement actions, if necessary.

In FY 11/12, the City Inspector did not issue any Stop Notices to contractors for failing to comply with storm water/erosion control regulations.

Table 3-3 below shows the inventory of CIP projects during FY 11/12. The City had three projects, and placed all of the projects in the high priority category. This was done to ensure that the City's projects would be inspected at a very high frequency in order to ensure compliance at all times. For the other CIP projects, the City's Inspector was onsite daily to monitor the site.

Table 3-3 Construction Site Inventory Capital Improvement Projects 2011/2012

Project Name and Location	Inspection Frequency	Type of Construction	Start Date	Project Status	Project Size	Watershed	FY 11/12 Active Wet Season / # Inspections	FY 11/12 Active Dry Season / # Inspections	FY 10/11 Total # Inspections
Marine View Avenue Improvement	High	Grading	Sep-11	Completed Feb-12	<1 acre	San Dieguito	18 Weeks / 60 Inspections	2 Weeks / 7 Inspections	67
Realignment of El Viento at North Granados	High	Utility installation/roadway improvements	May-12	Completed Aug-12	< 1 acre	Carlsbad	0 Weeks / 0 Inspections	8 Weeks / 24 Inspections	24
Ocean, Seabright Lane and Access Road Storm Drain	High	Storm drain Replacement	Feb-12	Completed May-12	< 1 acre	Carlsbad	12 Weeks / 40 Inspections	2 Weeks / 5 Inspections	45

3.6.1 Significant CIP Project Narratives

In this section, some additional narrative has been added to some of the more significant CIP projects, and to explain some other projects that weren't necessarily planned construction activities, but ones that were either emergency, preventative or experimental that occurred during this reporting period. Staff feels that these projects significantly show the City's proactive approach to protecting the local environment.

Sewer Assessment and Repair Program

The City embarked on a significant project to video and inspects the entire sewer system infrastructure during this reporting period. The City Council authorized approximately $150,000 towards this assessment and repair program with the intent to prevent any failures in the City's infrastructure. The City hired consultants to video the entire length of the sewer pipes and develop an assessment report to categorize the infrastructure into priority replacement projects. The City repaired all high priority areas throughout the City. This is a very aggressive and proactive program that demonstrates the City's commitment to no sewer spills in the City. This year, the City completed a sewer lining project on approximately 2,500 linear feet of pipeline. This project took care of the next tier of priority pipelines to be rehabilitated. The City is looking to perform some sewer pipeline replacements in spring 2013 and will report on this project in the next Annual Report.

Marine View Slope Maintenance

The City has a very steep slope on the east side of I-5 on Marine View Avenue that has been a problem area for large-scale erosion. The slope is now bare with no vegetation, and gullies have been cut out over the years by large rain events. These rain events produce a significant amount of erosion, and the City has attempted many solutions over the years, with minimal success.

Beginning in September 2011, The City began work on a CIP project that eliminated the erosion problem on the slope on Marine View. This project included regarding the slope to eliminate the gullies, applying a layer of hydroseed to help vegetate the slope, planting trees and bushes on the slope, and applying a geomat to help further stabilize the slope.

Staff has been keeping a close eye on this slope and is hopeful that the slope will

not erode during future rainy seasons.

3.7 Threat to Water Quality Prioritization

In accordance with Permit Section F.2.e., the City describes the criterion for designation of construction projects as high, medium, or low priority, in its JURMP. *There are **no changes** to report in the City's criterion for determining a project's impact or threat to water quality.* The City's prioritization criterion meets the requirements of the new Permit, so no changes were needed.

Of the active projects currently under construction, *there are no changes to report with respect to the potential threat to water quality*. The only projects that would fall under the high priority would be significant redevelopment projects. The City began construction on the Highway 101 Westside Improvements in early July 2012. The City hired a consultant team to oversee the construction inspection for this project. The Contractor also hired a stormwater consultant with qualifications as a Qualified SWPPP Designer (QSD) and Qualified SWPPP Practitioner (QSP). The QSP is onsite at least once a week to check that the proper BMPs are in place and that the Contractor is following the guidelines set forth in the project specific SWPPP. Stormwater inspection reports are submitted to the City on a weekly basis. This project is considered a high priority project and since construction began after the reporting period, this project will be reported on in more detail next year.

The City is closely monitoring two additional potential projects that may fall under the high priority in the next reporting period, pending permit approval. It is important to note that City Staff is currently working with the prospective developers to ensure they integrate beneficial storm water designs (LID) during the design phase. The following projects are being closely monitored by City Staff:

1) Multiple plans have been submitted to the City to build a hotel/restaurant and condos on the east side of Highway 101 at the northern tip of the City (commonly referred to as the Magellan site), however it has been met with some opposition within the community and a compromise is being sought. Plans still have not been adopted by the City Council at the time of this report. If a project is accepted for development in that area during the next reporting period, it will be a high priority project subject to the SUSMP process because of its proximity to the

San Elijo Lagoon, a 303 (d) listed water body.

2) Another *potential* high priority project that is being discussed is a large multi-use residential/commercial development on what is currently the North County Transit District's (NCTD) train station property. This proposed project has also come under heavy scrutiny from the public and no plans have been approved by the City. If a project is approved for development on this site during the next reporting period, it will be a high priority SUSMP project because of its size and pollutant potential.

The City's Capital Improvement Projects (list available upon request) will be considered at least a medium priority for several reasons. First, priority categories may only result in a change in the frequency of oversight and since the City Inspector visits each public construction site on a daily basis, it eliminates the need for delineation in priority. Second, given the City's proximity to the Pacific Ocean, all erosion, sediment and runoff control practices are important and are expected to be very beneficial to the community. Therefore, the designation of "medium or high priority" improves the likelihood that CIPs will not contribute to an exceedance of water quality standards. It doesn't make sense to categorize a CIP project as low priority since the City holds itself to a higher standard than what the Permit requires.

3.8 BMPs and Pollution Prevention Methods

As noted in the City's JURMP, the City requires general and specific BMPs for construction sites. With the modifications in the development review process, the City is able to require site design, source control and treatment BMPs prior to construction. Owners and developers are provided a BMP Construction Brochure (see Appendix A), and they meet with Engineering Staff to develop methods to ensure that runoff is not increased as a result of their proposed project. The City believes that working with the contractors during the plan development (when applicable) and approval process is the most critical time period to ensure that appropriate BMPs (structural, pre-and post-development) are built into the project *before* pollutants are allowed to enter the storm drain conveyance system.

BMP Selection

The City does not require a specific or certain type of BMP (except for SUSMP

projects) for all projects similarly designed. Instead, Staff evaluates each project on its own merit and determines if modifications to the plans are required to control erosion and/or reduce runoff. City Staff works together with property owners and developers to find satisfactory solutions to project problems.

Pollution Prevention Methods (PPM)

Construction limitations – the City limits construction during the wet season when construction plans warrant and when it is feasible. Implementation of this PPM reduces the potential for pollution.

Education – the City sends out letters to all active public and private construction projects prior to the wet season as a reminder of the importance of implementing the required BMPs (see City JURMP for a description) and the importance of taking precautions during storm events (Appendix D). Additionally, a BMP Construction Brochure is attached to all permit approvals and distributed at City Hall Engineering and Planning counters to all prospective developers and interested members of the community.

Inspections – as discussed below and elsewhere in this report, the Assistant Civil Engineer visits construction sites and keeps a record of BMP implementation and effectiveness. When a developer does not comply with the City's request to modify practices to reduce runoff or erosion, a Stop Work can be issued and fines may be levied.

3.9 Enforcement and Inspections

Enforcement of the City's Municipal Code is conducted by the City's Code Enforcement Department. The Assistant Civil Engineer conducts inspections of construction site BMPs, but if enforcement actions above verbal warnings and written NOVs are necessary, Code Enforcement Officers are notified.

Code Compliance

The City has developed procedures to track and monitor citations issued to property and business owners, visitors, and developers. These procedures include the implementation of an Administrative Fine process which was adopted by the City Council on June 18, 2002. This process allows Code Enforcement Officers to issue administrative citations and penalties beginning at $100 and rising up to $1,000 for each violation per day that the violation(s) occur; this

applies to both public and private construction sites.

In addition to the administrative fine process, the City adopted a Civil Penalty Matrix (Matrix). This is a very significant tool that has greatly enhanced the efficiency and consistency of enforcement for storm water violations. The City felt it was necessary to develop a matrix to evaluate each violation in the field, and to respond to them in a consistent and appropriate manner. The Matrix was designed so that anybody in the field who witnesses a violation can apply the parameters of the Matrix to decide the appropriate way to respond. This greatly enhanced the efficiency of the storm water program, as not all violations require multiple Staff to respond or, if a fine was necessary, Staff did not have to wait for approval from upper management to issue it. This would sometimes take as long as month, but with the Matrix, this could happen instantaneously in the field.

The Matrix was modeled after the City of San Diego's Civil Penalty Matrix. The Matrix was modified for the type of violations most often encountered in Solana Beach, but the foundations are very similar. The Matrix breaks down the violation into two categories, Environmental Significance and Compliance Significance. These categories are further broken down into Moderate, Major, and Severe. According to the type of violation and the history of the violator, the penalties will be placed in the appropriate section of the Matrix. This ensures that all violations are treated consistently, and the feelings of the investigating officer do not interfere, so the enforcement actions do not vary. This, according to our Code Enforcement Department, is extremely important if a fine gets challenged in court. The Matrix has been in use for over six years, and a fine has not been successfully challenged yet. The Matrix was developed in cooperation between the City's Environmental Specialist and Code Enforcement Officer, further demonstrating the great working relationship between City Departments.

The Matrix is used for all violations, not just construction related offenses. It can be applied to municipal, commercial, and residential offenses. For the complete Civil Penalty Matrix, see Appendix F.

Site Inspections

All construction sites that have a potential to discharge pollutants are inspected by the Assistant Civil Engineer, including public and private development projects. All development projects in the City are inspected in accordance to the

JURMP.

The sites are inspected at the rate of frequency established in the JURMP. At a minimum, each site that is determined to have a high inspection frequency priority will be inspected at least every two weeks during the rainy season (October 1st through April 30th). Medium inspection frequency priority projects are to be inspected at least monthly during the rainy season. Low inspection frequency priority construction sites will be inspected on an as-needed basis during the rainy season. All construction sites will be inspected for storm water management compliance on an as needed basis during the dry season.

The Assistant Civil Engineer devotes time out of her schedule to visually monitor all construction sites. This has been very successful in preventing pollution from leaving construction sites, as most problems are fixed before any illegal discharge leave the property. Since there are not too many projects in the City, this type of monitoring is highly successful, as private project managers and City Staff communicate very effectively.

If any potential violations are noticed during either the visual inspections or on-site inspections, City Staff will stop and talk with the property owner/contractor, write a letter, request Code Compliance to issue a citation, issue a “stop work notice” or a combination of these activities. The City’s Civil Penalty Matrix, discussed previously is also used for construction related violations.

In addition, City Staff conducts informal visual inspections at all medium and high priority construction sites prior to a rain event to ensure all BMPs are installed correctly and working properly. A follow-up informal visual site inspection is then conducted during and/or after the rain event to monitor how effective the installed BMPs were and if any modifications need to be done. Construction sites are constantly evolving and require constant monitoring, which the City Staff understands and enforces.

All inspections conducted during this reporting period addressed the required inspection steps to determine full compliance. There were no sites that required multiple follow-up inspections or reporting to the RWQCB, as all were either in compliance at the time of inspection or made the necessary corrections after the initial inspection and were in compliance during the follow-up inspection.

Enforcement of BMPs

During inspection of construction sites, City Staff verifies that appropriate BMPs have been installed correctly and are working effectively (sediment is on-site, erosion control methods in place, runoff mitigated or not leaving property, etc.). In addition, City Staff has the authority to immediately require new BMPs if erosion control, runoff, or other activity is taking place that contributes pollutants into the City's MS4.

During this reporting period, the City staff conducted inspections of all CIPs and mandatory inspections of private projects within the City's jurisdiction and did not need to report any non-compliant sites to the RWQCB. Any site that was determined to be out of compliance was immediately notified and the problems were resolved within the time frame specified by the City.

Educational Activities

The educational activities conducted for construction sites consisted mainly of verbal conversations between the contractor/developer and City Staff. Because of the relatively few projects in the City, it is possible and practical to discuss issues during the pre-construction meeting and on-site with the contractors. Also, they are given the Construction BMP brochure prior to the start of the project and ongoing inspections/meetings occur throughout the project. The City believes that it is much more effective to talk with the contractor face-to-face about storm water issues and, since we are a small city, it has been and continues to be very effective.

An educational brochure (Appendix G) was developed by the City that focuses on general construction site requirements relating to all City codes. The brochure, titled "Construction Site Supervision in Solana Beach: Code Requirements and Good Neighbor Practices," was requested by the City Council as a general educational tool to be distributed to all contractors. This has been very well received by the development community because it addresses everything from construction hours to permitting to storm water BMPs. This is another example of the City's proactive approach to community education.

Another tool that was developed and is currently being implemented is the Construction BMP Brochure (Appendix A). This was developed by the North

County Storm Water Program to provide a single message and consistent requirements to all contractors/developers in the region, regardless of where they are doing work. This brochure was meant to supplement each individual cities educational outreach to ensure that the development community was receiving a consistent message regarding proper construction practices. This brochure has been very well received by the development community and in Solana Beach has replaced the Construction BMP Guide as the primary educational tool distributed to the development community.

As discussed previously, the inclusion of the *Environmental* section to the building permit routing sheet has afforded the City another opportunity to educate the applicant/contractor on the storm water regulations. Every project that has the potential to discharge pollutants to the MS4, regardless of size or type, is reviewed by the Environmental Programs Manager and commented on.

Another educational tool utilized by the City is the City's newsletter "Shorelines." The newsletter is updated and distributed four times per year and is eagerly anticipated by the community. A variety of storm water topics are touched upon in each edition, including construction. These articles usually focus on education for single-family residential projects since often times these are done by smaller contractors that may not have the knowledge that larger developers do. In addition, the City wants to educate the property owners of the regulations and let them know that they are ultimately responsible for the actions of their contractors, including violations. Often times, City Staff discovers that the property owners are the best allies to have because they don't want to be held responsible, so they ensure their contractors are adhering to the regulations. It's been a very effective tool in storm water management throughout the community.

These smaller projects hold a much higher priority in our City because of the lack of larger projects; so educating the individual homeowners is extremely vital. Also, the City has found that the smaller projects have the most potential violations, as most are owner/contractor situations where they are not aware of the storm water regulations. The larger projects often have erosion control specialists and employees who are required to attend storm water education classes. The newsletter is included as Appendices and described in later chapters of this Report.

Special Project BMP Education

An effective tool that has been recently developed and continues to be implemented is the development of specialized BMP notices for specific types of specialized construction activities. For example, a large scale effort is being made to underground overhead power lines for view impact reductions around the City. These were special projects that did not go through the normal permitting process. Therefore, these plans would not have been reviewed by the normal parties, and since the City is dedicated to storm water protection, City Staff developed a special "Undergrounding Utility District Construction Best Management Practices" handout (Appendix H). This was a one page handout to be included in every permit application submitted by those participating in this program. Since the process of undergrounding utilities involves moving a large amount of dirt, the City felt it prudent to take this extra precaution to ensure the proper BMPs are in place.

If any special projects in the future require project specific BMPs, the City is dedicated to developing materials to distribute to the applicants.

Post Construction BMP Inventory and Inspection

Another significant new requirement in the Permit mandates that the City must develop an inventory of all post construction BMPs and conduct annual inspections for Priority Development Projects (SUSMP). The City now has the ability to ensure that all post construction BMPs are installed and maintained by the contractor and/or property owner. The *Environmental* review section on the routing sheet contains a section that can be marked for inspection required prior to installation or prior to final approval of the project. This was done to ensure post construction BMPs required on the plans are actually installed and ensures maintenance through a special agreement that is recorded on the property through the County of San Diego. The City found in some cases that the post construction BMP(s) are often buried in the ground before inspection, thereby making it impossible to inspect and ensure it was properly installed according to the approved plans. So, the City revised the routing sheet to include a box that, when checked, puts the onus on the contractor to call for an inspection during the installation to ensure it is actually being done. This way, it can be more efficiently documented and inspected before the permit gets final approval. In addition, this allows the Assistant Civil Engineer the ability to document in a spreadsheet the type of BMP, location and inspection frequencies as the plans are being

reviewed. This will assist City Staff with post construction inspection documentation requirements prior to the start of the project.

Construction and Demolition Debris Recycling Ordinance

In January 2008, the City Council adopted a Construction and Demolition Debris Recycling Ordinance (C&D Ordinance). This ordinance requires all demolition projects and construction projects over a valuation of $100,000 to submit an approved Waste Management Plan (WMP) detailing how the contractor will recycle at least 50% of the waste generated from the project. The contractor will not receive final permit approval until they have proven at least 50% of the waste was recycled.

This is an extremely significant accomplishment for the City and its clean water efforts. According to the National Association of Home Builders (NAHB) Research Center, building a 1,700 square foot home requires:

- 9,700 board feet of lumber
- 750 copper wire
- 2,500 square feet of insulation
- 6,484 square feet of drywall
- 170 feet of copper pipe
- 55 gallons of paint
- 55 cubic yards of concrete

This is a significant amount of waste that would normally end up in the local landfills, or worse, illegally dumped in the environment. This ordinance requires contractors to recycle their used materials, guaranteeing that it does not pollute the environment. This is another example of the progressiveness of the community as a whole when it comes to protecting the environment.

3.10 New Activities and Improvements in FY 12/13

City Staff will continue to review all plans, enforce BMP (site, source and treatment) installation, conduct inspections and keep an accurate inventory of the private and public projects and post construction BMPs. The City is committed to working with the other cities within its respective watersheds (Carlsbad and San Dieguito) to ensure compliance with all storm water regulations and continue to develop watershed educational information.

The primary focus for FY 12/13 will be the continued development and implementation of the LID, HMP and SUSMP programs. These are major program components and the City is committed to working with the other Copermittees to develop a high quality work product that can be implemented region-wide. These three components are extremely important in maintaining and enhancing the water quality in the region as more and more land is developed. Training of appropriate City Staff on these new requirements will be a priority to ensure successful implementation of the new programs. In addition, Staff is currently reviewing its documents and handouts to ensure they are up to date and accurate with the new requirements.

City Staff is currently reviewing its construction inspection protocol and changes might be made in the upcoming reporting period. As reported above, the current construction inspections are being conducted by the Assistant Civil Engineer. The City is analyzing the current practice and due to potential upcoming staffing changes (retirements, reorganization); changes might be on the horizon. The City is assessing whether or not construction inspections should be continued in-house, or if contracting out those services to a specialized consultant would benefit the City and the community. The City's recent successes with contracting out the commercial/industrial inspections, Dry Weather Monitoring Programs services and Staff trainings have made the City take a hard look at other service areas as well. There is also the possibility that a part-time Code Enforcement Officer will be hired with the focus of construction inspections. This analysis is occurring at the time of the writing of this report and more information will be given in next year's Annual Report.

Next reporting period, the Assistant Civil Engineer will be heavily involved in inspecting the stormwater and BMP Requirements for the Highway 101 Westside Improvements. Since this project started after the FY 11/12 reporting period (July 2012), it will be reported on in more detail in the next annual report.

3.11 Summary

The City has been effective at implementing a plan-check process that has resulted in the implementation of BMPs, site design modifications, structural changes and runoff mitigation activities in project proposals and/or construction activities. Both public and private construction projects are subject to the City's strict standards, which provide a consistent approach to reducing urban runoff

from construction activities. The City has effectively integrated the new stricter standards of the Permit, including the SUSMP, into its plan-check review process. The City has also developed project specific construction BMPs for large-scale specialized construction activities such as the Undergrounding Utility Districts that are forming around the community.

The City will continue to actively analyze the construction program and make necessary improvements/modifications to ensure the protection and enhancement of the local water quality. An example of the City's commitment was the addition of the Environmental review section of the permit routing sheet. The City felt that some smaller projects, although not specifically required to be plan reviewed and inspected by the Permit, may have the potential to be overlooked. Therefore, now *all* plans are reviewed by the Assistant Civil Engineer and necessary changes can be made before plans are approved. Also, the reduced grading ordinance modification demonstrates the City's commitment to reviewing as many projects as possible and integrating storm water management requirements to projects that would have been overlooked in the past.

The City, along with the other regional Copermittees, developed and is now implementing the two significant new requirements, the HMP and LID. These two programs are significant additions that will require City Staff to work with the other Copermittees to implement regional programs to address runoff from construction projects. These new programs also include an educational component, which the City is currently developing in conjunction with the region. The City is committed to participating with the regional Copermittees to develop and implement these respective programs, even though the HMP is not expected to affect any projects within the City. The City values itself as an active Copermittee, and allocated funds to the HMP development, even though it is highly unlikely to affect any projects within the City's jurisdiction.

CHAPTER 4
Municipal Component

CHAPTER 4: MUNICIPAL COMPONENT (EXISTING DEVELOPMENT)

4.1 Introduction

In accordance with Permit Section F.3.a, this section of the report describes the City's efforts to prevent or reduce pollutants in runoff from municipal land use areas and activities.

In each Annual Report to the RWQCB, this section will include modifications to the City's inventory of municipal facilities, pollutant source identification and potential threats to water quality. In addition, this section of each Annual Report will include results from the City's efforts to implement BMPs at municipal facilities, program accomplishments and activities. Also, a summary of activities conducted post-reporting period may be included if the activity is deemed essential to understanding the City's efforts at reducing urban runoff or Permit compliance.

Municipal facilities and areas within the City of Solana Beach include public parks, public buildings, streets, roads, and parking lots, a public works yard, and the MS4 system. During this reporting period, the City once again conducted a comprehensive re-evaluation of its municipal sites to understand potential sources of pollution, threats to water quality, and to develop a plan to mitigate or eliminate urban runoff and pollution from its facilities by implementing Best Management Practices (BMPs). This was accomplished through inspections of all public facilities.

4.2 Inventory of Municipal Facilities

During this reporting period, in response to the requirements of the Permit and in an effort to improve the quality of water in the region, the City once again inventoried its municipal sites and activities. Table 4-1 presents the City's municipal facilities, by prioritization level. *There are no changes in the City's inventory of municipal sites from those submitted to the RWQCB in the City's last Annual Report.*

The City's municipal facilities include five public buildings (City Hall, Fire Station, Marine Safety Center and the community centers at La Colonia Park and

Fletcher Cove), one Public Works Yard, six public parking lots, City streets and roads, the Municipal Separate Storm Sewer System (MS4) and the beach (which consists of four access locations: Del Mar Shores, Seascape Sur, Tide Beach Park, and Fletcher Cove).

Table 4-1 Existing Municipal Facilities, By Priority Level

Facility Name	Facility Address	Type of Activity	Priority
Public Works Department	1764 Highland Drive	Materials storage, fleet parking, administration	High
North Seascape Sur Surf Park	Public beach access west of Highway 101	Public beach	High
Roads, streets	Citywide	Circulation	High
MS4 System	City-wide	Storm-water conveyance system	High
Fletcher Cove Parking Lot	North end of Plaza St.	Parking	High
Distillery Parking Lot	Sierra and Lomas Santa Fe		
Solana Beach and Tennis Club	West end of Dahlia St.		
Seascape Sur Parking Lot	Seascape Sur Easement		
Del Mar Shores Parking Lot	Sierra Ave. near Del Mar Terrace		
Del Mar Beach Club East Parking Lot	Sierra Ave. east of Del Mar Beach Club Dr.		
City of Solana Beach Fire Department	500 Lomas Santa Fe	Public Building - Fire Station, fleet and fire equipment storage	Medium
City of Solana Beach City Hall	635 S. Highway 101	Public Building -Administrative	Low
Marine Safety Department, Fletcher Cove	111 S. Sierra Ave.	Public Building Administrative, marine safety equipment storage	Low
Fletcher Cove Community Center	111 S. Sierra Ave.	Public Building – Community Center	Low
La Colonia Park and Community Center	715 Valley Ave	Public Park and Building – Community Center, administrative, park	Low
Tide Beach Park	302 Solana Vista Drive	Public beach	Low
Del Mar Shores	190 Del Mar Shores	Public beach	Low

4.2.1 Inspection Frequency of Municipal Sites

The City inspects all of its municipal sites listed above on a continuous basis. The inspections address all the required inspection steps to determine full compliance. Every winter, prior to the wet season, the Public Works Yard (Yard)

is given a complete inspection and all Public Works employees are given a complete storm water refresher training seminar. Also, the Public Works Crew is put through a practice run of the Wet Weather Triggered Action Plan to prepare for the upcoming wet season. At this annual inspection, the current inventory of the storm water BMPs kept on-site (gravel bags, bio-filter rolls, straw rolls, etc) is documented and additional supplies are ordered if necessary. Visual inspections are conducted on a daily basis by the Public Works Crew.

As required by Permit Section J.3.a (3) (c) xix, the City confirms that the municipal inspections addressed all required inspection steps to determine full compliance.

Here are the specific dates and numbers of inspections for the City's municipal areas:

Public Works Yard: Weekly facility visual inspections by City Staff. Compliance inspection conducted last year on May 24, 2012.

Roads and Streets: Daily visual inspections by City Staff. Every street is swept at least once per month. Main arterial streets and collector roads are swept twice per month. These frequencies are set based on Permit requirements and the size and frequency of use by vehicles on a daily basis.

Parking Lots: Weekly visual inspections by City Staff. Every City parking lot is swept once per month. In addition, the Fletcher Cove Park parking lot is swept weekly during the summer months due to an increase in use during the summer.

MS4 System: Weekly visual inspections by City Staff. Highest priority catch basins cleaned annually (those with accumulated debris inside). All 309 catch basins and 15 unimproved channels were inspected and 26 catch basins were cleaned. Approximately 19 cubic yards of debris was removed from the MS4 system during this reporting period.

Fire Department: Daily visual inspection by City Staff. Compliance inspection was conducted on May 24, 2012.

City Hall: Daily visual inspection by City Staff. Compliance inspection was conducted on May 24, 2012.

Marine Safety: Daily visual inspection by City Staff. Compliance inspection was conducted on May 24, 2012.

La Colonia Community Center: Daily visual inspection by City Staff. Compliance inspection was conducted on May 24, 2012.

Beaches: Daily visual inspection by City Staff (Marine Safety Department).

4.2.2. Follow-up Activities

There were no follow-up activities required as a result of the municipal inspections. Due to the education, knowledge and constant monitoring by City Staff, no violations were detected during the compliance inspections.

All municipal facilities are implementing the necessary BMPs and all employees are properly trained. The Public Works Yard required no corrective action as everything remained in compliance. The Wet-Weathered Action Plan was successfully implemented and the employees were trained again and had a practice run prior to the beginning of the wet season.

4.2.3 Implementation of Pesticides, Herbicides and Fertilizer BMPs

As reported in last year's Annual Report, the City used to house a small amount of pesticides, herbicides and fertilizers at the Public Works Yard. However, City Staff no longer handles any pesticides, herbicides or fertilizers and does not store any of this material onsite. Instead, all applications are conducted by the City's contracted landscaping company and no material is stored at City facilities. This greatly reduces a high priority pollutant source and eliminates the potential for a release into the City's MS4.

In addition, the City has recently switched to using only organic pesticides, herbicides and fertilizers on City property. This change was approved by the City Council and additional funds are allocated to implement the program. The City is extremely proud of this transition, as the chemically produced materials can create significant water quality degradation. This major transition (including financially) was approved and encouraged by the City Council, which reflects the environmentally conscientious attitude of the community.

4.3 Pollutant Source Identification

To assist the City in determining the source of pollutants in its receiving water bodies, and/or the receiving water bodies of neighboring jurisdictions, the municipal facilities were also identified by Watershed in the City's JURMP*. There are no changes to report in the municipal facility by watershed classification.*

During this reporting period, Staff continued to evaluate the possible types of pollution that could be generated from each municipal facility. The evaluation included the following:

- Type of materials stored or used on site
- Activities conducted on site
- Proximity to conveyance system, or environmentally sensitive areas
- Any additional activities that may affect water quality such as additional storage or new materials kept on-site

Results from the evaluation indicate that most City facilities are a low threat to water quality. Parking lots, streets and roads, and the Public Works Yard are the highest priority of municipal facilities as they could introduce pollutants into the conveyance system, which could impact water quality.

The City is committed to implementing BMPs that will reduce pollutants from parking lots, streets and roads and, in particular, the Public Works Yard. The City has installed and maintains a BioClean filter in one of the upstream catch basins that lead to the problem Seascape Sur storm drain outfall. In addition, the City installed a curb inlet screen at the same catch basin upstream from Seascape Sur to prevent debris, and possible pollutants, from entering the catch basin.

As reported in last year's Annual Report, an additional BMP catch basin inlet screen was installed in the opposite catch basin across the street as a pilot test project. This inlet screen automatically opens up during a rain event to prevent flooding, but remains in place during dry weather periods. The sturdy screen also contains a filter in the basket behind the screen to further filter out pollutants prior to entering the Seascape Sur storm drain. These two BMPs will be studied and sampling results analyzed to determine if they are effective BMPs for the problem pipe. The results will be described in more detail in Chapter 12 (Special Investigations)

The Public Works Yard is visually inspected daily and BMPs are maintained and

reinforced as needed. In addition, the City utilizes results from its dry-weather-monitoring program to determine if pollutants are entering the system from its municipal facilities.

The City's 2011 Dry-Weather-Monitoring Program (DWMP) was completed by the City in September 2011. The results indicated a continuing concern at Seascape Sur, which has been an ongoing problem in the City (see discussion in Chapter 12, Special Investigations), where elevated levels of bacteria were detected. An investigation into the identification of the pollutant source is ongoing, and the City is looking into alternative ways to address the situation. No municipal facilities were found to be contributing the pollutants.

The City utilized the information from the 2002-2011 DWMPs and the criteria established by the Permit (Order 2007-0001) to further develop its 2012 Dry-Weather-Monitoring Program. The results of the 2012 program will not be available until after this reporting period, but if any exceedances are detected, follow-up actions will be taken immediately. The results of the 2012 DWMP will be included in Chapter 7 (IDDE) of this Report, which will be submitted separately in December 2012 as agreed to by the RWQCB Staff.

4.4 Threat to Water Quality Prioritization

The City utilized the criteria prescribed in Permit Section F.3.a. (3)(a) and (b) to prioritize the facilities based on their potential Threat To Water Quality (TTWQ) from storm water runoff. In addition, dry-weather monitoring data and previous complaint records were included in the evaluation. As noted in the City's JURMP, results from the 2011 DWMP indicated that there were no illegal discharges or illicit connections associated with existing municipal facilities. However, the City still classified its public parking lots, MS4 system, streets and roads and the Public Works Yard as *high priority* using the criteria of the Permit. Also noted in the JURMP, the City classified the beach at Seascape Sur as a *high priority* because results from historic dry-weather monitoring and Coastal Monitoring programs indicated elevated levels of bacteria (see Chapter 12, Special Investigations).

The Fire Station facility was the only municipal site classified as medium-priority, due to the types of materials stored onsite (although always indoors). The City Hall building, the Community Center at La Colonia Park, Tide Beach Park,

Fletcher Cove Community Center and the Marine Safety Center facility were classified as low priority primarily due to the activities conducted at those sites.

There are no changes to report in the City's prioritization of its municipal facilities.

It should be noted that in the 2003 Annual Report, the results of the 2003 Wet Weather Monitoring Program revealed very high levels of the pesticide Diazinon within the watershed. The City focused its efforts on reducing the use of Diazinon within the City and by municipal landscaping contractors through educational activities. The City is happy to report that Diazinon was not found in any of the samples analyzed by the lab for current dry weather programs. This is consistent with the overall trend region-wide showing that Diazinon levels have been steadily decreasing. The City can now focus on other pesticides or high priority pollutants in the ongoing effort to improve water quality in the region. This is a success story that can be celebrated by the entire region, proving the validity of the storm water program as a whole.

4.5 Pollution Prevention Methods

As described throughout the Municipal Component Section of the JURMP, the City has established pollution prevention methods that focus on municipal operations, including operation and maintenance of its MS4 system with the goal of preventing and reducing pollutants in runoff. The following is a list of some of the methods in place to accomplish this goal:

- Annual inspection and cleaning of the City's MS4 system
- Routine street sweeping (schedule is on the City's web site and available upon request)
- Sediment and erosion control methods (applications of Visqueen, materials coverage, silt fences, etc.)
- Facility and ground maintenance conducted in a manner that would not contribute pollutants to a conveyance systems and expected to reduce pollutant runoff during storm events
- The use of bio-filter roll(s) as a PPM at municipal facilities
- The installation and maintenance of permanent treatment BMPs at City facilities (Two CDS units, pervious pavement, Sand Trap and a large Bioswale)

- Maintenance of the MS4 including routine inspections, annual cleaning and proper disposal of captured materials
- Spill response procedures (street and road spills, facility spills)
- Household Hazardous Waste Collection (Note: the City participated in a reciprocal use agreement with the Cities of Vista, Poway and Escondido for use by Solana Beach residents to recycle their household waste materials.) The City also offers a door-to-door program, described later in the Report.
- Installation and maintenance of two catch basin inlet filters and debris screens at ongoing problem areas directly upstream from Seascape Sur beach outfall.

In the City's JURMP, the above pollution prevention methods were expanded for implementation at all City municipal facilities, depending on the type of activities conducted at each facility. To assist in developing appropriate BMPs, the facilities were categorized into the following types:

- Landscape and recreational facilities
- Roads and streets maintenance
- Public buildings
- Public Works Yard
- Parking facilities
- Storm Drain Conveyance System (MS4)

Specific BMPs were then developed for each category type identified and presented in the City's JURMP. For example, BMPs for the Public Works Yard (JURMP, Section 6) include:

- Materials storage alterations
- Visual inspections
- Improved operations and maintenance
- Good housekeeping procedures
- Preventative maintenance
- Spill prevention
- Sediment and erosion control
- Employee training
- Vehicle and equipment maintenance operation alterations

- Waste disposal and recycling
- Vehicle equipment and washing
- Storage tanks
- Outside storage

During this reporting period, the City implemented pollution prevention methods (BMPs) for each facility type based on what was presented in the City's JURMP. Municipal facilities were inspected by City Staff to ensure the implementation of BMPs was occurring.

4.5.1 Proactive Approach to Pollution Prevention – JURMP Requirements

Because of the City's proximity to the Pacific Ocean, Staff has been proactive in its approach to urban runoff and pollutant mitigation and reduction, not only during this reporting period but also prior to the implementation of the JURMP.

Annual Inspection and Cleaning of Storm Drain System

The City conducts an annual inspection of its storm drain system – citywide. Public Works staff inspects all 309 catch basins in the City and prioritize each based on the severity of sedimentation and trash build-up in accordance to the Permit**.** All catch basins that contain trash or sediment build-up in excess of the Permit requirements are cleaned using a Vactor truck. During this reporting period, the City inspected all 309 catch basins and 15 unimproved channels. Thirty (30) catch basins had accumulated debris and all 30 were cleaned, resulting in 19 cubic yards of material removed from the storm drain system (which includes open channels, etc.). The material, primarily sediment and debris, was properly disposed of at the San Elijo Wastewater Reclamation Facility.

Special Events Vendor BMP Requirements

The City developed a "Special Events Vendor BMP Guidelines" (Appendix I) for all events that require a Special Events Permit. The guidelines include BMPs for food vendors, event coordinators and event workers. The guidelines include BMPs such as:

- Protecting all adjacent catch basins
- Required trash and recycling containers
- Portable restroom secondary containment

- No dumping into storm drains
- Proper clean-up practices (No water)

These requirements are all included in the Special Events Permit. For larger events, such as the City sponsored Fiesta Del Sol and Beach Blanket Movie Night, the City holds multiple meetings prior to the event with the organizers and all issues are discussed. The organizers are required to submit their BMP plans to the City, and City Staff monitors the events throughout their entirety. The City schedules post-event street sweeping through its street sweeping contractor for all major events.

Pet Waste Bag Dispensers

The City actively installs Pet Waste Bag Dispensers and maintains the dispensers to encourage proper pet waste disposal. Several years ago, the City placed these dispensers and signs along both sides of Sierra Avenue to encourage their use to prevent pollutants from entering the MS4 (Sierra Avenue is the street closest to the beach, and runs parallel west of Highway 101). The City implemented this BMP in response to results from its dry weather and coastal outfall monitoring, which indicated the presence of fecal bacteria at Seascape Sur. In an effort to educate the community about pet waste, the City periodically includes discussions about its pet regulations, which prohibits dogs in some locations of the City and on all beaches, in its community newsletter and recreation guide *Shorelines.* In addition, City Staff meets with property managers of the condominiums along Sierra Avenue to educate them on storm water regulations and solicit their help in educating their residents.

The City has taken a proactive approach to installing pet waste dispensers at various locations throughout the city, including the Coastal Rail Trail and Fletcher Cove Park. This shows the City's proactive approach to protecting the integrity of the local waterways. This practice of requiring pet waste dispenser's at all new public projects will continue as it has been widely received by the community.

As part of the Public Works Department routine tasks, the pet bag dispensers are refilled daily. The amount of material that is prevented from entering the City's MS4 system as a result of this PPM is unknown and there is no acceptable method of estimating it, however, the City's Public Works Crew refilled approximately 1,846 bags per week during this reporting period. Here is how it compares to previous reporting periods:

- FY 11/12 – 1,846 per week
- FY 10/11 – 1,807 per week
- FY 09/10 – 1,385 per week
- FY 08/09 – 1,380 per week
- FY 07/08 – 1,116 per week
- FY 06/07 – 1,298 per week
- FY 05/06 – 775 per week
- FY 04/05 – 625 per week
- FY 03/04 – 550 per week

The pet waste bags cost approximately $0.04 per bag, which resulted in an annual cost of $3,840 for FY 11/12.

Solana Center for Environmental Innovation

The City is proud to be associated with the Solana Center for Environmental Innovation (formerly Solana Recyclers), hereinafter referred to as Solana Center. Due in large part to the efforts of this group, the City was the first city in San Diego County to have a comprehensive *curbside* recycling program. In addition, to help educate the community, the Solana Center routinely writes articles for the City *Shorelines*. Also, Solana Center administers the City's Used Oil Recycling Program, providing education for schools, community groups and City events on the proper disposal of used oil. For a complete listing of articles written in the *Shorelines,* please see Chapter 6, Residential Component. Finally, Solana Center Staff provides classroom presentations to Solana Beach schools educating the children on storm water issues and water quality. The presentations are free for the schools (paid for by the City) and are extremely popular. For a list of the presentations, see Chapter 8 (Education Component).

Recycling Efforts

The City takes a very proactive role in promoting recycling efforts throughout the community. In previous Annual Reports, the City would include in this section the diversion rates as reported to the California Integrated Waste Management Board (CIWMB). However, the CIWMB changed the way diversion rates are calculated and reported, so recycling percentages are no longer given. Instead, jurisdictions are given a "target" disposal rate for pounds/per person/per day based on historical disposal and recycling amounts. This can roughly be translated to recycling percentages, but as long as the City meets its designated disposal rate, it's considered 50% diversion (recycling) under AB 939. The City's

2011 diversion rate is as follows:

- Target – 8.9 pounds per person per day
- Actual – 5.8 pounds per person per day

As you can see from the results, the City is significantly below the target rate, meaning the community is doing a tremendous job diverting waste from the landfills through means such as recycling, conservation, composting, etc. The City is extremely proud of the progress and results of its recycling efforts.

A significant effort to increase the already stellar recycling rates throughout the community was undertaken during this reporting period. The City recognized that the residential sector of the community was thoroughly committed to recycling and the results reflected this. This is due in large part to the City's transition to automated single-stream recycling a few years ago, which made it extremely convenient for residents to recycle. However, the results showed that commercial sector was not doing as well. The City analyzed its current Municipal Code to review its current requirements and identified some key areas to strengthen to help increase the commercial recycling rates. On May 12, 2010, the City Council adopted a new mandatory commercial recycling ordinance (Appendix J) requiring *all* commercial establishments to have a recycling program. The City anticipates this new requirement will have a positive impact on the overall recycling rates once fully implemented.

As reported in pervious Annual Reports, the City Council adopted a Construction and Demolition Debris Recycling Ordinance in January 2008. This ordinance is discussed in more detail in the Construction Component of this Report, however it's important to mention because it once again demonstrates the City's proactive and aggressive commitment to recycling and environmental protection.

Hazardous Materials Management Team

The City's Fire Department contracts with San Diego County Hazardous Materials Management Division and established an Emergency Response Program to contain hazardous materials that result from automobile accidents, spills, illegal dumping or any other activities within the City of Solana Beach. Generally, the County's Hazardous Materials Team handles recovery and disposal of the materials, although work crews from the City's Public Works Department also contain some small spills and are on call 24 hours a day, 7 days

a week to respond to all spills that occur within City limits. All Public Works Staff has been trained to handle spills in the appropriate manner, to reduce and/or eliminate potential impacts to the City's MS4 and receiving waters.

Storm Drain Inventory and Stenciling

The City has inventoried all of its storm drain conveyance structures (inlets and catch basins). The inventory list includes addresses, cross streets and is available in GIS format. This information was then utilized to implement a program that affixed a stenciled tile at each location that reads, *"No Dumping! This drains to the ocean."* The City has successfully completed application of the tiles at *every* storm drain inlet and catch basin throughout the City. In addition, the City requires all new or re-development projects that install a storm drain curb inlet or catch basin to include a stencil or tile. The City constantly monitors the catch basins and if a tile is broken or has been removed, another one is immediately installed.

The City also participated with the non-profit group I Love A Clean San Diego (ILACSD) to sponsor an ongoing Tile Stenciling Program in which the City provides volunteers with a GIS map of all catch basins in the City and a box of tiles so they can compass the City and replace any tiles that are damaged or missing. This was a highly successful program/partnership that the City will continue to ensure all catch basins have tiles permanently affixed to them.

Street Sweeping

The City already had a comprehensive street sweeping program prior to the Permit and the implementation of the JURMP. The residential streets are swept once each month, while major arterial streets and collector roads are swept twice per month. In response to the comments received from the RWQCB on the FY 02/03 annual report, the City developed a form to characterize and measure the amount of material collected by the street sweeper (Appendix K). The driver of the street sweeper completes the form after every trip and it is verified by the appropriate Public Works employee.

As reported in the City's FY 2005/06 Annual Report, the City was having significant problems with its contracted street sweeping company. The contractor was not performing up to contract specifications, and the City was having a difficult time getting the proper reports from the drivers. A contractual battle

ensued and documentation was not submitted. The City eventually relieved the street sweeping company of their duties and selected another contractor. The new contractor has been much more effective and responsive.

This reporting year, the amount of debris collected by the street sweeper totals 234 cubic yards, which is slightly more than last year's amount of 212 cubic yards. The relatively consistent amount of debris collected by the street sweeper can be attributed to the fact that most of the debris consists of organic materials, including leafs and green waste. There is relatively no trash collected, which is a good indication that the City, and community's, efforts at trash and litter reduction are successful. The City will continue to monitor the street sweeping debris to see if there are certain areas where trash is more prevalent and litter reduction campaigns can be implemented. However, at this time, most of the debris is organic green waste materials.

To demonstrate the City's commitment to documenting the amount of debris collected by the street sweeper and to ensure that all activities were conducted in compliance with the storm water regulations, the City included specific language in its new street sweeping contract. This language will be used in every subsequent street sweeping contract to ensure all contractors are adhering to all storm water regulations, which was a comment made by the RWQCB in its JURMP Annual Report review.

As mentioned above, and now required by the new Permit, the City sets sweeping frequencies based on the type of street; the larger, more frequently used by vehicles, are swept more often. The streets are classified based on SANDAG's Vehicle Miles Traveled (VMT) parameters. The lesser traveled streets, like residential streets, are swept once per month. Parking lots are swept as needed, but at a minimum once per year. The other higher frequency traveled streets such as arterials and collectors are swept twice per month. A complete schedule can be found on the City's website or upon request.

The Permit requires the Copermittees to identify the total distance of curb-miles of improved streets, and highways for high, medium, and low sweeping frequencies.

High Priority (twice per month):
Lomas Santa Fe – 4.06 miles
Highway 101 – 3.89 miles

South Sierra – 1.62 miles
Stevens/Valley – 3.29 miles
Cedros – 2.63 miles

Medium Priority (once per month):
All residential streets – 90.71 miles

Low Priority (once per month):
Parking Lots – 12 total lots, 59,750 square feet

These streets were cleaned on the set schedule listed above.

The Permit also requires Copermittees to identify the total distance of curb miles swept.

The City sweeps all (100%) streets at least monthly. The high priority streets are swept twice per month. Parking lots are swept as needed, but at a minimum once per year as identified in the JURMP. The total distance swept per year is:

High Priority: 402.74 miles per year
Medium Priority: 1,088.52 miles per year
Low Priority: 717,000 square feet per year

Spill Prevention

The City's Public Works Department maintains on-site at the Public Works Yard, a 55-gallon drum and specially equipped vacuum to handle small hazardous materials spills. The drum and vacuum are small enough to travel with the work crews and have been utilized to contain oil from an automobile accident, spillage of work-related materials (paint and debris), and collection of minor hazardous materials. In the event the material exceeds the amount that can be collected by the work crews, the City's Fire Department initiates its spill response plan (discussed above). Currently, City work crews do not have the resources to weigh the amount of material collected or to track and document the amount of material collected. Significant spills for which the work crews responded to are discussed in Chapter 7: Illicit Discharges Detection and Elimination.

Staff Trainings

As reported in previous Annual Reports, the staff trainings used to occur at the monthly citywide Staff meetings. However, these trainings had to be general in nature because of all the varying departments and staff that attended. During this reporting period, staff decided to take a more proactive approach and implement a department specific training focusing on the sections of the Permit that pertained to their respective duties. Staff felt that more focused, detailed trainings would be a much more effective approach, and this turned out to be extremely successful. During this reporting period, the City did not have any specific stormwater trainings. However, a few are scheduled for the upcoming year and will be reported on in next year's report including:

1. Sewer spill prevention and spill mitigation
2. Storm water issues relating to public works
3. What to look for in reporting potential storm water pollution

The City will continue to look for other opportunities to educate their staff on storm water related issues throughout next year's reporting period.

Storm Water Hotline

To assist the public in directing their calls for complaints and service, the City maintains and responds to a 24-hour storm water hotline telephone recording (858) 720-4424. When the number was first established, it was checked twice each day. However, to facilitate a quicker, more effective response time, the City now links all calls to the direct extension of the City's Assistant Civil Engineer. Therefore, all calls that are made to the City regarding storm water issues will be handled immediately. This has been proven very successful, as the issues are addressed immediately. This leads to much quicker responses, which result in more efficient spill response and enforcement actions. The City informs the public about the hotline number at City Council meetings, on flyers and handouts at workshops, on business cards, on educational materials and during inspections.

Materials Storage

Although only minor quantities of hazardous materials are stored at municipal facilities (as noted in the City's JURMP), the City stores those materials indoors when feasible. Only non-hazardous materials, such as Class 2 gravel, temporary stockpiles of topsoil, etc., are stored outdoors for short periods of time. When

this does occur, City Staff ensures all storm water BMPs are installed around the piles and they are covered, if necessary, to ensure no discharges occur from the Public Works Yard.

Sediment and Erosion Control

The City's Public Works Department augmented the City's supply of Visqueen as a method to reduce or prevent sediment and erosion control. The Visqueen is utilized at the Public Works Yard on the sand and soil that is kept on-site. In addition, the work crews utilize bio-filter rolls to prevent runoff. As added insurance, the City's Operations Manager always orders extra erosion control BMPs before the wet season to store on-site for emergency situations. Most of these practices were instituted as a result of suggestions made by the RWQCB during their inspection in August 2002.

Storm Drain Inlet/Catch Basin Insert

The City is currently participating in an ongoing experimental application of two catch basin inserts in one problem location at Seascape Sur. The inserts are being studied to determine its effect on the elevated levels of bacteria found downstream at the storm drain outlet. Early results from the pilot program show a slight reduction in the bacteria levels at the outfall and the catch basin filters have been extremely effective in eliminating large quantities of trash and organic matter from the MS4 system. Public Work Crews empty the filters on a weekly basis and routinely remove about half a trash bag full of debris.

Smoking Ban on Public Beaches and Parks

In 2003, the City of Solana Beach jumped to the forefront of pollution prevention on a nation-wide scale. The City was the first in the nation to ban smoking at its public beaches and parks. The Ordinance (Ordinance 316, see Appendix L) bans smoking at all public beaches and parks, and is actively enforced by the Marine Safety Department and Code Enforcement Department. The public has been very responsive to this ordinance, and the City has had many requests from other jurisdictions, as far away as Australia. The City appears to be a trend setter, as the City of Los Angeles and other Orange County cities followed suit with their own ordinances a few years ago, and most other cities in San Diego County have recently implemented their own local bans. This is a significant pollution prevention action the City has undertaken, as cigarette butts are routinely found as the most abundant type of debris collected in beach clean-ups.

The impact on the local beaches will be extremely beneficial, and the City is proud to be the trend setter in another environmental arena (the City was the first jurisdiction in San Diego County to provide curbside recycling).

During this reporting period, the City approved an enhanced No Smoking Ordinance that extends further than the one listed above. On August 7th, 2009, a much more stringent ordinance was adopted by the City Council that extended the ordinance to include the following no smoking areas:

- All enclosed or unenclosed dining areas and bars
- Street Fairs
- Farmer's markets
- On, near or around the Coastal Rail Trail
- Within 20 feet of all entry ways and all enclosed areas available to and customarily used by the general public and all businesses patronized by the public
- Tot lot and Playground areas

This will, without a doubt, significantly reduce the amount of smoking outdoors in Solana Beach, and therefore reduce the amount of cigarette butts that end up in our MS4 and receiving waters. The City is excited to start implementing this ordinance and reduces the amount of pollution that comes with smoking.

Another significant pollution prevention action the City has taken, although post-reporting period is the recent adoption of a new commercial litter abatement ordinance. On September 8, 2010, the City Council adopted Ordinance 419, which requires, among other things, all commercial businesses to develop and implement a litter reduction plan. This plan must include at least daily inspections/cleanups around their businesses up to 200 feet. This should significantly prevent litter/debris from entering the City's MS4 as it would require employees to inspect sidewalks, gutter, streets and open space up to 200 feet surrounding the property, and remove any litter they encounter.

Recycling/Trash Containers

The City, and community, places a high priority on recycling, as evidence by the extremely high recycling diversion rate, discussed previously in this Report. The City has made a conscientious effort to increase the amount of public recycling containers over the last few years. As discussed in previous annual reports, the

City has focused on placing dual trash/recycling containers at all popular public locations throughout the City, including parks, beach accesses and the Coastal Rail Trail. The City receives an annual grant through the Department of Conservation as well as an annual grant through the Regional Solid Waste Association, and these funds have been used to purchase and install the dual trash/recycling containers throughout the community. This has dramatically increased the amount of public recycling, and the City anticipates continuing this program in the coming years.

Not only is the City focusing on implementing a public recycling program, but as previously mentioned, the City implemented a large scale residential recycling program. The City, along with its waste hauler Waste Management, converted the traditional source separated recycling program to a streamlined, single stream commingled recycling program. This has been a huge success as the residential recycling rates have dramatically increased by 20%.

Single-Use Plastic Bag Reduction Ordinance

In May 2012, the Solana Beach City Council voted unanimously to ban single-use plastic bags at the point of sale. Grocery stores had a six month grace period to comply with the ordinance that prevents them from handing out single plastic bags. This ordinance not only reduces waste in the City and promotes recycling but it also encourages residents to think about what impact their actions have on the environment. The residents and business owners were very accepting of this ordinance since they understand the outcome will help reduce unnecessary waste. Solana Beach is very proud to be the first City in San Diego County to implement such an ordinance.

Plastic Bag Advertising Ban

Another progressive action the City Council took was passing an ordinance banning the use of plastic bags for advertising. The ordinance bans the popular style of advertising used by companies in which they use small plastic bags full of rocks because often times it is unsolicited and the bags never get picked up, eventually ending up in the City's MS4. This emerging type of advertising is typically conducted by small residential and commercial support businesses such as landscapers, pool cleaners, housekeepers, and handyman type services. This is another example of the City taking a proactive approach to litter in the MS4. Plastic is the number one pollutant found in the ocean worldwide.

Ensuring Implementation

To ensure that the PPMs are implemented, City staff meets periodically with all Department Directors to review the BMPs, Permit requirements and program expectations. Department Directors are responsible for ensuring that their Staff carries out the BMPs for their facilities. The City Engineer meets every Wednesday with the Operation Manager and his public works crew at the Public Works Yard for safety meetings. It was decided that at these meetings, storm water issues, including BMPs, should be discussed and the Yard will be inspected to ensure compliance. The Assistant Civil Engineer will also conduct random compliance inspections. During this reporting period, there were no violations observed at the City's municipal facilities and all appropriate BMPs were being properly installed and maintained.

4.6 Pollution Prevention Strategy Effectiveness

One of the issues that the City faces is developing an appropriate process to determine the effectiveness of the pollution prevention methods and strategies, (BMPs). The City is committed to developing a consistent approach that could be agreed upon by all Copermittees. It is important to collect data and analyze results in a consistent manner – county/region wide – in order to be able to share results and draw conclusions across agencies, particularly given that water is not restricted by jurisdictional boundaries.

To address this issue, the Copermittees met several times in the fall of 2002 and in 2003 to work out a more appropriate strategy. A guidance document was prepared by the Copermittees and submitted to the RWQCB on October 16, 2003, titled *"A Framework for Assessing the Effectiveness of Jurisdictional Urban Runoff Management Programs".* This guideline presents a comprehensive assessment strategy that initially focuses on programmatic assessments and moves toward water quality-based assessments to determine program effectiveness. More specifically, it addresses six levels of assessment:

Compliance with Activity-based Permit Requirements

- Changes in Knowledge/Awareness
- Behavioral Changes

- Load Reductions
- Changes in Discharge Quality
- Changes in Receiving Water Quality

The City implemented this assessment program during the last reporting period, which is described in more detail in the Effectiveness of JURMP Assessment Component of this report.

Compliance with Maintenance Activities

Tables 4-2 and 4-3 below outline the MS4, sewer system and permanent City BMPs maintenance schedules. The City has an extremely aggressive maintenance program to ensure the systems are clean and functioning properly.

Table 4-2 MS4 Maintenance Activities 20102011

Type	Frequency	Date	Total Number (and Distance)	Number Inspected (and Distance)	Comments
Inspection and Cleaning of MS4	Annual	Ongoing between May-October	309 catch basins– 14.5 Miles of MS4	309 catch basins-0.5 Miles of MS4 pipe inspected	All catch basins inspected, 0.5 miles of pipe inspected (Seascape Sur) 26 catch basins were found with accumulated debris and 26 cleaned, and Steven's Creek Channel was cleaned for a total of 19 cubic yards removed
Inspection and Cleaning of Unimproved Storm Drains (Brow Ditches, Channels, etc)	Monthly	The 30th of every month	15 – 0.8 miles of Unimproved Storm Drains (Brow Ditches, Channels, etc)	15 – 0.8 Miles of Unimproved Storm Drains (Brow Ditches, Channels, etc)	All unimproved storm drains inspected on the 30th of every month and cleaned as needed.

Inspection and Cleaning of Sewer Lines	Annually (entire City)	Ongoing	Entire System	Entire System	The entire sewer system is inspected and cleaned annually, and 1/3 of the system is televised annually

The tables above represent the inspection and cleaning activities related to the City's MS4 and sewer system. As you can see, the City conducts the annual inspections of the entire MS4 as the Permit requires, but goes above and beyond the inspection and cleaning requirements with monthly unimproved storm drain (brow ditches, channels, etc) inspections and cleaning of the entire sewer system annually. The unimproved storm drains are handpicked by City Staff on an as needed basis as a result of the inspections. The City also has an aggressive sewer videoing program that televises one-third of the system each year, identifying possible leaks, infiltration into the City's MS4, grease build-up and root intrusions that may lead to sewer spills. This is an extremely aggressive sewer maintenance program, which reflects the commitment the City has to maintaining a healthy system and preventing spills into the environment.

In addition, the City has designated sewer "hot spots" that are cleaned quarterly (every three months). These "hot spots" are areas with historical problems such as heavy grease buildup, root intrusion, and flat lines that may need increased cleaning to prevent sewer backups. The program includes an aggressive "root foaming" procedure in areas with historical root intrusion problems.

This year, the City's maintenance crew noticed a large amount of sediment and debris in the bottom of Steven's Creek Channel. The channel was cleaned by the City's contracted stormdrain cleaner.

Table 4-3 Municipal Treatment Control BMP Maintenance Activities 2010/2011

BMP Type	Location	Frequency	Total Number	Number Inspected	Comments
Low Flow Diverter	Fletcher Cove Park	Monthly	1	1	Low Flow Diverter is cleaned once per month and inspected daily
Sand	Fletcher Cove	Monthly	1	1	Sand Trap is cleaned monthly

Trap	Park				
CDS Units	Fletcher Cove Park and North Rios Avenue	Monthly	2	2	The CDS units are cleaned monthly
Sewer Siphon	San Elijo Lagoon	Monthly	1	1	The siphon is cleaned monthly
Bio-Swale	La Colonia Park	Annually	1	1	The Bio-Swale is cleaned annually prior to rainy season and inspected weekly

The City has an aggressive maintenance program for all City-maintained permanent BMPs. The monthly maintenance frequency for the Sand Trap and CDS units are much higher than suggested by the manufacturer. The daily inspections of the Low Flow Diverter are conducted to ensure it is functioning at all times and redirecting the urban runoff away from the beach and into the sewer system.

4.7 New Activities and Improvements for FY 12/13

The City anticipates continuing to implement programs aimed at meeting the requirements of the Municipal Component as specified in the JURMP. The focus will be on continuing the cooperation among different departments, ensuring municipal facilities are in compliance with the Permit, and collaborating with other Copermittees. The Department Directors were required to integrate more responsibilities into positions in order to implement the Watershed Urban Runoff Management Programs (WURMP), Standard Urban Storm Water Mitigation Plan (SUSMP), Hydromodification (HMP) program and the Low Impact Development (LID) program. Because of our team approach, this transition occurred rather seamlessly. The Planning Department and Engineering Department worked closely together in implementing the respective requirements.

As mentioned previously in this Report, the new JURMP document was adopted in March 2008. This contained new elements that will require additional/modified requirements/duties of different Departments within the City. Additional Staff

trainings were conducted to ensure that all Staff activities are in compliance with the new Permit and some job duties will have to be altered. Since the new Permit has now been adopted, the majority of the City's efforts will be spent implementing programs to meet the requirements of the new Permit. These changes will have to be implemented on the fly, and will require all Departments within the City to work collaboratively to accomplish the goals within the new Permit. The City is confident that the infrastructure of the City as a whole will allow for a relatively seamless transition to the requirements of the new Permit. Some of the new programs include:

- Minimum street sweeping and priority requirements
- Post-Construction BMP verification, tracking and inspections
- SUSMP implementation
- Low Impact Development (LID) development and implementation
- Hydromodification Plan (HMP) development and implementation

4.8 Summary

The City has been successful at implementing the Municipal Component of the JURMP, establishing BMPs for its municipal facilities and providing informative and meaningful Staff trainings. The City made significant advancements in the manner in which its storm water program is integrated into the routine tasks of various Staff and has developed an effective interdepartmental working relationship. The Environmental Programs Manager position has greatly enhanced the coordination and implementation of the Permit, as well as other environmental programs (solid waste, Used Oil Recycling, HHW, etc.)

Highlights of some of the accomplishments of the City's Municipal Program Component include:

- Implementation of two comprehensive WURMPs
- Creation of an effective municipal inspection process, all municipal facilities were inspected regardless of priority
- Implementation of storm water issues and inspections of Public Works Yard at weekly safety meetings between the City Engineer and Public Works Operations Manager and Staff

- Annual inspection and cleaning of the City's MS4 system and Steven's Creek Channel resulting in 19 cubic yards of debris diverted from receiving water bodies
- Continued implementation of street sweeping tracking form that allows the City to evaluate the effectiveness of the street sweeping program (234 cubic yards collected).
- Provision of public pet waste bag dispensers (96,000 bags were utilized by the community during this year at a total cost of $3,840 (4 cents per bag)
- Addition of new trash/recycling receptacles in high traffic areas of City to promote recycling and prevent trash/litter from entering storm drain system
- Enforcement and enhancement of Smoking Ban on Public Beaches and Parks Ordinance which has significantly reduced amount of pollution on local beaches and parks
- Implementation of weekly task for Public Works Crew to conduct weekly storm water inspections at the Public Works Yard
- Implementation of scheduled cleaning of Fletcher Cove Sand Trap and CDS unit monthly
- Maintenance of Bioswale at La Colonia Community Center
- Maintenance of City-owned CDS unit at North Rios on a monthly basis
- Maintenance of two filter baskets at upstream catch basins of Seascape Sur outfall on a weekly basis
- Routine scheduled inspection and maintenance of unimproved channels on a monthly basis and after all rain events
- Routine scheduled inspection of Fletcher Cove Low Flow Diverter to ensure it is functioning properly on a daily basis
- Implementation of unique public/private plastic bag recycling program, resulting in the recycling of over 500,000 bags to date

CHAPTER 5
Industrial/Commercial Component

CHAPTER 5: INDUSTRIAL AND COMMERCIAL COMPONENT

5.1 Introduction

In accordance with Permit Section D.3.b, this section of the report describes the City's efforts to prevent or reduce industrial and commercial discharges of pollutants into the MS4 to the MEP. In compliance with the Permit, the City evaluated businesses within the City and categorized them as commercial or industrial, as noted in JURMP sections 7.0 (Industrial and Commercial Component).

In each Annual Report to the RWQCB, this section will include modifications to the City's inventory of industrial and commercial facilities, pollutant source identification and potential threats to water quality. In addition, this section of each Annual Report will include results from the City's efforts to implement and enforce BMPs at industrial and commercial sites, related accomplishments and activities. Also, a summary of activities conducted post-reporting period may be included if the activity is deemed essential to understanding the City's efforts at reducing urban runoff or permit compliance.

During the last reporting period (July 1 2010 to June 30, 2011), the City conducted a complete evaluation of the commercial and industrial facilities doing business within the City. Facilities were identified as industrial and commercial sites based on criteria required by the Permit, which included activities conducted on-site and also included a site visit for verification. The City prepared an inventory of the facilities in order to understand potential sources of pollution, threats to water quality, and to develop a plan to mitigate or eliminate urban runoff and pollution from the facilities by implementing Best Management Practices (BMPs). The City's complete inventory is listed in the JURMP.

As a result of the new Permit, this chapter now combines two previous Chapters from the old Permit. To keep consistency and for ease of readability, the following sections in this chapter separate the two components, so each can be analyzed according to their respective requirements.

5.2 Industrial Facilities

5.2.1 Inventory of Industrial Facilities

There is currently one industrial site operating within the City (Baker Iron Works). Table 5-1 presents the City's industrial facility, including its prioritization level. *There is no change in the City's inventory of industrial sites from those submitted in last year's Annual Report.*

Table 5-1 Existing Industrial Facilities

Facility Name	Address Number	Street Name	Zip Code	Hydrologic Area	SIC Code	NAICS Code	Principal Products/ Services	Potential Pollutants									Tributary to 303 (d) Listed and Generating Pollutants for Which the Water Body is Impaired	Threat to Water Quality
								Bacteria	Gross Pollutants	Heavy Metals	Nutrients	Oil & Grease	Organics	Pesticides	Sediment	Trash		
Baker Iron Works	710	Valley	92075	905.11	3441	332312	Iron Works/ Metal Fabr.		X	X		X	X		X	X	Yes	High

5.2.2 Pollutant Source Identification

To assist the City in identifying potential sources of pollutants in its receiving water bodies, and/or the receiving water bodies of neighboring jurisdictions, City Staff evaluated the possible types of pollution that could be generated from each industrial facility. The evaluation included the following:

- Type of materials stored or used on site
- Activities conducted on site
- Proximity to conveyance system, or environmentally sensitive areas
- Watershed location

Results from the evaluation concluded that the City's only industrial facility could be a potential source of pollutants (Baker Iron Works).

The conclusion that Baker Iron Works could be a potential source of pollutant discharge was due to the fact that the facility generally uses metal materials in the fabrication of structural devices. Some of their work is performed and stored outdoors and is potentially exposed to storm water, and runoff from the property can potentially enter the City's conveyance system. However, the City has worked closely with Baker Iron Works to minimize the potential for pollutants to

run off their property and into the City's MS4 system. Baker Iron Works has been more than willing to work with the City to ensure compliance with the Permit, and has completed numerous tasks suggested by the City. These include:

- Permanently covering all stock piles of metal materials kept outside to shield it from rain events.

- Routine cleaning of the yard as needed but no less than weekly with a magnetic device to pick up all loose metal shavings.

- Moving all chemicals indoors to ensure that they are protected from the weather and will not run off the property and into the City's MS4 system.

- Training all staff on proper storm water BMPs and general housekeeping for all activities that may impact the City's MS4 system.

- Installation of low flow sump/infiltration structure at the northwest corner of the facility to handle all low flows from the entire facility. The low flows will enter a small drain that extends across the driveway and enters into a small infiltration well structure to prevent the water from entering the MS4. This structure has worked very well in eliminating all low flows from leaving the site. Baker Iron Works employees routinely monitor and maintain the infiltration well to ensure proper functionality.

- Permanently sealing a trench drain near the office building that previously drained directly to the street. The result is that the runoff bypasses the drain and travels into the low flow sump/infiltration structure mentioned above.

The results of the 2011 dry weather program indicate that no related pollutants were found downstream from this industrial facility. This is consistent with the 2001-2010 dry-weather-monitoring program results which also indicated that no related pollutants were found downstream from this facility. The City will continue to inspect and monitor these locations in the future to further ensure that they are not contributing to downstream pollution. In addition, Baker Iron Works has agreed to forward all results from their required water quality monitoring under the Statewide General Industrial Permit to City staff, upon request, for review during rain events.

The City utilized the information from the 2011 dry-weather-monitoring program, the criteria established by the Permit, and the evaluation of the potential sources of pollutants (discussed in this chapter and Section 7 of the City's JURMP) to develop its 2011 dry weather monitoring program. Similar to last year, one site downstream and one site upstream from Baker Iron are selected for testing. The City will continue to monitor runoff downstream from this facility as long as it is in operation.

5.2.3 Threat to Water Quality Prioritization

In the City's JURMP, the industrial site was classified as a high, medium or low priority, based on its potential threat to water quality from storm water runoff. The classification utilized criteria prescribed in Permit Section F.3.a. (3)(a), (b).

There are no changes to report in the City's classification of its industrial facility from last year's Annual Report. Baker Iron Works is still classified as a high priority industrial site.

5.2.4 Pollution Prevention Methods

The City realized that since Baker Iron Works is the only high priority industrial site in the City, it would be prudent and feasible to monitor their site frequently. Although the Permit requires only annual inspections, the City dedicates more time to ensure that the site is always in compliance. This pro-active approach that occurred in the beginning of this Permit cycle has proved to be well worth the effort. Spending extra time and effort the first couple of years of this Permit to get this facility into compliance has built a strong working relationship between the owners and the City. This facility has had no violations and continues to stay in compliance.

The City has confirmed that Baker Iron Works is *in compliance* with the state GISW and is currently adhering to all requirements.

Baker Iron Works employees use a large magnet to clean their entire yard as often as needed but no less than once per week. This magnet is very effective in cleaning up small steel waste products that result from daily activities. The parking lot is swept and water is never used. All chemicals are kept in a locked storage shed that has secondary containment and is kept above ground, which

was a recommendation of RWQCB staff.

5.2.5 Industrial Inspections

As stated in previous Annual Reports, during FY 07/08, the City changed its inspection practices. Prior to FY 07/08, City staff conducted all industrial and commercial facility inspections. However, in FY 07/08, the City hired an independent contractor that specializes in storm water inspections. This change occurred due to limited staff time to conduct the inspections, as well as to provide an increased service to the residents of Solana Beach. By hiring a contractor that specializes in storm water inspections, the City, and residents, can be assured that it is getting the highest quality service.

The City contracted out these services to Environmental Compliance Inspection Services (ECIS) again in FY 11/12. Baker Iron Works was inspected on April 25, 2012 and all designated BMPs were implemented and the facility was found to be in compliance in all areas. The inspection addressed all the required inspection steps to determine full compliance. City Staff will also continue to visually inspect the facility at least once a month, and always before the wet season and during rain events. If the City observes a non-compliant facility, the City will inform its appropriate representative at the RWQCB.

As required by Permit Section J.3.a (3) (d) vi, the City confirms that the industrial inspections addressed all required inspection steps to determine full compliance.

5.2.6 New Activities and Improvements for FY 12/13

City staff will continue to work closely with the proprietors of Baker Iron Works to 1) ensure functionality and maintenance of the BMPs, 2) ensure compliance with the City's storm water regulations and 3) educate the business owners and employees about the importance of protecting the community's water resources. In addition, if any new requirements or activities are developed targeting industrial facilities on a watershed or regional basis, the City will communicate these requirements directly to Baker Iron Works and assist them in remaining in compliance.

City Staff will also monitor business license applications to ensure if another industrial facility opens up that it will be added to the inventory and inspected to

ensure full compliance.

5.2.7 Summary of Industrial Section

The City has been effective at working with owners of the one industrial site to ensure compliance with Permit and City regulations. The owners have installed and properly maintained the filtration system at the northwest corner of the property to collect and infiltrate all on-site low flow runoff before it enters the MS4 system. The City has established a great working relationship with the owners/operators of the site and they have made drastic strides to maintain compliance. City Staff will continue to monitor and inspect the facility frequently to ensure compliance with the Permit. Baker Iron Works has been very responsive and immediately remedies any problems encountered during inspections. They have gone above and beyond what is required to ensure they are in compliance with the Permit.

5.3 Commercial Facility

5.3.1 Inventory of Commercial Facilities

During the process of revising the JURMP, submitted in March 2008, the City updated its inventory of commercial facilities. The City selected locations based on the requirements of the new Permit, and placed higher priorities on such facilities as automotive servicing, gas stations, repair and fueling, commercial rental yards, and golf courses (high Threat To Water Quality, TTWQ). The current inventory (see Table 5-2 below) now contains 77 facilities. The City will continue to update the inventory list as new businesses apply for permits or site inspections reveal changes. In addition, any facility that has the potential to release high priority pollutants into the City MS4 will be added to the list of high priority facilities.

Table 5-2 Inventory Of High Priority Commercial Facilities

Facility Name	Address Number	Street Name	Zip Code	Hydrologic Area	SIC Code	NAICS Code	Principal Products/Services	Potential Pollutants									Tributary to 303 (d) Listed and Generating Pollutants for Which the Water Body is Impaired	Threat to Water Quality
								Bacteria	Gross Pollutants	Heavy Metals	Nutrients	Oil & Grease	Organics	Pesticides	Sediment	Trash		
Academy Animal Hospital	741	Academy	92075	905.11	0742	541940	Animal Facility	X	X		X	X	X	X	X	X	Yes	Low
AM/PM/ Mini-Market #704	660	Via del la Valle	92075	905.11	5541	447110	Fueling	X	X	X		X			X	X	Yes	High
Annie's Café and Deli	524	Stevens	92075	905.11	5812	722511	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Baker Iron Works	710	Valley	92075	905.11	3441	332312	Iron Works/Metal Fabrication		X	X		X	X		X	X	Yes	High
Bangkok Bay	731	S Hwy 101	92075	905.11	5812	722511	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Baskin Robbins	905	Lomas Santa Fe	92075	905.11	5812	722211	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Beach Grass Café	159	S Hwy 101	92075	905.11	5812	722511	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Belly Up Tavern/Wild Note Café	143	S Cedros	92075	905.11	5812	722511	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Bill Smith Automotive	136	N Cedros	92075	905.11	7538	811111	Auto Repair	X	X	X		X			X	X	Yes	High
Bongiorno's New York Pizzeria	524	Stevens	92075	905.11	5812	722511	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
CA Auto Tech, Inc. DBA Test-Only Smog	146	N Cedros	92075	905.11	7538	811111	Auto Repair	X	X	X		X			X	X	Yes	High
Cafe la Bocca	124, #102	Lomas Santa Fe	92075	905.11	5812	722511	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
California Pizza Kitchen Inc.	437	S Hwy 101	92075	905.11	5812	722511	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Carls Jr./M and N Foods LLC	106	Solana Hills	92075	905.11	5812	722513	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High

Caspian Petroleum DBA LSF Mobil	705	Lomas Santa Fe	92075	905.11	5541	447110	Fueling	X	X	X		X			X	X	Yes	High
Cedros Gardens, Inc.	330	S Cedros	92075	905.11	5261	444220	Nursery/ Greenhouse				X		X	X	X	X	Yes	High
Chief's Burgers and Brew	124, #108	Lomas Santa Fe	92075	905.11	5812	722511	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Chronic Tacos	919	Lomas Santa Fe	92075	905.11	5812	722511	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Clark's Auto Repair and Radiator SVC	421	N Hwy 101	92075	905.11	7538	811111	Auto Repair	X	X	X		X			X	X	Yes	High
Crush Italian Cuisine	437	S Hwy 101	92075	905.11	5812	722511	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Cupcake Love	437	S Hwy 101	92075	905.11	5812	722511	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
D & B Automotive Specialties	128	N Cedros	92075	905.11	7538	811111	Auto Repair	X	X	X		X			X	X	Yes	High
Dixieline Lumber Company	663	Lomas Santa Fe	92075	905.11	5211	444110	Building Materials			X	X		X		X	X	Yes	Medium
Don Chuy's Restaurant	650	Valley Avenue	92075	905.11	5812	722511	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Dynamite Shine	615	S Hwy 101	92075	905.11	7532	811192	Auto Detailer	X	X	X		X			X	X	Yes	High
Einstein Bros Bagels	911	Lomas Santa Fe	92075	905.11	5812	722511	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Fidel's Little Mexico Inc.	607	Valley Avenue	92075	905.11	5812	722511	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Fish Market Restaurant	640	Via de la Valle	92075	905.11	5812	722511	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Hideaway Café	150	S Acacia	92075	905.11	5812	722511	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Holiday Inn Express	621	S Hwy 101	92075	905.11	7011	721110	Hotels and Motels	X	X			X	X	X	X	X	Yes	Medium
Jamba Juice	689 – D	Lomas Santa Fe	92075	905.11	5812	722511	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Java Depot	243	N Hwy 101	92075	905.11	5812	722515	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Jersey Mike's Subs	915	Lomas Santa Fe	92075	905.11	5812	722511	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
KMP Plumbing Company Inc.	435	S Cedros	92075	905.11	4225	493110	General Warehousing and	X	X						X	X	Yes	Low

							Storage											
Lockwood Table Café	346	S Cedros	92075	905.11	5812	722511	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Lomas Santa Fe Country Club	1505	Lomas Santa Fe	92075	905.11	7997	713910	Golf Course/Park				X		X	X	X	X	Yes	High
Lomas Santa Fe Ex. Golf Course 408	1580	Sun Valley	92075	905.11	7997	713910	Golf Course/Park				X		X	X	X	X	Yes	High
Marriott Courtyard	717	S Hwy 101	92075	905.11	7011	722511	Hotels and Motels	X	X			X	X	X	X	X	Yes	Medium
Masuo's Japanese	145	S Hwy 101	92075	905.11	5812	722511	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
McCaffrey's Pub	123	W. Plaza	92075	905.11	5813	722410	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Mohawk Car Wash (Parent-CCSB Inc.)	435	N Hwy 101	92075	904.61	7542	811192	Auto Washing	X	X	X		X			X	X	Yes	High
Moreland Choppers	369	N Hwy 101	92075	904.61	7538	811111	Auto Repair	X	X	X		X			X	X	Yes	High
Naked Café	106	South Sierra	92075	905.11	5812	722511	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Orange Blossom Café	224	S Cedros	92075	905.11	5812	722511	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Pamplemousse Grille	514	Via de la Valle	92075	905.11	5812	722511	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Panda Express #1029	689	Lomas Santa Fe	92075	905.11	5812	722511	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Panera Bread Solana Beach #4283	667	San Rodolfo	92075	905.11	5812	722511	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Paroli Italian Bistro	647	S Hwy 101	92075	905.11	5812	722511	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Pizza Nova Solana Beach LLC	945	Lomas Santa Fe	92075	905.11	5812	722511	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Pizza Port- Grain to Green	135	N Hwy 101	92075	905.11	5812	722511	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
R F McKenna Construction Company	507	S Cedros	92075	905.11	4225	493110	General Warehousing and Storage	X	X						X	X	Yes	Low
Red Tracton's Restaurant	550	Via de la Valle	92075	905.11	5812	722511	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Roberto's Mexican	445	N Hwy	92075	904.61	5812	722511	Eating/Drinking	X	X		X	X	X		X	X	Yes	High

Food Inc.		101					Establishment												
Rubios' Fresh Mexican Grill Inc. #13	437	S Hwy 101	92075	905.11	5812	722511	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Rudy's Taco Shop and Market	524	Stevens	92075	905.11	5812	722513	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Samurai Japanese Restaurant	979	Lomas Santa Fe	92075	905.11	5812	722511	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Shine Auto Detailing	435	N Hwy 101	92075	904.61	7532	811192	Auto Detailer	X	X	X		X			X	X	Yes	High
Solana Beach Coffee Company	437	S Hwy 101	92075	905.11	5812	722515	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Solana Beach Fish House	124, #209	Lomas Santa Fe	92075	905.11	5812	722511	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Solana Donut House	124, #105	Lomas Santa Fe	92075	905.11	5812	722515	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Solana Succulents	355	N Hwy 101	92075	904.61	5261	444220	Nursery/ Greenhouse				X		X	X	X	X	Yes	High
Solana Sushi	117	Plaza Street	92075	905.11	5812	722511	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Sprouts Farmers Markets	659	Lomas Santa Fe	92075	905.11	5411	445110	Grocery Store	X	X		X	X	X		X	X	Yes	Medium
Starbucks	691	Lomas Santa Fe	92075	905.11	5812	722515	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Starbucks	937	Lomas Santa Fe	92075	905.11	5812	722515	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Station Sushi	125	N Hwy 101	92075	905.11	5812	722511	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Subway	124, # 101	Lomas Santa Fe	92075	905.11	5812	722511	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
T's Cafe	271	N Hwy 101	92075	905.11	5812	722511	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Tidewater Tavern Inc.	221	N Hwy 101	92075	905.11	5812	722511	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Togo's Eatery	691	Lomas Santa Fe	92075	905.11	5812	722511	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Tony Jacal's Inc.	621	Valley	92075	905.11	5812	722511	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Top of the Bagel	665	San Rodolfo	92075	905.11	5812	722511	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High

Vons Companies Inc. #2327, The	931	Lomas Santa Fe	92075	905.11	5411	445110	Grocery Store	X	X		X	X	X		X	X	Yes	Medium
Waters Fine Foods to Go	125	S Hwy 101	92075	905.11	5812	722513	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Woody's Solana Beach	437	S Hwy 101	92075	905.11	5812	722511	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Yummy Yogurt	153	N Hwy 101	92075	905.11	5812	722515	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High
Zinc Café	132	S Cedros	92075	905.11	5812	722511	Eating/Drinking Establishment	X	X		X	X	X		X	X	Yes	High

The commercial property inventory was utilized to identify potential sources of pollution (high TTWQ), prioritize the businesses and to develop an inspection frequency program, as noted in the City's JURMP.

5.3.2 Pollutant Source Identification

Eight percent (8%) of the City's 2,211 total drainage acres (roughly 177 acres) are zoned for commercial use. Some of the areas within the City zoned for commercial use drain to environmentally sensitive water bodies and 303(d) listed waters (impaired water bodies), as noted in the City's JURMP. Some of the 303(d) listed water bodies have been identified as having *constituents of concern (COC)* or pollutants that are of particular concern to those water bodies. Table 5-3 identifies the 303(d) water bodies and COCs that are impacted by drainage from the City of Solana Beach. There is *no change* to report in the City's identification of potential pollution sources. As reported in last year's Annual Report, based on water quality data analysis of the past few years, Diazinon has been removed from the San Elijo Lagoon COC list.

Table 5-3 303(d) Water Bodies and COCs

303(d) Water Body	Constituent(s) of Concern
San Elijo Lagoon and Ecological Reserve	Coliform, sediment, nutrients
San Dieguito Lagoon (and its tributary, Stevens Creek)	Coliform, TDS
Pacific Ocean	Coliform

Using the inventory list, businesses were classified by types of activities conducted on the property in order to identify potential sources of pollution in accordance with Permit section F.3.c. (2). The Permit specified 25 possible high-priority business categories for each Copermittee. Upon review of the City's business license inventory, the high priority business categories applicable to the City of Solana Beach include automobile servicing and repair; automobile/vehicle washing; retail or wholesale fueling; pest control services; eating and drinking establishments; mobile carpet, drape, or upholstery cleaning; cement mixing or cutting; landscaping; nurseries; and golf courses.

Potential pollutants for each of the ten (10) categories identified above include, but are not limited to the following.

- *Automobile servicing and repair facilities have the potential to generate pollutants such as heavy metals (Cu, Zn, Cr, Ni, Pb), oil, grease, engine and transmission fluids, antifreeze, brake fluids, suspended solids, phosphates, litter, organic debris, fluids, sediments, paint, solvents, paint chips/dust, sand and broken glass.*
- *Automobile/vehicle washing facilities have the potential to generate pollutants such as suspended solid(s), pH, oil, grease, phosphates, heavy metals, detergents, engine and transmission fluids, litter, organic debris, fluids, sediments, paint, solvents, paint chips/dust and sand.*
- *Retail or wholesale fueling facilities (gas stations) have the potential to generate pollutants such as detergents, oil, grease, engine fluids, suspended solids, phosphates, litter, organic debris, fluids and sediments.*
- *Pest control services have the potential to generate pollutants such as harmful chemicals, pesticides, fertilizers, herbicides, nitrogen salts, and phosphorus and in particular, the chemical "Diazinon."*
- *Eating and drinking establishments have the potential to generate pollutants that occur due to improper waste disposal of oil and grease, improper application of pesticides, litter along sidewalks and parking lots, and sediments from equipment cleaning.*
- *Mobile carpet, drape, or upholstery cleaning businesses have the potential to generate pollutants such as BOD, COD, suspended solids, organic matter, cleaning solutions, animal-related wastes, litter and organic debris along sidewalks and parking lots.*
- *Cement mixing or cutting facilities have the potential to generate pollutants such as suspended solids, oil and grease, heavy metals, hydrocarbons, solvents, and metals*
- *Landscaping and maintenance activities have the potential to generate pollutants such as sediments, oil, grease, organic matter, fertilizers, herbicides, pesticides, nitrogen salts, nitrogen and phosphorus.*
- *Nursery (greenhouse) facilities have the potential to generate pollutants such as sediments, fertilizers, herbicides, pesticides, suspended solids (roof coating), nitrogen salts, phosphorus, oil, grease and organic matter.*
- *Golf courses conduct activities that may produce pollutants associated with landscaping and maintenance activities including litter, BOD, COD, sediment, bacteria/viruses, oil/grease, heavy metals, manure, pesticides, fertilizers and detergents.*

5.3.3 2011 Dry Weather Monitoring Results

Results from the 2011 Dry Weather Monitoring Program (DWMP) were collected and analyzed by the City in September 2011 (but are already outdated at the time of this report). The 2011 program utilized the criteria established by the Permit (and the Copermittee Monitoring subcommittee). The City reviewed the results from the 2011 Dry Weather Monitoring Program looking for the pollutants listed above, and in particular, COCs described in Table 5-3. The results indicated one potential problem area. The bacterial levels at Seascape Sur outfall (which drains to the Pacific Ocean) continued to exceed the action levels established in the Permit and the IDDE investigation continued (see Chapter 12).

The City continues the non-point source investigation (see Chapter 12), and utilized the results to help design its 2011 Dry-Weather Monitoring Program. The results from the 2012 monitoring program will not be available until after this report is submitted to the RWQCB. *As a result of Addendum 2 adopted by the RWQCB in September 2008, the 2012 Dry-Weather Monitoring results will be submitted in December, 2012.* It's worth noting that the City contracted out the 2012 DWMP services to an outside consultant that specializes in this field. The City is hoping that this will further assist the City in determining the source of the high bacteria at Seascape Sur. The results will be presented in December, 2012.

5.3.4 Threat To Water Quality Prioritization

The inventory of businesses for the City included identifying those that potentially posed a high threat to water quality (TTWQ) as set forth in the Permit and JURMP. As noted above, the City also categorized its businesses by the potential to generate the pollutants described.

The City's JURMP identified 77 stationary commercial sites, of which 69 are high priority Threat To Water Quality (TTWQ) facilities. Table 5-4 (below) summarizes the stationary businesses in the City's inventory by the general description.

It is important to note that many commercial businesses change very frequently, especially restaurant facilities. The City will make inventory adjustments as inspections reveal changes are necessary. This is an ongoing procedure that will continue into further reporting periods.

Table 5-4 High Priority TTWQ Commercial Facilities by Type of Business

Type of Business	Number
Animal Services	1
Automobile servicing and repair	9
Automobile/vehicle washing	1
Retail/Grocery Stores	2
Eating and drinking establishments	54
Golf courses	2
Hotels/Motels	2
Iron Works	1
Nurseries	2
Retail or wholesale fueling	3
Total	**77**

5.3.5 Business Community Education Campaign

City Staff has implemented an aggressive education campaign for the business community. As stated in previous annual reports, education is conducted during the annual storm water inspections. The City, along with the North County Storm Water Program (the cities of Carlsbad, Encinitas, Escondido, Oceanside, Solana Beach, San Marcos, and Vista) previously developed two commercial BMP posters that are still being utilized. The first is aimed toward automobile repair shops and the second toward restaurants. These posters are distributed by the City's contractor (ECIS) during inspections. The business owners are required to place the posters in a noticeable location for all employees to see. On subsequent follow-up inspections, City staff or contracted inspectors check to see if they comply.

Additional educational/training tools developed to be distributed to the local businesses are the "Green Wrench Guide" and the "What's Cookin' Guide" developed by the Regional Outreach Workgroup. These guides are also distributed during site inspections as an extra training tool to help these businesses come into compliance. These guides have room designated in the back for employees to sign after they read the material to show educational compliance.

The City believes that distributing these educational tools directly to the businesses during inspections will have the greatest impact. Not only will inspectors have their undivided attention, but the City can also guarantee

delivery and track which establishments have received the informational guides. Therefore, when it comes to compliance issues, the City can quickly determine who has and has not been informed of the regulations. These education tools will be discussed further in the Educational Component of this Annual Report.

By the time this inspection program was fully implemented, City Staff and contracted inspectors found that a majority of business owners were “aware” or had some “basic knowledge” of storm water requirements. The City, along with the other Copermittees in the Carlsbad Watershed, developed a knowledge/awareness rating and included it on all inspection forms. This will help better assess the overall knowledge of the business community in relation to not only other businesses in the city, but in the watershed as well. This is discussed more in the Educational Component.

5.3.6 Pollution Prevention Methods

Because of the City’s proximity to the Pacific Ocean, the City has been proactive in its approach to reducing urban runoff, not only during this reporting period, but prior to the implementation of the Permit as well. For example, prior to the implementation of the original JURMP, the City had several pollution prevention methods (PPMs) in place for commercial properties, which continues through to the new JURMP during this reporting period and included, but were not limited to:

- Prohibition of all non-storm water discharges to the City’s storm water conveyance system (SBMC 13.10.060).
- Measures to reduce pollutants to the maximum extent practicable (MEP) were required of business owners (SBMC §13.10.090).
- Persons owning or operating a parking lot (or impervious surface) were *required* to “clean those structure thoroughly as is necessary to prevent the discharge of pollutants to the City of Solana Beach storm water conveyance system to the maximum extent practicable, but not less than once prior to each wet season” (SBMC 13.10.090).
- The City maintained by municipal code the authority to inspect business properties for compliance with the provisions of Solana Beach Municipal Code, Chapter 13 (SBMC 13.10.110).
- Required maintenance of commercial property (trash cans covered, litter removal, etc.) and appropriate waste disposal.

- Routine articles in the citywide community newsletter, *Shorelines* to educate the community about pollution prevention (see Chapter 9).

5.3.7 New Pollution Prevention Methods

In the City's JURMP, pollution prevention methods were expanded for commercial facilities, depending on the type of activities conducted at each business. Numerous activity-specific BMPs were also developed for each business type identified. Complete tables describing the BMPs in detail are included in the City's JURMP, submitted to the RWQCB in March, 2008. *There are no changes to report with respect to BMPs designated for existing commercial properties.*

Common Commercial Property BMPs

Many of the BMPs provided to commercial property owners/managers were activity-specific to the type of business conducted on-site. However, there are several BMPs common to all commercial properties, which are described below.

Employee Training

The training of employees on proper business practices to prevent or reduce urban runoff is listed as a BMP for all businesses. Knowledge of pollution prevention methods requires instruction from one person to another, particularly as the requirements are new to many employees and given that employees handle the majority of tasks at a commercial business, staff has explained to proprietors the importance of adequate employee training.

Good Housekeeping

Pollution prevention BMPs are required of most commercial facilities. Good housekeeping includes the proper disposal of waste materials and proper coverage over waste dispensers, dry sweep outdoor areas, keeping the facility in generally good repair and maintained in good operating condition to prevent deterioration of materials.

Spill Response Plan (SRP)

An SRP is required of most commercial facilities as noted in the JURMP. An effective SRP should prevent on-site hazardous materials from leaving the private commercial property and entering the City's storm drain conveyance system. Commercial property proprietors are being educated about an SRP and

are now required during inspections by City staff.

Minimize Use of Water for Washing / Cleaning

The BMPs associated with a reduction in the use of water for washing and cleaning is suggested for most commercial facilities operating within the City. It has been common practice for many years to use power-washing methods to clean the outside of buildings, windows, and out-door eating areas at restaurants. In addition, it has been common practice by commercial property owners (and their contractors) to hose-down the sidewalks in front of their businesses to collect trash, debris, and landscaping remnants. These types of cleaning procedures use a lot of water and it is likely that the water will run off of the property and into the City streets or storm drain system, bringing with the water a significant amount of pollutants. For that reason, commercial property owners are requested to find new methods of cleaning, reduce the amount of water used, and prevent the runoff from leaving their property.

Various other activity-specific BMPs are required or suggested to commercial property owners and are listed in the City's JURMP.

Municipal Code and General Plan Amendments

There were no changes to the Municipal Code or General Plan that affect the Industrial and Commercial Section of the Permit.

Brochures

The City worked collaboratively with other North County cities (see Chapter 9, Education Component) to jointly develop brochures in order to provide a consistent message to the community, and in particular, commercial property owners/managers. The brochures were utilized by City Staff to inform and educate the community, including commercial businesses. Public works crews, Code Enforcement, Planning and Engineering Staff pass out brochures when an educational opportunity presented itself. Staff also visited many businesses and distributed the brochure, "Only Rain in the Drain" and spoke to business owners about the need for pollution prevention.

5.3.8 Ensuring Implementation through Commercial Property Inspections

During this reporting period, the City once again decided to contract out the inspection services to ensure that they are being conducted thoroughly and also

to further enforce the City's grease management regulations. City Staff resources are stretched extremely thin with all the new storm water and Fats, Oils and Grease (FOG) requirements, so in order to ensure that the proper time and effort was being utilized on these important inspections, the City contracted out the services. In addition, the City wanted to continue enforcing its aggressive grease management regulations to ensure that all required eating establishments had the proper grease management devices installed and were being properly maintained. It is well documented that the number one cause of sewer spills is grease build-up, so the City is taking a pro-active approach to ensure that grease is being properly managed at all eating establishments.

The City hired Environmental Compliance Inspection Services (ECIS) again this reporting period to conduct the inspections in accordance with the new JURMP. The inspection frequency of high priority businesses for the third year of Permit implementation remained at 100% (as detailed in the new Permit). The City currently has an inventory of 77 total facilities.

The City, through its contractor, visited all 77 stationary facilities, which is above and beyond the minimum number of inspections required by the Permit. The commercial inspections addressed all required inspection steps to determine full compliance. The results are described below.

As required by Permit Section J.3.a (3) (d) vi, the City confirms that the commercial inspections addressed all required inspection steps to determine full compliance.

As required by Permit Section J.3.a (3) (d) ii, the City confirms that the commercial BMPs were implemented during all inspections.

5.3.9 Enforcement

As mentioned above, the City hired ECIS to conduct the facility inspections. However, the City is still responsible for the follow-up enforcement actions, if necessary. The inspection protocol consisted of ECIS conducting an initial inspection and then one follow-up if the site was out of compliance for a minor violation (trash dumpster lid open, training logs incomplete, etc.). If there is a major violation, ECIS would contact the City immediately for proper follow-up actions. If the facility was still out of compliance after the second visit, then ECIS

would notify the City and City Staff would follow-up from there, taking increased enforcement actions including fines, if necessary. The results are as follows:

First Inspections:

Total Inspections: 77

Facilities in compliance after first inspection: 48

Facilities not in compliance after first inspection: 29

Follow-Up Inspections:

Total Inspections: 29

Facilities in compliance after second inspection: 16

Facilities not in compliance after second inspection: 13

The remaining 13 facilities that were still out of compliance after the follow-up inspection were handed over to the City for additional follow-up. The majority of violations were all relatively minor infractions consisting of dirty trash enclosures, grease bin areas and lack of grease trap/interceptor maintenance logs. The City followed up with meetings with the property owners and managers, and all facilities have since come into compliance. *No citations were issued as a result of the inspections.*

The complete database of commercial and industrial inspections is available upon request. The City maintains the database and will build on it as the new Permit cycle continues.

5.3.10 Mobile Businesses

The Permit requires regulation of mobile businesses within each jurisdiction, which is a new requirement. The Permit states that each Copermittee shall develop and implement a program to reduce the discharge of pollutants from mobile businesses to the Maximum Extent Practicable (MEP). The mobile business program is being addressed on the regional level, and the City is participating in the development of the program. However, the City has always taken a proactive approach in dealing with mobile businesses, especially mobile car detailers and carpet cleaners. The City has issued several citations in the last few years to mobile businesses that do not have the necessary BMPs in

place to prevent pollutants from entering the City's MS4. These violations will be described in the IDDE Chapter of this Report (Chapter 7), which will be submitted in December, 2012.

It should be noted that there are *no mobile businesses* currently in the City's inventory. The Planning Department has been notified of these new requirements targeting mobile businesses, so if one applies for a business license, Planning Staff will notify the Environmental Staff which will take a proactive approach to educating the new business on the storm water regulations.

5.3.11 New Activities and Improvements for FY 12/13

The City is confident that the new inspection process for commercial facilities is a significant improvement for this program. The City anticipates continuing to budget for consultant inspection services to focus on storm water and grease management device inspections. The approved FY 2012/2013 budget contains $12,000 to continue outsourcing the inspections. In addition, the City will continue to update the commercial facility inventory as new business licenses and inspections reveal changes.

A significant new requirement of the Permit requires the City to develop a mobile business program. As mentioned above, the new Permit requires all Copermittees to develop and implement a program to reduce discharges of pollutants from mobile businesses to the MEP. Since this affects all Copermittees, the region decided to address this on a regional scale. This has become a primary focus and the subject of its own subcommittee, which the City is involved in. The City will continue to work with the region to develop this program and implement it during the next reporting period.

The City will also look to improve educational materials for commercial facilities, including mobile businesses. The City is committed to working with the other North County Cities (as well as the Regional Outreach Workgroup) to collectively put together educational materials with a consistent message. Additionally, the City will work with the respective Watershed Groups to alter inspection forms or processes if a consensus is met within the group. An example of the benefit of this collaboration was the addition by the member cities in the Carlsbad Watershed Group of two assessment questions at the end of the inspection to gauge the knowledge and/or behaviors of the facility owner/manager. This was

included to gain a better understanding of the level of knowledge of the responsible employees and see if their behavior changes over time. Hopefully, this will give the Copermittees a better assessment tool to analyze program strengths and weaknesses.

Another significant improvement to the program that continued during this reporting period was the addition of a higher level of grease management device inspections. As mentioned in last year's Annual Report, the City decided to contract out inspection services for commercial facilities with the intent to include grease management device inspections as well. This was the second year of the increased grease management inspections, which included whether or not the grease device was the correct size and included the correct connections. The initial inspection was simply to gauge if the necessary commercial facilities had any type of device installed, but during this reporting period, the City once again inspected to ensure the correct type and size was installed. This is extremely important as simply having a device is not sufficient if it was too small or did not include all the proper connections. The City now has three years of inspection data and has a great inventory of the current grease management devices throughout the community. This is just another example of the City's proactive approach in preventing sewer spills.

5.3.12 Summary

The City has successfully updated its JURMP and commercial facility inventory in compliance with the Permit requirements. As a result, the City has identified commercial facilities that pose a high threat to water quality and implemented the new inspection frequencies per its new JURMP. The City has also developed an effective enforcement process and notified all high-priority businesses of required BMPs. For the most part, the businesses in this community have willingly adapted their practices to meet the storm water regulations of the Permit.

The City has successfully updated its JURMP to reflect the new requirements of Permit Order No. 2007-0001. As such, the City has successfully developed a program to comply with all aspects of the new JURMP, and is committed to continually improve on the program in the coming years.

The City's proactive approach of patrolling the City daily and stopping at sites where potential violations may occur before there are discharges has greatly

reduced the amount of NOVs and citations issued. The City has discovered that it is much more efficient and worthwhile to put forth the effort to stop a potential violation before it occurs rather than wait and deal with the consequences. So far, this proactive approach has been very successful, as most businesses appreciate City Staff working with them, instead of the normal practice of enforcement.

The City has successfully inspected 100% of its commercial businesses and anticipates continuing this procedure for the life of the Permit. The inventories will continue to be updated as new businesses open up and old ones close down, as described in the report above. This is a continuous process in which all departments at the City play a key role, and communication is vital. The City has successfully implemented measures to comply with all of the requirements in the Industrial/Commercial Component of the Permit.

CHAPTER 6
Residential Component

CHAPTER 6: RESIDENTIAL COMPONENT

6.1 Introduction

In accordance with Permit Section D.3.c, this section of the report describes the City's efforts to prevent or reduce residential discharges of pollutants into the City's MS4 to the MEP and to prevent residential discharges from the MS4 from causing or contributing to a violation of water quality standards.

In each Annual Report to the RWQCB, this section will include any proposed modifications to the City's JURMP (Section 8.0, Residential Component) including prioritization of residential areas and pollutant source identification. Results from the City's efforts to implement BMPs will also be included. A summary of activities conducted post-reporting period may be included if the activity is deemed essential to understanding the City's efforts at reducing urban runoff or permit compliance.

The City conducted numerous community education outreach activities, distributed flyers and door-hangers and published articles in the City's newsletter. The City continued implementation of the "Green Flash" environmental portal on its website and operated a 24-hour hotline for the community to be able to report any suspected violations or contact City Staff. In addition, the City conducted its Household Hazardous Waste (HHW) collection and recycling program, which includes door-to-door services. Finally, the City hosted many community events and distributed storm water information to residents at the City booth.

6.2 Pollution Prevention Methods

Polluted urban runoff in residential areas occur from activities associated with the following actions: automobile use, maintenance, cleaning, and repair; home and garden care (pesticides, herbicides and fertilizers); disposal of trash, pet waste, and household hazardous waste; outdoor washing activities; landscaping and home maintenance. It is imperative to prevent the pollutants that can be generated by these activities (bacteria, detergents, heavy metals, grease, oil, herbicides and pesticides) from entering the City's MS4 to the maximum extent practical.

6.3 BMP Implementation

The City continued several pollution prevention methods that reduce, prevent or mitigate the harmful pollutants in urban residential runoff. The City continued its HHW collection program, operated a 24-hour hotline for reporting violations, sponsored community events and developed flyers, brochures, newsletter and website articles. In addition, the Copermittees continued to develop regional programs to address the residential requirements of the new Permit.

6.3.1 Hazardous Waste and Used Oil Collection and Recycling

Under the 1989 California Integrated Waste Management Act (AB939), jurisdictions are required to provide Household Hazardous Waste (HHW) collection programs to residents in order to limit the volume of HHW (used oil, paint, household cleaners, pesticides, car batteries, automobile waste, etc) that might otherwise end up in a landfill, or worse, illegally dumped. For San Diego County, the HHW program had been funded by a tipping fee until 1997, when the County of San Diego sold the landfill system to private companies.

During the FY 11/12, the City continued its partnership and the reciprocal use agreements with the cities of Vista, Poway and Escondido to provide permanent facility HHW drop-off service to City residents at a cost of $55 per vehicle. To encourage participation, the entire cost is picked up by the City.

Additionally, the City operates a door-to-door program where, for a small co-payment of $10 per visit, a company will come directly to the resident's house to pick up the Household Hazardous Waste so that residents do not have to drive to Poway, Vista or Escondido. The total participation in the HHW program was 261 residents and the total weight of hazardous materials was 24,279 pounds. Included in the door-to-door program is a service offered to senior citizens and homebound residents that provided free of charge, with the City paying for the service. These programs are offered to encourage the proper disposal of hazardous wastes to prevent it from entering and polluting our sensitive waterways. The program also includes the disposal of e-wastes, including TVs, computers, VCRs, fluorescent bulbs, batteries, etc.

For a complete breakdown of the types and weight of HHW disposed by the residents of Solana Beach, please see the following table:

Table 6-1 Household Hazardous Waste by Type

Type	Household Hazardous Waste
Flammable & Poison	5,597
Acid	180
Base	352
Oxidizer	35
PCB-Containing	14
Reclaimable	10,452
Asbestos	0
Universal Waste	334
Electronic Waste	6,569
Aerosol Containers	0
Other HHW	746
Total (lbs)	24,279

The City keeps records of how many people utilized the program throughout the FY 11/12 and a questionnaire is provided to the participants at the time of disposal to acquire useful information such as how they heard of the program and what types of wastes were disposed. Many respondents listed local programs such as the City's newsletter "*Shorelines*", the City's website and educational brochures as the source of their knowledge of this program. Other sources include the two local trash haulers (EDCO and Coast Waste), Solana Center for Environmental Innovation, the internet, and basic word of mouth. This bodes well for the educational work of City Staff and is a good indication that the City's educational program is effective at getting the word out to the community about environmental concerns, water quality, and opportunities to participate as the program continues to grow. Additionally, it shows the beneficial cooperation efforts between the City and its contractors.

The City is a member of the Regional Solid Waste Association (RSWA). As a member, the City participates in a multi-city agreement with EDCO Waste and Recycling Services, Inc. (EDCO). As reported earlier, the agreement resulted in a very successful program for elderly and homebound City residents to dispose of HHW at their door, *at no charge to the residents*. This provides a solution for the two largest obstacles for the elderly and homebound residents, convenience and cost, by providing home pick-up service free of charge. This has been an

extremely effective and popular program throughout the entire community.

This agreement is necessary because the City does not have the capacity to operate its own HHW facility within its jurisdictional boundaries. Without this RSWA agreement, the residents would have very limited options in dealing with the proper disposal of HHW. This would potentially lead to the improper disposal of HHW, which would threaten the local waterways and sensitive environment. However, due to the foresight of the City government, the formation and participation in groups such as RSWA lead to increased opportunities for the community to protect the local environment. It also allows the City to subsidize the costs of disposal to assist the residents in properly disposing their HHW. For a small city like Solana Beach, becoming members of larger organizations is imperative for keeping costs down and increasing negotiation power. These programs would not be self sufficient if Solana Beach was not part of a larger organization, as the City and community receive the benefits of "strength in numbers." This has helped keep the costs for such important programs low and participation high.

The City also promotes local HHW collection events by advertising the events on the City's website and sending out Eblast email alerts to registered community members. These events typically occur at the Solana Center located in Encinitas, but the City values proper disposal of HHW, so these events located outside of the City are still publicized by the City. This is just another convenient way for residents to dispose of their HHW.

Recycling

As noted in the Introduction of this report, the City is a proactive agency working to protect and enhance the local environment. The City, with assistance from the non-profit environmental group Solana Center (formerly known as Solana Recyclers), was the first city in the county to initiate a curbside recycling program.

Assembly Bill 939 (AB 939) requires cities to divert at least 50% of their total solid waste away from landfills, and the best way to accomplish this is through recycling. As reported earlier in this Report, the City's target disposal rate of pounds per person per day was 8.9 and the actual recorded was 6.0. This is significantly below the AB 939 requirements and shows that the City's programs are working and the awareness of the residents is very high, as many of the

cities in the region failed to reach their target. The process of writing the 2011 AB939 report is underway, but not completed before this report was submitted. These numbers will be included in next year's report.

6.3.2 Annual Bulky Item Clean-up Day and Coastal Clean-Up Day

Each October, the City hosts an Annual Bulky Item Clean-up day. The City's waste hauler provides roll-off containers for the collection of large appliances, yard waste, excess trash and scrap metal. Residents only need to bring their large bulky items and excess trash to La Colonia Community Center to drop off anything that they have, to save them a trip to the landfill, and it's *free of charge*. Additionally, Solana Beach residents can call the City's trash hauler to set up an appointment for *free curbside pick-up* and disposal of up to three bulky items up to three weeks prior to the event. It is well documented that the easier and more efficient it is for people to recycle or dispose of large items the more often they will do it. By offering this convenient, local and free of charge event, residents are less likely to dispose of their large items illegally, keeping these items out of our local waterways. The Bulky Item Clean-up Day held in October 2011 resulted in 18.24 tons of material collected and properly disposed off, preventing it from ending up in the City's MS4.

Each September, the City of Solana Beach participates in the annual Coastal Clean-Up Day sponsored by the California Coastal Commission and I Love A Clean San Diego. The City hosted two sites again this year, one at Fletcher Cove and one in the San Elijo Lagoon, where residents came and spent the morning beautifying the local community. This is an extremely popular and successful event that usually draws over 200 community volunteers, and removes hundreds of pounds of litter and debris from the local lagoons and beaches.

6.3.3 24-hour Hotline

To assist residents in obtaining information, reporting suspected storm water violations or to report illegal dumping, the City operates a 24-hour "storm water hotline". The hotline (858-720-4424) is available 24 hours a day, seven days a week, and 365 days a year. The hotline is linked directly to the voice mail of the City's Environmental Programs Manager to increase efficiency and ensure prompt responses. This way, calls can be immediately fielded and handled in the appropriate manner.

6.3.4 Pet Waste Bag Dispensers

The City installed and maintains Pet Waste Bag Dispensers to reduce the potential of pollution stemming from residents (and visitors) not collecting waste from their pets while walking. This was a measure added to hopefully help the high levels of fecal coliform detected at the Seascape Outfall revealed during wet and dry weather monitoring. The City has posted dispensers and signs to encourage their use. The program appears to be working very well because, during this reporting period, approximately 96,000 pet waste bags were utilized by the community.

6.3.5 Education and Outreach

The City's entire education and outreach program is provided in Chapter 8 of this report. Activities associated with the educating of residents are addressed in this section, which may also be repeated in Chapter 8.

Shorelines articles

The *Shorelines* is the City's Newsletter and Recreation Guide for community information. The newsletter is now distributed four times a year (Spring, Summer, Fall and Winter) to each resident and business within the City (up from twice annually in the past). It is one of the best methods to get information to the public about a variety of issues, the environment being a key component. The *Shorelines* newsletter always contains environmental articles and the community has come to rely on this publication as a means of keeping up with City government. This has proven to be an ideal community educational effort.

During this reporting period, the City transitioned from printing the *Shorelines* on paper to going electronic. This has resulted in a significant reduction of paper waste, and saves energy throughout the process. The City (and community) has also seen a benefit in the quality of the output, as articles can be uploaded at any time and they can become much more interactive. Hyperlinks to relevant online sources are now embedded into the articles, which have proven to be very beneficial. The transition to an electronic format has been a tremendous success and the quality and content of the newsletter is rapidly improving.

In the summer 2012 issue, the City published the following articles relating to environmental education and storm water activities:

- City of Solana Beach Bans Single-Use Plastic Bags!
- Storm Water Hotline
- How to Dispose of Household Hazardous Waste Safely and Easily
- Household Hazardous Waste and Electronic Waste Program
- Love My Bike Love My Planet
- Green Building Recognition Program
- Remodeling/Construction
- Household Battery Recycling
- Plastic Bag Recycling Program

In the fall 2011 issue, the City published the following environmental education and storm water activities:

- Annual Coastal Clean-Up Day
- San Elijo Lagoon Conservancy

In the winter 2011/2012 issue, the City published the following articles relating to environmental education and storm water activities:

- Leaf Blower Ordinance
- Storm Water (NPDES) Rainy Season Construction Reminders
- Household Hazardous Waste and Electronic Waste Program
- Day Without a Bag
- Subsidized Compost Bin Program

- Holiday Tree Recycling/Collection Program

The City has recently gone "green" and now only produces the *Shorelines* newsletter electronically. It is available on the City's website, and has become much more interactive and relevant (provides up-to-the-minute information that can be rapidly changed). For a copy of the articles listed above, please contact the City and Staff can provide a paper copy to review.

Brochures and Door hangers

The City collaborated with neighboring Copermittees (the cities of Del Mar, Encinitas, Oceanside, Vista, San Marcos, Escondido and Carlsbad) to develop several educational brochures. One particular brochure is referred to as the "door-hanger." The door-hanger is an excellent tool to inform groups or individual residents about pollutants that were found in their area, but may or may not have been contributed by them specifically. The door-hanger has a place for Staff to leave their business card, indicate the types of pollution found (from landscaping to pet waste) and lists various specific BMPs for eliminating street and gutter debris in their area. Staff hopes that by placing the brochures around the entire neighborhood, residents will report to the City where the discharge came from or alter their behavior to prevent the discharge from occurring again.

In addition, the City collaborated with the other North County cities and created a brochure "*Only Rain in the Drain*," which is distributed at local community events and to visitors at City Hall, the Fire Department and Community Center. The brochure reviews Best Management Practices for residents and the need to prevent or mitigate pollution to the best extent practical. The brochure also provides a consistent message because all cities in the North County use it.

Staff distributed the door hangers and brochures to residents and business owners throughout the community. These educational materials have been used by Public Works Staff, Code Enforcement Officers, and others and have been found to be an informative and effective tool. This includes those given out to neighborhoods during IC/ID and source tracking investigations, those given out individually during routine rounds around the City and any community fairs (Fiesta Del Sol, Green Fair, Movie Night, etc) or regional workshops/events (about 2 a week on average for all activities, totaling approximately 104 distributed).

School Presentations

The Solana Center conducts school presentations for the City to local schools within the City's jurisdiction. As part of both trash haulers' contracts (EDCO and Waste Management) with the City, they are required to provide funds for public outreach and education. Both haulers have chosen to contract out this work to Solana Center. Therefore, Solana Center provides school presentations regarding storm water issues to the local schools. These presentations include discussions about the importance of preventing pollution from entering the streets, gutters and storm drains. The Enviroscape model is also used during these presentations.

Additionally, the City's Park and Recreation staff conducts a summer "ecology camp" for local children to educate them on various environmental issues, including storm water and recycling. The children go on field trips and have classroom discussions. It is a very interactive classroom setting where the children are encouraged to participate and engage in the various activities. The ecology camp is an annual program that will be utilized to educate the children in all environmental issues.

The City's Marine Safety Department also conducts school presentations that focus on ocean awareness/safety as well as being environmentally aware and responsible. The presentations focus on water quality and the benefits of protecting this valuable asset.

These are reported on in further detail in Chapter 8, Education Component.

Tile Stenciling

All storm drain catch basins in the City currently have tile markers installed. The construction standard described in the City's JURMP, with respect to the requirement that all curb inlets have a tile marker permanently affixed on the face side, continues to be enforced. All new development/construction projects are required to install tile markers on all new curb inlets. City Staff also documents broken or missing tiles when detected in the field and report back to the Public Works Operations Manager to install.

Website

As mentioned previously in this Report, the City recently unveiled a significant

upgrade to the environmental section of its website. Previously, the environmental programs were lumped into the Engineering Department page, which was somewhat difficult to locate. Now, the City has a separate page that has its own icon on the homepage. This shows the type of commitment that the City, and the community, places on the environment. The City has received many compliments regarding the website, and was even recognized by the League of Woman Voter's, North Coast San Diego County for the "Green Flash" section.

6.4 Threat to Water Quality Prioritization

During this reporting period, the City re-evaluated the drainage areas to identify those areas that potentially posed a high threat to water quality as set forth in the Permit section D.3.c(1). The areas are defined in Section 8.2.1 of the City's new JURMP.

There are *no changes* to report in the City's prioritization of high-priority residential areas from those submitted to the RWQCB in the City's new JURMP (submitted March, 2008).

6.5 Implementation of BMPs

As noted in Section 6.1 (Pollution Prevention), the City has implemented various methods to prevent pollution to the Maximum Extent Practical (MEP) standard from entering the City's MS4. The City indicated in its revised JURMP the designation of several BMPs for the High Priority Residential Areas and Activities.

One of the most significant differences between the City and other local agencies, is that runoff from residential automobile washing *is strictly enforced* by Solana Beach Code Enforcement Officials. City Staff is often dispatched to reports of people washing their cars, and City procedures allow for several warnings before a citation is given, except in the case of mobile car-washing businesses. In that instance, mobile car detailers are informed to cease their activity and immediately clean up the resulting discharge. Mobile detailers are cited for failure to comply if they refuse to discontinue or remedy the discharge. City Staff records all violators and if they encounter them violating the Permit again within the City, they are immediately given an administration citation and fine.

The City also actively enforces minimum BMPs for the following activities:

- Motor Vehicle or Boat Repair and Maintenance
- Motor Vehicle Parking
- Home and Garden Care Activities and Product Use
- Home Care and Maintenance
- Manure and Pet Waste Management
- Private Sewer Laterals and On-Site Wastewater Systems

If City staff witnesses a violation of any of the provisions above, the Administrative Fine Process will be initiated until full compliance is achieved.

6.6 Enforcement Actions

Violations of the storm water Permit and any necessary follow-up actions taken by the City are described in Chapter 7.0, Illicit Discharge Detection and Elimination (IC/ID) Component, which will be submitted in December, 2011. Since violations in the residential sector often times are discovered during an IDDE investigation, it is an appropriate place to discuss the actions.

6.7 New Activities and Improvement for FY 11/12

The City is actively developing and implementing the activities described in the Residential Component of the City's new JURMP. The focus will continue to be education through the new Green Flash website, brochures, flyers, public announcements, community fairs and one-on-one contact.

The Permit adopted in January 2007 contains increased requirements for the residential sector. This is one key area that the Permit focuses on, so new programs will have to be developed by the City to address these requirements. There is also a focus on watershed and regional programs to address the residential sector, so the City anticipates working with the other Copermittees to develop these programs cooperatively to convey a consistent message. The City

will be working to continue developing and implementing these programs for FY 12/13. These programs will be discussed in more detail in the Unified Urban Runoff Mitigation Program

6.8 Summary

The City has been successful at implementing the Residential Component of the JURMP including among other things:

- Providing public pet waste bag dispensers (approximately 96,000 bags were utilized by the community during this year).
- Collaborating with neighboring jurisdictions (CWURMP and SDWURMP) and the regional Copermittees to develop several informational items, which have been distributed at local events, to City Hall visitors, and throughout the community.
- Collaborating with all Copermittees to develop regional educational programs as required by Permit Order No. 2007-0001.
- Using and upgrading the City's website to post informative information about the City's storm water programs.
- Operating a 24-hour, 7 day a week storm water hotline that residents can report any storm water violations.
- Operating a community-wide used oil and hazardous waste collection program that offers door-to-door service for all residents. This program has been a huge success as 261 residents participated and properly disposed of 24,279 pounds of hazardous waste that might have otherwise ended up polluting the local environment.
- Conducting the Annual Bulky Item Pick-Up Day which resulted in 18.24 tons of material collected and prevented from entering the City's MS4.
- Providing opportunities for local school presentations regarding storm water issues.

CHAPTER 7

Illicit Discharge Detection and Elimination Component

CHAPTER 7: ILLICIT DISCHARGE DETECTION AND ELIMINATION COMPONENT

This is a placeholder for Chapter 7, which as a result of Addendum No. 2 adopted by the Regional Water Quality Control Board on September 10, 2008, extended the reporting component of this Chapter to December 15, 2012.

CHAPTER 8
Education Component

CHAPTER 8: EDUCATION COMPONENT

8.1 Introduction

In accordance with Permit Section D.5, this section of the report describes the City's educational program that is intended to use all media as appropriate to measurably increase the knowledge of the target communities regarding MS4s, impacts of urban runoff on receiving waters, and potential BMP solutions for the target audience and to measurably change the behavior of target communities and thereby reduce pollutant releases to the MS4 and the environment.

In each Annual Report to the RWQCB, this section will include a description of the City's efforts during the reporting period and possibly post-reporting period if the activity is deemed essential to understanding the City's efforts at reducing urban runoff or Permit compliance. In addition, this section of the Report will include the City's planned educational efforts for the following fiscal year.

During this reporting period, the City continued implementation of the comprehensive Education Component of the JURMP. The activities were expected to increase knowledge among the residents, business owners, and those who do business (such as contractors) within the City. The City developed the program based on the requirements of the Permit and continued implementation during this reporting period.

The City continued implementing programs for the new requirements of the Permit. These programs are being developed on a watershed and regional level, and the City is an active participant in these workgroups. A major focus of the new Permit is on developing a regional education program, with the idea of forming a "brand" for the region where people can identify with the program as a whole. By developing and implementing a regional program, the messages will be consistent and easier to identify with. This will be further explained in the Regional URMP submitted by the County of San Diego.

During this reporting period, the cities of Carlsbad, Del Mar, Oceanside, Escondido, Vista, San Marcos, Encinitas and Solana Beach continued to develop strategies and programs to provide consistent messages to the communities of San Diego North County. While this watershed group will continue developing

educational materials and activities, it will also work with the regional group as mentioned above. This group will ensure that the Copermittees represented will participate with the “regional” message and program as required by the Permit.

As a collaborative, the group is able to obtain lower costs for educational tools (such as brochures, flyers, handouts, small tokens [pens, key chains, etc.), which provides a financial benefit to the agencies and thus, the community.

The group has been able to assist each other in developing a consistent message incorporating the interests and concerns of each agency. When brochures and handouts have been created, flexibility among the agencies was required.

The collective decision-making process has also generated cooperative working relationships among the agencies, which was extremely beneficial when the development of the Watershed Urban Runoff Management Program(s) began and in working together to complete various storm-water-related tasks. The community also benefits from the consistent “one message” approach rather than six or seven different rules and regulations.

8.2 Pollution Prevention through Education – Jurisdictional Activities

The City’s storm water program is comprehensive. Not only are there many components to administer jurisdictionally, there are many different programs going on simultaneously throughout the County. The City participates in jurisdictional, watershed and regional activities. Each of these has separate and distinct educational components; however the challenge is to ensure that the same general message is being spread throughout the County, with individual messages being developed by the Watershed groups and Jurisdictions based on the Constituents of Concern (COCs) for each watershed. The watershed activities have been recently defined and are in the early stages of implementation; since this is a jurisdictional report, there will not be much discussion about those in this Annual Report (For more detailed information on WURMP related activities, please see the WURMP Annual Reports for Carlsbad and San Dieguito). The regional activities have been primarily described in the Copermittee *Unified Urban Runoff Management Program Annual Report for Fiscal Year 2010-11,* which has been submitted by the County and incorporated herein by reference. However, some of the activities will be summarized in this

section of the report (see Regional Activities).

8.2.1 Staff Training

One of the most important aspects of the City's educational program is to educate its Staff members. This turns out to be a relatively easy task for this City in that there are only about 70 full time Staff members. All Staff members are required to attend an all-hands citywide Staff meeting each month. Staff determined that this would be a good opportunity for training, and periodically conducts trainings at these meetings.

During this reporting period, the City did not have any formal stormwater trainings. Staff is however, continuously reminded of regulations and how their Department is involved in storm water issues. A few trainings are scheduled for the upcoming year and will be reported on in next year's report including:

1. Sewer spill prevention and spill mitigation
2. Storm water issues relating to public works

The City will continue to look for other opportunities to educate their staff on storm water related issues throughout next year's reporting period.

The City believes that all current Staff is adequately aware of the storm water issues, and all new Staff will be trained as appropriate upon arrival. However, due to the constantly evolving storm water field, the City will continue the periodic educational trainings at future City all-hands Staff meetings and department specific trainings as appropriate.

8.2.2 Annual Beach Cleanup Days

The City of Solana Beach, in cooperation with I Love a Clean San Diego County, Inc. coordinates an annual "Coastal Cleanup Day". These events are volunteer beach and lagoon clean ups. The City had another successful event hosting two sites within the City, one at Fletcher Cove Park and the other in the San Elijo Lagoon.

8.2.3 Storm Drain Tile Marker Installation

The City inventoried all of its storm drains (inlets and catch basins) and has the

locations in GIS format. The inventory list includes addresses, cross streets and a GIS bit-map. Stenciled tiles are affixed to each storm drain inlet or catch basin location, which reads, *"No Dumping! This drains to the ocean."* The City now requires all new or re-development projects that install a storm drain curb inlet or catch basin to include the stenciled tile. An extra supply of tile markers is kept at the City's Public Works Yard for all City projects as well as for private contractors to install on their projects to provide a consistent message throughout the City.

8.2.4 Local Community Events

The City of Solana Beach hosts an annual block party called Fiesta de Sol. Each year at the block party the City has a booth promoting to the participants no dumping or littering and to keep our beaches clean. The City also coordinates with Solana Center with their booth promoting proper disposal of HHW and recycling (oil included) in the City. The City passes out "*Only Rain in the Drain*" brochures, and displays the watershed poster, "We All Live in a Watershed…" Staff discusses with residents the importance of protecting the water resources and educates them on the new storm water regulations. This reporting year's Fiesta Del Sol occurred on June 2 and 3, 2012. There were approximately 60,000 visitors during this year's event, and City Staff distributed storm water brochures and informational flyers to those who visited the City's booth. In addition, the Fiesta Del Sol included a "Green Alley" which included vendors promoting environmental sustainability. This was one of the busiest areas at the Fair, and the organizers plan on making this a permanent fixture in future events. This further demonstrates the City's commitment to sustainability and the community's demand and desire to be more environmentally sustainable.

The City's Park and Recreation Commission also put on the seventh annual Beach Blanket Movie Night on August 27, 2011 (Appendix N). This was the seventh year this community event was held and was once again a huge success. The City worked closely with the event organizers and provided recycling containers, environmental educational material pertaining to storm water issues, and used oil recycling information. The City also shared a booth with Solana Center to provide environmental education to the attendees, utilizing the Enviroscape model. It is important to note that this was the only booth allowed by the Parks and Recreation Commission because they want to promote a relaxed, friendly environment. However, because the environment is such a popular topic in Solana Beach, they allowed City Staff to have a booth to promote

the environmental programs. The event was very well attended and a huge success, and will continue to occur annually. This is a great way to promote environmental awareness at a free event to the community.

The City also continued to distribute the immensely popular and effective doggie-bag dispensers that attach onto the pet leash. These dispensers had the City logo and the message, "The City of Solana Beach Reminds You To Please Pick Up After Your Pets." The City wanted to again emphasize the importance of eliminating pet waste from the MS4, as it can be a major contributor of harmful bacteria. These dispensers were very well received and the City plans on distributing them at every community event.

8.2.5 School Programs

The Solana Center is a local organization that writes articles for the City Newsletter (*Shorelines*) and presents educational programs in the City schools regarding storm drain pollution using the watershed model Enviroscape and fun handouts and items for the kids. Solana Center is paid through the City's solid waste franchise agreements, as well as a HHW grant, to provide educational opportunities to the community. City Staff is in regular contact with the Solana Center and is confident that their program(s) are educational and informative for the children. The presentations are provided free to the local schools, and the information provided is invaluable.

The following table shows what school/community education has taken place during this reporting period:

Table 8-1 School/Adult Community Education

Date of Event(s)	Event Title	Estimated Audience	Specific Audience	Location	Jurisdiction
July 16-20, 2012	"Ocean Discovery"	25	6-12 year olds	Fletcher Cove Community Center (Field Trips Included)	Solana Beach
July 30-August 3, 2012	"Ecology and Our Environment"	20	6-12 year olds	Fletcher Cove Community Center (Field Trips Included)	Solana Beach
August 13-17, 2012	"Mission Antarctica"	25	6-12 year olds	Fletcher Cove Community Center (Field Trips Included)	Solana Beach

8.2.6 Marine Safety Department Educational Presentations

The City of Solana Beach Marine Safety Department also conducts presentations at local schools. The lifeguards maintain an outreach program to the local schools to educate the students on ocean safety and awareness as well as environmental education. This is a natural fit, seeing how the lifeguards provide a safe environment for the community to enjoy the valuable coastal resource, and they want to ensure that the community becomes environmental stewards to help protect this resource. The presentations focused on water quality, trash and litter control and the ecosystem as a whole. These presentations have been very well received by the schools and the lifeguards plan to continue them into the future.

8.2.7 Kids Korps Educational Presentations

During this reporting period, the City continued its valuable relationship with the local non-profit youth volunteer organization called Kids Korps. Kids Korps engages young people, age 5 through 18, in community service with the mission to instill in America's youth the spirit of giving while providing valuable education in leadership and responsibility. The City and Kids Korps have partnered to conduct park cleanups and educational presentations. The City of Solana Beach sponsors disadvantaged, underserved local children for a week during the summer where they attended the Kids Korps camp for free. Staff also took this opportunity to educate the children on storm water pollution. The Staff presentation was so well received that Kids Korps invited back City Staff to present at two different camps, reaching over 60 children. During this reporting period, Staff contracted with Solana Center to provide the presentations, using their Enviroscape model and interactive puppet show. This activity will continue in the upcoming years with the goal to expand the cooperation with increased educational opportunities and cleanup events.

8.2.8 Targeted Education for Underserved Community

The City has a comprehensive and successful program established to reach out to the underserved community in Solana Beach. City Staff takes these opportunities to educate this sector of the community on many items, including the storm water and pollution prevention programs. The various programs are described in more detail below.

The City has a successful Junior Lifeguard Program that teaches young children about safe ocean practices, lifeguard techniques, and environmental stewardship. Children come from all around the City to participate in this summer program, and space is limited. However, through a unique partnership between the City and a private company called ReRip, about ten spaces in the program are reserved for the underserved community that may not otherwise be able to afford it. The City and ReRip cosponsor an annual environmental event (the Future of Surfing Event) in which a raffle fundraiser is conducted and the proceeds go toward giving ten children a full ride scholarship to the Junior Lifeguard Program. These children participate in all the activities and learn about pollution prevention and storm water regulations. This is a unique partnership that the City is extremely proud of, and the community has rallied around it.

Another successful program that benefits the underserved community is the City's Summer Day Camp program. The City offers full and half-scholarships to the underserved community that would not be able to afford to send their kids to the camps for the full price. These camps have environmental themes, including pollution prevention and storm water education incorporated into the curriculum.

8.2.9 Water Conservation

Drinking water is provided to the community of Solana Beach by the Santa Fe Irrigation District (SFID). The City and SFID have a great working relationship which has benefitted the community of Solana Beach in many ways.

Due to ongoing drought conditions and increased environmental regulations, water conservation has been a major focus during this reporting period. Although drinking water is a completely separate entity than storm water, they are linked in many important ways. Primarily, over-irrigation of potable water is often the transport mechanism for many pollutants during dry weather. Over-irrigation carries pollutants such as pesticides, herbicides, fertilizers, bacteria, trash, oil and grease and many other pollutants into the MS4 system. Water conservation activities can reduce the transport mechanisms thereby reducing the amount of pollutants that make it into the City's MS4 system. The City recognizes that promoting water conservation not only helps during times of drought conditions, but also helps combat storm water pollution.

The City and SFID have a regularly scheduled monthly meeting to discuss all

things water related. These meetings have turned into valuable information sharing sessions where Staff from both agencies can discuss upcoming projects and report observations from the field. The City and SFID have joined together on many educational seminars and workshops for the community, both residential and commercial. The following is a list of water conservation related presentations and workshops that occurred during this reporting period.

Table 8-2 California Friendly Landscape Classes

Date of Event(s)	Event Title	Estimated Audience	Specific Audience	Location
November 9, 2011	Educational Workshop about Water Conservation	70	Residents	San Diego Botanic Gardens

Due to limited staff resources, SFID only co-hosted one workshop during this reporting period. However, they continually educate their residents on water conservation through their website and informational brochures.

8.2.10 Educational Brochures

The City has participated with the North County Educational Group to develop many effective educational materials. The handouts and brochures are included in the Carlsbad WURMP Annual Report.

"*Only Rain in the Drain*!" describes the importance of protecting the valuable water resources and the problems that can be caused by storm water pollution. It also provides a list of BMPs to help prevent pollution. The brochure also provides valuable resource numbers: *a direct number for each jurisdiction* is provided, as well as the County's Storm Water Hotline. The City's Public Works Crew and Code Enforcement Officers deliver these every day to the community when small violations are observed. Since these Staff members are out in the community every day, this has proven to be an effective means of public education. Larger infractions are reported to the Engineering Department or Code Enforcement Department for follow-up.

The door-hanger *"Help!"* provides a method for Staff members to indicate to

residents that pollutants were found in their neighborhood. The brochure is in English and Spanish, which is helpful to all residents. It is typically hung on a resident's door, provides a place for business cards and under the cards, (should they become misplaced) the brochure lists a contact number for each jurisdiction. The back of the brochure provides BMPs for vehicle maintenance, car washing, hazardous materials handling, recycling, litter, and sidewalk/driveway debris.

To assist the public in directing their calls for complaints and service, the City operates a 24-hour storm water hotline telephone recording (858) 720-4424. The number is connected directly to the Environmental Program Manager's voice mail (so it can still remain anonymous, if necessary), so that violations can be investigated immediately and the proper action taken *while the violation is occurring*. The City informs the public about the hotline number at City Council meetings, on flyers and handouts, on business cards, and on brochures.

8.2.11 City Newsletter (Shorelines)

Chapter 6 contains information regarding the *Shorelines* newsletter and gives a brief description of the articles included during this reporting period. The articles are available upon request.

8.2.12 Website

The recent upgrade of the environmental portion of the City's website has been explained previously in this Report. The new "Green Flash" has been extremely helpful in getting the word out in an effective and easy to find location. This has been a huge success, as the website is updated constantly with new and pertinent information. The City also has an "eBlast" system that notifies interested citizens on special news and events via email, which has proven to be extremely beneficial and successful in getting out news on all City happenings, including environmental.

8.2.13 Business Community

The City has initiated several methods to educate the business community about storm water pollution prevention.

The City hires a specialized consultant (ECIS) to conduct annual commercial

compliance inspections (see Commercial Component). Through the inspections, ECIS educates the business owners about the requirements of the Permit and the City's various storm water programs. Given the City's close proximity to the Pacific Ocean and sensitive lagoons to the north and south, inspectors are able to show a direct link between commercial activities and impact on water quality. Next, after the initial and follow-up inspections are conducted by the consultant, City Staff conducts follow-up enforcement inspections on those businesses still determined to be out of compliance, to ensure that the businesses are using the proper Best Management Practices to protect the City's waterways. These follow-up inspections are often conducted through scheduled meetings with the property owner and/or manager, to ensure the decision makers are present and can be held accountable. Often times, the initial inspections were conducted without prior warning, and various staff members at the facility are held responsible. Just to ensure that the right people are informed of the infractions/violations, follow-up inspections are pre-scheduled.

During this reporting period, *all* businesses that were inspected were deemed in compliance without any citations issued. As reported earlier, not all businesses were in compliance during the first inspection. Some businesses had minor issues (trash lids not closed, grease barrels not covered, etc.), however, the enforcement follow-up inspections revealed that the minor infractions had been corrected and no fines were issued.

8.2.14 Special Events Permit

As reported in previous Annual Reports, the City adopted a Special Events Permit that is required for group events (Triathlons, Block Parties, Birthday Parties, etc.) of over 25 people on public property. A storm water section is included in the Permit, with requirements regarding the event and adhering to all storm water regulations. This has proven to be a great educational tool, as most applicants tend to ask questions about this. It is a great tool to educate the public about storm water regulations. For an example of the Special Events Permit Conditions of Approval, see Appendix O.

8.3 Pollution Prevention through Education – Regional Activities

The regional activities of the Copermittees of Order 2007-0001 are, for the most part, described in the Regional Unified Annual Report. However, for purposes of

completeness, some of the activities that the City has participated in are described in this section of the Report. As mentioned above, the new Permit added significant requirements for regional education, some of which are described below. The City has been in cooperation with the other Copermittees in developing a regional educational program. Implementation of some of these programs did occur during FY 2011/2012 and will be reported on in the Regional Unified Annual Report. The City is actively working with the Regional Copermittee Education group to develop additional programs for implementation during FY 2012/2013.

8.3.1 Regional Monitoring

The City participated with the Copermittees in conducting a region-wide wet-weather monitoring program. Although no mass loading stations were located within the City, one of the testing sites (San Dieguito Lagoon) is a receiving water body from the City's drainage.

The 2011/12 program is described in detail in the Regional Unified Annual Report and in the report issued by the consultant, MEC Analytical. MEC's report will be submitted with the Unified Annual Report, and any data collected will be reported and discussed in that report.

8.3.2 Model Programs

One of the most important regional educational components is the ability the Copermittees have developed to help educate each other. This has been accomplished through routine meetings, sharing of project assignments, and most significantly, the development of model guidelines for the new JURMPs, SUSMPs, and WURMPs. Not only have the model guidelines produced a fairly consistent message to educate the community, the model guidelines have established collaborative working relationships among municipal, county, and state agencies, which is remarkable. In addition, this cooperation has allowed for relatively consistent program components and requirements, which especially helps the business and construction community. So, if they are doing business in various cities, they will not have to significantly alter their practices to comply with the respective jurisdictions. This is especially relevant in the LID, SUSMP and general BMP programs.

8.3.3 Linking to Regional Resources

The City posts links on its website to the regional Web sites (Project Clean Water and Think Blue). In addition, the City posts information on reporting storm water violations to the City as well as County's Regional Storm Water Hotline on various educational materials. Linking the community together provides continuity, extension of resources, and economies of scale for the community and the agencies, and contributes to a greater understanding that we are all interconnected and can help positively impact water quality. It's important to educate the community that water quality programs should not and do not stop at jurisdictional (or watershed) boundaries.

Through the www.projectcleanwater.org website, San Diego County has been able to link many community members to various storm water/urban runoff related programs of interest. In addition, the website contains information (dates, times, agendas) on meeting's that are open to the public and links to download important documents and reports.

8.4 Pollution Prevention through Education – Watershed Activities

In accordance with the Permit, each municipality is required to participate in the development and implementation of a Watershed Urban Runoff Management Program (WURMP) for each hydrological unit in which the City's jurisdictional boundaries lie. The northern portion (~10%) of the City resides within the Carlsbad Hydrological Unit and the rest of the City resides within the San Dieguito River Hydrological Unit. As such, the City is required to participate in the development and implementation of two WURMPs addressing the runoff concerns of each watershed.

During this reporting period, the City actively participated in the development and implementation of the Carlsbad and San Dieguito WURMPs, in compliance with Permit Order No. 2007-0001. The WURMP Annual Reports will be submitted in January 2013, and will detail all the activities and programs being implemented by the respective Copermittees to address watershed issues.

In short, each WURMP contains the following 1) a time schedule for developing a comprehensive map of the entire Watershed including all land uses, the storm drain systems, and inventories of all commercial, construction, industrial,

municipal and residential areas, 2) a plan to ascertain the types of pollutants that exist in the water bodies throughout the watershed and a prioritization schedule to eliminate the pollutants; 3) a program to educate the entire community about issues related to urban runoff; 4) methods to provide the community opportunities to participate in the program; 5) plans to collaborate with Copermittee agencies to strategize, review and analyze information; and 6) an effective program effectiveness strategy and methods to conduct annual evaluations. A significant addition to the responsibilities of all WURMPs is the requirement to actively implement two (2) activities each year aimed at sources to reduce high priority pollutant loading into local waterways. This will be described in greater detail in the WURMP Annual Reports (submitted in January), but mention of it here in the JURMP is appropriate.

The City has been actively involved in the implementation of both WURMPs, and has brought materials developed in each WURMP to the community (business and residents) of Solana Beach. The Carlsbad and San Dieguito WURMP workgroups have been extremely effective in implementing the requirements of the Permit. For more information on the particular activities in each WURMP, please refer to the City's individual WURMPs Annual Reports that will be submitted in January 2012.

Both of the WURMPs the City is involved with have contracted with the same consultant to assist in the development and implementation of the program requirements. This has also helped to bring consistency and continuity to the residents of Solana Beach. Although there are slight differences in the watersheds, such as the land uses and COCs, the City is able to make the implementation of the general programs more effective by having the same consultant.

8.5 New Activities and Improvements for FY 12/13

The City will continue to educate the community through participation in the Carlsbad WURMP, the San Dieguito WURMP group, the Regional Education Group, the City's new Green Flash environmental web portal, brochures, flyers, the *Shorelines*, and community/regional events. The City will also use the results from its DWMP to inform residents in areas that the data showed elevated levels of constituents of concern or pollutants that degrade the quality of water. The City plans to develop additional educational brochures (collectively with the region)

that will be industry specific. As a result of the 13267 Directive Letter, the Copermittees have changed their approach to watershed issues and plan on taking a more direct approach in implementing activities that address specific pollutants of concern and their respective sources within the watershed. Following the direction of the RWQCB, the watersheds have changed their approach to integrate more pollutant based activities in an attempt to reduce COCs in the watershed and improve water quality. This appears to be the direction the RWQCB wants to go and the Copermittees are eager to work with the RWQCB to improve the water quality throughout the region.

The City also incorporates education to school children through its relationships with the Solana Center and the Kids Korps non-profit organizations. As mentioned above, the City indirectly contracts out the Solana Center to give *free* classroom presentations to local schools. These presentations are paid for through the City's waste hauler contracts. City Staff will be more proactive in its efforts to get more presentations in the schools during FY 2011/2012. It has been an ongoing struggle to get into the schools with the demanding curriculum of the Solana Beach School District. However, City Staff has begun to meet regularly with the local School Districts on many issues, and Staff has made it a priority to get environmental issues included along with the standard discussions such as traffic safety, neighborhood sensitivity and children safety. These meetings have occurred on a quarterly basis and will continue to do so in the future. It is the City's intent to use this platform to get more storm water education into the schools.

8.6 Summary

The City has been successful at implementing a jurisdictional and watershed based educational program. With the adoption of the new Permit, a renewed focus has been placed on a large scale regional education program, in which the City has been actively involved with during this reporting period. A new regional education working group has been established by the Copermittees to develop a consistent, region-wide program, and the City of Solana Beach has been actively involved. This first step has already been accomplished, with the region adopting the "Think Blue" program developed by the City of San Diego. This gives the region a known brand of which to build a successful educational program. The details of this regional program will be described in detail in the Regional Unified Annual Report.

On a jurisdictional level, the City is confident that with its strong messages, meaningful content and integrated programs, the community has become more knowledgeable about pollution prevention methods.

As mentioned above, the City plans to utilize the educational materials developed by the watershed and regional groups, as it has been agreed upon that a consistent message should be implemented whenever possible. However, much like the differences in the watersheds throughout San Diego County, there are slight differences in how individual cities implement and enforce certain components of the Permit. Therefore, it will always be necessary to develop some jurisdictionally specific educational materials for the benefit of the community. The types of jurisdictional educational information/activities are described throughout this Report, but a few examples include:

- BMP specific guidelines for unique construction projects, such as the Underground Utility Program (undergrounding power poles) and the Trench Resurfacing Program.

- The “Construction Site Supervision in Solana Beach: Code Requirements and Good Neighbor Practices”

- Construction and Demolition (C&D) Debris Recycling Guide

- Classroom Presentations

- Summer Camp Presentations

- Marine Safety Presentations

- Water Conservation, Landscape Workshops

- Unique partnerships with public and private entities such as Solana Center and Kids Korps to provide educational opportunities for the underserved population

CHAPTER 9
Public Participation Component

CHAPTER 9: PUBLIC PARTICIPATION COMPONENT

9.1 Introduction

In accordance with Permit Section D.6, this section of the report describes the City's efforts to develop mechanisms for public participation in the implementation of the JURMP and obtain the committed participation from the community. Public participation comes in two forms; participation in implementing the program and the necessary public feedback for improving the program.

In each Annual Report to the RWQCB, this section will include modifications to the City's plans to provide opportunities in which the public can participate. In addition, this section of the Annual Report will describe the City's efforts to encourage public participation during the reporting period. Also, a summary of activities conducted post-reporting period may be included if the activity is deemed essential to understanding the City's efforts at reducing urban runoff or Permit compliance.

Prior to the implementation of the original JURMP (February 2002), the City did not have a specific "public participation program." However, many members of the community have taken an active role in environmental issues over the years, which is most likely due to the City's proximity to the ocean and lagoons. As a result, the City was the first city in San Diego County to have curbside recycling and a smoking ban at the beaches and parks. The City has also been proactive in its approach to urban runoff and pollutant mitigation and reduction, by implementing a strict Municipal Code regarding Storm Water Management (adopted in 1993) and Grading and Excavation regulations to prevent erosion during construction.

As a result of Order 2001-01 (Permit), the City was required to design a specific program to ensure that the public had ample opportunities to learn about controlling urban runoff and assist the City in "spreading-the-word." The new Permit Order No. 2007-0001 further emphasizes the necessity of a strong public participation program.

The Public Participation Component is closely related to the Educational

Component. However, while the educational program describes activities the City engaged in to educate the public, public participation will describe activities the public engaged in (or were provided an opportunity to do so).

During this reporting period, the City began the implementation of the comprehensive Public Participation Component for the new JURMP (Section 11). The programs included activities that complemented the educational program with a goal of providing opportunities to ensure that residents, business owners, and those who do business (such as contractors) within the City, have an opportunity to learn about the negative impacts of urban runoff, understand the City's regulations relating to protecting the environment, and participate in the development of storm water program involving the community. The City developed the program based on the requirements of the Permit(s) and continued implementation during this reporting period.

9.1.1 Chapter Content

It is important that the reader understand that much of the public participation program is integrated into other program components and as such, much of the information within this chapter has been presented elsewhere in this report. However, to provide consistency in reporting, to ensure Permit compliance, and to present stand-alone chapters in this report, this section will include all opportunities for public participation, even if those same events were described in other chapters. However, for purposes of reducing redundancy, some events may be summarized in this chapter with a reference to other chapters for details.

9.2 Community Events

The following list gives a brief description of each community event that Staff coordinated and provided storm water education to the community.

9.2.1 Fiesta Del Sol

The City of Solana Beach hosts an annual block party called Fiesta de Sol. Each year at the block party the City has a booth promoting no dumping or littering and keeping our beaches clean. The event was held on June 2nd and 3rd, 2012 (Appendix P). The City also passes out "*Only Rain in the Drain*" brochures and talks with residents about the importance of protecting the water resources.

Solana Center hosts a booth through the City of Solana Beach and promotes environmental stewardship, including used oil recycling and HHW information. Approximately 60,000 people attended the event this year and City staff handed out storm water educational brochures and doggie-bag dispensers to those that visited the City booth.

The City's Clean and Green Team, consisting of environmentally conscientious members of the community, also shared the booth with City Staff. They distributed information regarding climate change, energy conservation and water quality. Since this is such a hot topic this year, it attracted many more people to the City booth than in previous years. City Staff took this opportunity to educate more people regarding the storm water regulations.

As mentioned in the previous chapter, the event this year included an area called the "Green Alley." This area was dedicated to all things sustainable, and included vendors and games focused on environmental sustainability. This was by far the most popular area, and the event organizers plan to include it in future years.

9.2.2 Beach Clean Up Opportunities

During this reporting period, San Diego Coastkeeper and the nonprofit group I Love A Clean San Diego (ILACSD) hosted the 27th Annual California Coastal Cleanup Day on September 17, 2011. The City hosted two locations, one at Fletcher Cove to clean the beach, and another at San Elijo Lagoon to clean up the lagoon. This provided opportunities for the public to come out and help keep the lagoons and beaches clean, while also educating them on cigarette butt pollution and water quality concerns. The results of this event are included earlier in this Report.

9.2.3 Adopt-A-Beach Program

The City works collaboratively with I Love A Clean San Diego in the Adopt-A-Beach Program. The Program consists of local businesses and/or community groups sponsoring a beach and agreeing to clean up the beach at least 3 times a year (1 time for schools). The City thought this was a great idea and extremely beneficial to the community. Four (4) beaches (Tide Beach Park, Fletcher Cove, Del Mar Shores and Seascape Sur are all "adopted" and are cleaned at least three times a year. The signs are updated each year with new "adoptees" and

City Staff installs the new placards on the signs. This has been a very positive experience, as the City's beaches are each cleaned three times a year, resulting in at least 12 beach cleanups per year, in addition to the annual Beach Clean-Up Day.

9.2.4 Beach Blanket Movie Night

As mentioned in the previous Chapter, the City's Parks and Recreation Commission puts on a free community event called the Beach Blanket Movie Night. This event consists of placing a large movie screen at Fletcher Cove Park and showing environmentally themed movies for the community to enjoy. City Staff took this opportunity to distribute storm water educational materials, promote recycling efforts and distribute doggie-bag dispensers to members of the community. Additionally, Solana Center attended and handed out educational material to the community as well, including the Enviroscape model. This has turned into one of the most successful community events and is based around environmental themes. The City's "environmental booth" is the only booth allowed at this event, as the organizers recognize the importance of educating the community on environmental awareness. This is a great opportunity for the City to promote its programs as it has the community's undivided attention. This year's event was held on August 27, 2011.

9.3 City Council Meetings

The Solana Beach City Council meetings are televised, which provides an excellent opportunity for the public to participate in local government. In addition, the City's Agenda is published online (available on its website), which provides the public an opportunity to readily access the upcoming Council reports.

Another highly successful educational opportunity is the implementation of scrolling messages during televised City Council Meetings. Staff has taken advantage of this new tool to place storm water messages and notifications for upcoming presentations, events, etc. This has proved very valuable and will continue to be utilized by City staff when appropriate.

9.4 Copermittee Meetings

Most Copermittee meetings are open to the public and provide an opportunity to

participate in the process of developing the regional and local programs. All Copermittee meeting dates are available on the Project Clean Water Web site (projectcleanwater.org) and the City's website also links to the regional sites.

9.5 Collaborative Community Partnerships

The City has developed collaborative partnerships with various local organizations, which provide the public an opportunity to participate in improving water quality and/or the City's storm water program.

The City works closely with the Solana Center, which provides instruction to local school children on the harmful effects of pollution, the positive impacts of pollution prevention and the need to keep pollution out of the City's storm drains. Solana Center is contracted by the City's waste haulers through their exclusive Franchise Agreements. Solana Center also provides the following services for the City:

Referral Phone Calls: Solana Center staff provides recycling telephone referral services for residents of the cities of Encinitas, Del Mar and Solana Beach. Solana Center staff spent time educating the community about CRV updates, composting information, and how they easily incorporate recycling activities into their daily lifestyle. Community phone inquiries included:

- The locations of local recycling centers and hours of operation.
- Redemption values of materials.
- Basic information of what materials can be or cannot be recycled in curbside recycling programs.
- General recycling information for commercial businesses.
- Services on commercial recycling carts.
- RotLine – Answering community questions regarding composting and vermicomposting.

Less Toxic Yard and Garden Workshops:
Solana Center staff conducts presentations throughout the community on

alternative gardening tips that reduce the use of pesticides and herbicides. These workshops also promote the benefits of composting, further reducing the amount of trash generated and shipped to landfills as well as reducing the need for harmful chemicals/fertilizers.

Table 9-1 Community Outreach Events

Event Dates	Name of Event(s)	Attendance at Event(s)	Description and Summary of Event(s)
August 27, 2010	Beach Blanket Movie Night	1,000	Annual event put on by the City's Parks and Recreation Commission to provide a free night of environmentally themed movies. Educational materials were distributed at event.
September 17, 2011	Coastal Cleanup Event	300	City hosted two locations where the community could help clean up the San Elijo Lagoon and the beaches. City also distributed storm water educational brochures at the sign up table.
April 28, 2012	Coastal Cleanup Event	200	Annual Creek to Bay Cleanup Day sponsored by I Love a Clean San Diego. One site was hosted at Fletcher Cove Beach and volunteers cleaned the beach and HWY 101.
June 2 and 3, 2012	Fiesta Del Sol	60,000	Annual event for the City of Solana Beach. Recycling services were coordinated in conjunction with Waste Management and EDCO Disposal Inc. Solana Center also provided education on used oil recycling, HHW and watershed presentations,

Table 9-2 California Friendly Landscape Classes

Date of Event(s)	Event Title	Estimated Audience	Specific Audience	Location
November 9, 2011	Educational Workshop about Water Conservation	70	Residents	San Diego Botanic Gardens

The above workshops are conducted by the City's private water company Santa Fe Irrigation District (SFID) in conjunction with the City. The City promotes the workshops to the community and directly to the landscaping contractors known throughout the community. All classes are taught in English and Spanish, and the classes taught in Rancho Santa Fe are promoted to Solana Beach residents/businesses as well. The City requires the municipal landscaping contract company to attend the workshops for educational purposes. This shows another great collaborative success between the City and its private water

company.

There is a great relationship between the two entities which extends beyond these workshops. The City and SFID work together to combat residential over-watering and ensure daily tasks and repair work are conducted in compliance with the Permit. In addition, pre-construction meetings for CIP projects include SFID and storm water issues are discussed. The City and SFID are committed to working together and maintaining this great working relationship since most of the work conducted by SFID (trenching, pipe laying, water testing) are all done within the City limits.

Shorelines Newsletter:

The Solana Center writes regular articles for the City of Solana Beach on a wide range of topics, including E-waste, recycling, composting and buying recycled products. The topic is coordinated between the City's Assistant Civil Engineer and the Executive Director of the Solana Center. The articles are included in the Appendices and described in more detail in other sections of this Report.

9.5.1 Solana Beach Clean and Green Community Committee

As mentioned in last year's Annual Report, the City brought together active and willing community volunteers to form the Solana Beach Clean and Green Team (Team). This Team was formed to discuss pertinent local environmental issues and develop programs to bring to City Council for implementation. City Staff meets monthly with the group to discuss the City's environmental programs and to brainstorm activities that would benefit the community as a whole. The group has evolved from a few interested residents to a steady group of about 20 members from the residential and business sector of the community. The group has assisted in the development of the following programs:

- Construction and Demolition Debris Recycling Ordinance
- Plastic Bag Advertising Ban Ordinance
- Plastic Bag Recycling program
- "Green Flash" Website

- Green Building Incentive Program
- Greenhouse Gas Baseline Emissions Inventory

The group is currently working on the following items:

- Green Business Program Over-Irrigation Reduction Program
- Solar Financing District
- Climate Action Plan
- Opposition to Prop 23
- Making the City a Bike-Friendly Community

The Team is also heavily involved in the water quality activities of the City and the NPDES program. The Team attends all community events and disseminates educational materials. This group has been extremely valuable and provides a direct link to the community, both residential and commercial. It allows all community members the opportunity to participate in City government.

9.6 Other Opportunities

9.6.1 City Storm Water Hotline

The City operates a storm water hotline, (858-720-4424) which is dependent on public participation to report suspected violations of IC/IDs and to inquire about workshop information or other storm water-related needs. The hotline provides 24/7/365 access to the public so that they can report potential violations and/or call for information as soon as they are thinking about it, rather than having to wait for normal business hours. The hotline is sent directly to the Environmental Program Manager's voice mail (it can still be anonymous) to ensure quicker and more efficient response to the public inquiries, as well as providing an outlet for the public to discuss issues directly with City Staff.

9.6.2 Website

As reported previously in this Report, the City developed a more comprehensive environmental web portal on the City's website. The new page is titled "Green Flash" and encompasses all of the City's environmental sustainability programs. Water quality and the City's NPDES programs are prominent and have been expanded as a result of this new web portal. This shows the City's proactive approach to engaging the public and keeping them educated on the new environmental programs throughout the City as well as providing links to relevant web pages.

9.6.3 Local Media

As described in detail in Chapter 8, the City utilized the local media to inform and educate the public. Although this is not a public-participation activity, the information provided in the articles describes the ways in which the public can get involved, if they so choose. The City has a great working relationship with the local newspapers (Solana Beach Sun and Coast News) and has many articles published with environmental themes, including storm water related issues.

The City also published several articles in the *Shorelines* Newsletter (described in Chapter 9) inviting the public to get involved, providing details on how they can participate in protecting the region's water resources.

The City also has a contracted media relations consultant with ties to the major media outlets. This consultant is brought in on the City's major events to help promote the events and activities to a much larger audience. This is not done for every event in the community; however it is important to note that this service is available when appropriate.

9.7 New Activities and Improvements for FY 12/13

The City will continue to implement the elements of the public participation component as described in the City's JURMP. The focus will be on expanding the collaborative partnerships to include more frequent opportunities for public involvement (clean up days, events, etc.). Staff will continue to look for more opportunities to work with neighboring cities to host pollution prevention community events through its watershed programs (ex., large-scale HHW event).

Additionally, the City is working with the other Copermittees to potentially conduct additional large scale community educational events.

With the adoption of the new Permit, there is an added emphasis on developing a Regional Educational Program. This has been a main focus for the Copermittees during this reporting period. Copermittees are expected to implement a comprehensive regional program that will provide a consistent message to the entire region. As most of the new programs are geared towards improved watershed programs, this is one key area that was identified as a Regional program. Copermittees have already begun developing activities through the Regional workgroup, such as the mobile business education campaign. These programs will continue to be developed and implemented throughout the five year cycle of the new Permit. For more details on the activities the Copermittees have implemented during FY 10/11, please see the Regional Unified Annual Report.

9.8 Summary

The City has been successful at implementing numerous methods to encourage public participation. The City makes every effort to encourage the public to participate in improving water quality, recognizing that it's up to all of us.

Key opportunities for public participation included the following:

- Regional Copermittee Outreach Events
- Fiesta Del Sol
- Coastal Clean Up Day
- Regional Workshops
- City Council Meetings
- Copermittee Meetings
- Collaborative community partnerships (SFID, Solana Center, Kids Korps)
- Contacts through the City's Storm water hotline, City website
- Beach Blanket Movie Night
- San Diego County Fair
- San Elijo Lagoon Day
- Formation of the Clean and Green Community Committee

CHAPTER 10
Fiscal Analysis Component

CHAPTER 10: FISCAL ANALYSIS

10.1 Introduction

In accordance with Permit Section J.1 (k), this section of the report describes the resources that the City utilizes to finance the various components of the storm water program. Effective programs require adequate funding to implement planned activities. The fiscal analysis will evaluate the expenditures necessary to accomplish the activities of the City's program.

The Standardized Fiscal Analysis Method and Format (Fiscal Analysis Method) was collaboratively developed and adopted by the Copermittees in January 2009 in accordance with sections G, J.1.a(3)(k) and J.1.c(1)(d) of NPDES Order No. R9-2007-0001. The Fiscal Analysis Method document was submitted to the San Diego RWQCB by January 31, 2009, as Attachment 1 of the Regional Urban Runoff Management Plan (RURMP) Annual Report for 2008-2009. As a result, the City of Solana Beach is utilizing the format and guidelines described in the Fiscal Analysis Method for this reporting period.

10.2 General Budget Information

The City's Budget for FY 11/12 was presented to the Solana Beach City Council and approved at a public hearing held on June 22, 2011. During FY 11/12, the City continued to face the challenge of maintaining and preserving its great community character while at the same time providing for long-term fiscal sustainability during the severe and prolonged economic downturn. Under the direction of City Council to cut expenditures as a result of reduced revenues, Departments enacted budget cuts in materials, supplies, and services in FY 11/12.

The City's NPDES program is primarily implemented by the Public Works Department's Environmental Services. Environmental Services is responsible for the coordination of all storm water related tasks. Therefore, the majority of the reported projected expenditures included in this section are part of the Environmental Services Program's FY 11/12 budget, which is approximately 7% of the total FY 11/12 Public Works Department budget.

10.3 Fiscal Analysis Methods

The City of Solana Beach utilized the format and guidelines included in the Fiscal Analysis Method for reporting purposes; however, there were a few adjustments made due to how the City of Solana Beach tracks expenditures. These adjustments are described in the relevant sections below.

10.4 Fiscal Analysis Results

The City's FY 11/12 jurisdictional (JURMP), watershed, (WURMP), and regional (RURMP) projected expenditures for the implementation of the Municipal Permit requirements are summarized in the table below.

FY 11/12 Projected Expenditures	
Jurisdictional Component	
Administration	52,030
Development Planning	17,200
Construction	24,260
Municipal (including Non-Fire Fighting Flows)	144,100
Industrial and Commercial	12,530
Residential, Education, and Public Participation	21,530
IDDE	55,780
Jurisdictional Total	**327,430**
Watershed Component	
Carlsbad Watershed	10,470
San Dieguito Watershed	17,970
Watershed Total	**28,440**
Regional Component	
Total Copermittee Cost Share for the City of Solana Beach (including regional and special investigations monitoring costs)	17,500
Additional Regional Costs	4,470
Regional Total	**21,970**
Total Costs	**$377,840**

10.4.1 JURMP Expenditures

The City utilized the expenditure categories detailed in the Fiscal Analysis Method for jurisdictional reporting. However, due to the implementation overlap of some of the City's municipal permit components; it is difficult to separate out individual component costs. As a result, the expenditures for residential, education, and public participation are reported as one expenditure category.

Additionally, since the City does not explicitly track expenditures by municipal permit component for its budgeting purposes, in many cases estimated percentages were utilized to allocate expenditures into the appropriate municipal permit component categories.

A total of $327,430 was projected to be expended in FY 11/12 for the implementation of JURMP activities. An overview of the expenditures reflected in JURMP activity components is described below.

10.4.1.1 Administration

Activities identified in this component represent labor and non-labor expenditures for materials, supplies, equipment, or tools that are not otherwise incorporated into other expenditure categories, general administrative functions (e.g., program planning, budgeting, staff supervision), and program assessment and reporting.

10.4.1.2 Development Planning

Activities identified in this component represent labor and non-labor expenditures related to issuance or oversight of permits or of plans (e.g., permit counter support, plan checks, permit or application processing), project planning and engineering (e.g. project design specifications, capital improvement projects).

10.4.1.3 Construction

Activities identified in this component represent labor and non-labor expenditures related to construction site inspections and enforcement.

10.4.1.4 Municipal

Activities identified in this component represent labor and non-labor expenditures related to maintenance inspections of streets, roads, catch basins and inlets, open channels, and the MS4, municipal facility inspections, street and parking lot sweeping, catch basins and inlets, open channels, and MS4 cleaning, and municipal BMP implementation. Additionally, this category includes the expenditures for non-emergency fire-fighting flows.

10.4.1.5 Industrial and Commercial

Activities identified in this component represent labor and non-labor expenditures related to evaluation and enforcement of program requirements at industrial and

commercial sites or sources (e.g. routine inspections and complaint investigations).

10.4.1.6 Residential, Education, and Public Participation

Activities identified in these components represent labor and non-labor expenditures related to investigation and enforcement of residential areas or activities, staffing outreach events, development and production of outreach materials, and any expenditures associated with waste collection and recycling (e.g. HHW, used oil).

10.4.1.7 Illicit Discharge Detection and Elimination

Activities identified in this component represent labor and non-labor expenditures related to the identification and elimination of illicit discharges or connections, enforcing the City's storm water ordinance, and any expenditures related to monitoring programs (e.g. Dry weather monitoring, coastal storm drain monitoring, field or sampling equipment, materials and supplies).

10.4.1.8 WURMP Expenditures

The City utilized the expenditure categories (administration, watershed activities, cost share contribution, and other) detailed in the Fiscal Analysis Method for watershed reporting. The watershed expenditures included in this report only capture City of Solana Beach expenditures and do not account for any expenditure disbursed by other Copermittees included in the watershed(s).
A total of $28,440 was projected to be expended in FY 11/12 for the implementation of WURMP activities. The amount also includes costs for the implementation of applicable TMDLs (Revised Project I – Twenty Beaches and Creeks in San Diego Region development and San Elijo Lagoon TMDL investigation).

10.4.1.9 RURMP Expenditures

The City utilized the expenditure categories (administration, cost share contribution, regional activities, and other) detailed in the Fiscal Analysis Method for regional reporting. The regional expenditures included in this report only capture City of Solana Beach expenditures and do not account for any expenditure disbursed by other Copermittees in the region.
A total of $21,970 was projected to be expended in FY 11/12 for the implementation of RURMP activities.

10.5 Funding Sources

The City primarily finances its Storm Water Management Department via revenues from an NPDES solid waste fee that was initiated in 2004. The City went through a long, arduous process to establish a long-term funding source to ensure the program would be sufficiently financed from 2004 through 2007. The City was sued by the Howard Jarvis Taxpayer's Association (HJTA), and the fee was put to a vote of the community. In September 2007, property owners in Solana Beach voted in favor of the fee which ultimately results in the City having a funding source to maintain, enhance, and ensure the long-term future of the NPDES program at the City. For more information on the City's NPDES Solid Waste Fee, please see the City's website at http://www.cityofsolanabeach.org

The City also utilizes the General Fund to assist in supporting some elements of the City's NPDES program. The General Fund is supported by major revenue sources that include property tax, the local portion of the sales tax and use tax, transient occupancy tax.

CHAPTER 11
Effectiveness Assessment Component

CHAPTER 11: EFFECTIVENESS ASSESSMENT COMPONENT

11.1 Introduction

In accordance with Section J.3. (l) of the Permit, each Copermittee is required to develop a long-term strategy for assessing the effectiveness of the various components of its Jurisdictional and Watershed Urban Runoff Management Programs (URMPs). The City will perform an annual effectiveness assessment to specifically assess:

- Each significant jurisdictional activity/BMP or type of jurisdictional activity/BMP implemented;

- Implementation of each major component of the JURMP (Development Planning, Construction, Municipal, Industrial/Commercial, Residential, Illicit Discharge Detection and Elimination and Education); and

- Implementation of the JURMP as a whole

During this reporting period, the City has continued implementation of all components of the Permit. This section will assess the effectiveness of the JURMP, and discuss all strengths and weaknesses of the City's program. Since the City's JURMP was submitted in March 2008, this Report will be the third full year of implementation and it will be difficult to effectively assess the new programs. Most of the new programs are still in the early stages of implementation, therefore this section will report on any significant results from the programs implemented under the old Permit Order No. 2001-01 and any programs that have been developed and implemented during this year under Permit Order No 2007-0001.

11.2 "A Framework for Assessing the Effectiveness of Jurisdictional Urban Runoff Management Programs"

The Copermittees developed an assessment document titled, "A Framework for Assessing the Effectiveness of Jurisdictional Urban Runoff Management Programs." This document was prepared after discussions with the RWQCB in which the Board stated that the Copermittees needed a better method to assess

the effectiveness of the JURMP. This document was approved by the RWQCB and will be used to assess all future programs, or until another method is agreed upon. The document addresses six levels of assessment:

1. Compliance with Activity-Based Permit Requirements
2. Changes in Knowledge/Awareness
3. Behavioral Changes
4. Load Reductions
5. Changes in Discharge Quality
6. Changes in Receiving Water Quality

The levels of assessment have been combined into three rather than six categories for this reporting period because it is easier to assess the programs when they are combined into these three categories. Level 1 includes modified assessment tables from the JURMP. Level 2 and 3 are combined and discuss the program strengths (accomplishments and outcomes) for each component. Level 4, Load Reductions, is still being assessed as to the proper way to address this (possibly TMDLs) and so is only briefly discussed, and Level 5 and 6 are combined to attempt presenting a water quality assessment.

The strategy uses both quantitative and qualitative measures of program effectiveness.

In addition, during the development of the WURMPs, the cities worked tirelessly to develop a meaningful method to assess *that* program for its impact on water quality – not just whether or not the program components were implemented, but more importantly, the ability to find a way to measure the link between activities and improved water quality, if it exists.

The WURMP program effectiveness strategy incorporated all of the elements of a meaningful method to assess impact, incorporated public comments, collaborative writing, thinking and designing, and in the end, is a good start to learn how to meaningfully determine the value of the storm water program

activities. The City anticipates that over time, the results of a well-thought-out meaningful assessment will provide the region important information from which program activities can be designed and modified, rather than implementing program activities and hoping the activities have the expected impact. The individual WURMP program assessments can be found in the upcoming WURMP Annual Report submittals (January 2013).

11.3 Level 1: Compliance with Activity-Based Permit Requirements

A table that summarizes the activities tracked by City Staff, which demonstrates compliance with the requirements of the Permit, can be found in Appendix Q. Additionally, narratives explaining the City's efforts regarding compliance can be found in the individual components of this Annual Report.

11.4 Levels 2&3: Changes in Knowledge/Awareness and Behavioral Changes

This section is broken up into each component of the JURMP and presents a summary of the changes in knowledge/awareness and behavioral changes. Each section discusses the accomplishments for the component and discusses future improvements.

11.4.1 Municipal Component

Program Strengths: During this reporting period, City staff again inspected *all 309 of the City's catch basins* and 15 unimproved channels and cleaned every one that appeared to have trash or sediment accumulated in the basins. Public Works Staff cleaned 26 catch basins and removed approximately 19 cubic yards of material from its storm drain system, including Steven's Creek Channel. The City also manages an active Beach Cleaning Schedule and maintains several different permanent BMPs throughout the City (the most significant structural BMPs being the bioswale located at La Colonia Community Center, the Low-Flow Diverter, CDS Unit and Sand Trap at Fletcher Cove and the CDS Unit at the north end of North Cedros).

For a discussion regarding the qualitative accomplishments of the City's Municipal Component (major accomplishments, educational and outreach activities, new activities or improvements to be implemented next year) see

Chapter 2 of this report.

Table 11-1 Municipal Inspections

Activity	Quantity	Units	Comments
Number of high priority municipal facilities (*buildings*)	1	n/a	Inspected high priority facility (PW Yard) weekly at Engineering Safety Meeting held at Public Works Yard. Annual inspection conducted on 6/18/10 and facility also inspected prior to rainy season. See Chapter 2 of this Report.
Number of high priority municipal facilities (*parking lots*)	6	n/a	Visually Inspected weekly by PW staff. Cleaned monthly by street sweeper. See Chapter 2 of this Report.
Number of high priority municipal facilities (*other*)	3	n/a	One park, all city streets and roads (inspected daily), and the MS4 (inspected annually).
Number of high priority municipal facilities targeted for inspection (buildings and parking lots)	10	n/a	See above.
Number of high priority municipal facilities inspected	10	n/a	The Public Works Yard and all parking lots.
Number of medium and low priority municipal facilities inspected	5	n/a	Fire Department, Marine Safety Center, Fletcher Cove Community Center, City Hall and La Colonia Community Center inspected annually. All inspections occurred on 6/14/12.
Quantity of material removed from MS4, beach and Steven's Creek Channel	19	Cubic Yards	This is the amount of material the City collected from its annual cleaning of the MS4 and the beach. All 309 catch basins and 15 unimproved channels were inspected, 26 catch basins were cleaned, which was 100% of the catch basins that had accumulated trash/debris inside.
Quantity of debris removed that had potential to enter MS4 (i.e. street sweeping, litter removal)	234	Cubic yards	This information provided by daily reports from street sweeping contractor.

The City's Public Works Crew is immensely knowledgeable when it comes to storm water issues. Since the crew consists of only five people, it is very easy to

educate them on an ongoing basis. They are all very aware and conscientious of the storm water regulations and are eager to report any violations in the field to the appropriate staff. The Public Works Crew is a vital part of the Storm Water Team, because they are always out in the field, and they have become the eyes and ears of the program. They have weekly tailgate meetings with the City Engineer and City Inspector at the Public Works Yard where they discuss, among other things, the storm water regulations and visually inspect the Yard.

The amount of cooperation between the various City departments has proven to be very successful, with each department willing to implement the storm water regulations into their daily activities.

As reported in last year's Annual Report, one of the improvement areas for this component would be to conduct more department specific educational presentations. The City accomplished this goal, but it will continue to be a high priority activity. This has proven to be very successful and is highly encouraged by the Department Directors. It is anticipated with the continued development and implementation of the new Permit requirements that more education of City Staff will be required. This will most likely occur with more department specific presentations to detail any changes or additions to department specific activities required in the Permit.

The Assistant Civil Engineer will analyze the new requirements and develop appropriate presentations to City Staff, and will report on these in next year's Annual Report.

Additionally, as a result of the RWQCBs response letter to FY 03/04 Annual Report, the City now calculates and tracks the total amount of material collected by their street sweeping activities. This initially was a difficult task, as the City contracts out the street sweeping to a private company, but after some discussions with both the RWQCB staff and the contractor, a solution was worked out. The amount of material collected is now documented weekly by the street sweeper, and is verified by the City's Public Works Crew. This information is reported in this Annual Report and will be documented in the years to follow to see if a trend can be verified to assess the effectiveness of the program. Additionally, as reported in last year's Annual Report, City Staff ensured that the new street sweeping contract contained language that mandates that this activity is done on a continuous basis. So far, the activity has been very successful as

data that is quantifiable is now collected and will be useful in load reduction calculations in the future (as enough data is collected).

Improvement Areas: City Staff is confident that all aspects of the Municipal Component are being adequately addressed, although they realize that things could always be improved. Some improvement areas may be additional educational sessions with City Staff, to reinforce the importance of the Permit and how it affects their everyday activities (especially with the adoption of the new Permit). Increased inspections on Municipal facilities may be conducted to ensure compliance at all times. And finally, more detailed investigations into the "problem" catch basins, if any, which may require cleaning every year. If any of these catch basins exist, then a more aggressive litter/trash campaign may be conducted to nearby residences or businesses in hopes of a load reduction in the catch basin. Additionally, the Assistant Civil Engineer will commit to ensuring all new employees are educated as soon as they start employment. This will help them in adjusting their daily activities immediately to comply with the requirements of the Permit.

As reported in last year's report, City Council adopted a strengthened litter reduction ordinance. Ordinance 419 was adopted by City Council on September 8, 2010 and, among other things, required commercial businesses to develop and implement a Litter Reduction Program for their property. The ordinance required, at a minimum, that all commercial businesses visually inspect at least 200 feet around each business property at least once per day and to clean up any litter or debris identified. This is a significant new litter reduction program that will have a major impact on the City's storm water program. This will be discussed in more detail in next year's Annual Report.

In addition, as reported in the previous Annual Report, the City adopted a Leaf Blower Ban in July 2009 (Appendix R). This ban was enacted to prevent organic debris from being blown all over the City and into the storm drain conveyance system. Staff noticed that landscapers would use these blowers to push the organic matter off of the property they were maintaining and into the streets, gutters or sidewalks, where it would eventually end up in the storm drains. This has a major impact on the City water quality, so the City Council voted unanimously to ban gas powered leaf blowers in the City. The ban went into effect on January 1, 2011 as the City Council wanted to give the community some time to transition away from the blowers.

These two progressive and aggressive ordinances further show the City's commitment to environmental protection and enhancement. These laws go above and beyond the basic requirements of the Permit, and the community supports it. These ordinances went into effect during this reporting period with cooperation and support of the public.

11.4.2 Industrial Component

Program Strengths: Since the City has only one industrial site, it had been determined that a strong pro-active approach to compliance would be adopted. The one site (Baker Iron Works) has been incorporated into the routine inspection schedule of the commercial sites as dictated in the JURMP, thereby allowing the City to ensure that the site is up to code on all storm water issues. Since the one site was elevated to a high priority site, the City has taken an active approach in ensuring that the site will be in compliance at all times.

The City has developed a strong working relationship with the owners of Baker Iron Works. City Staff have visited the site multiple times and worked cooperatively with them to come into compliance. The owners have responded well to the City's educational efforts and compliance requests. The City has successfully worked with Baker Iron Works to help them come into compliance by instituting several BMPs throughout the property. Although there are no indications from any of the Dry Weather Programs throughout the years that this site has contributed pollutants to the City's MS4, the mere fact that there is a possibility of this occurring in the future prompted the City to request that a few BMPs be installed onsite. A couple of very successful accomplishments occurred since this time that are worth noting.

The first accomplishment was the sealing up of a small storm drain located on the property that drained directly away from the property and into street.

The second BMP installed was the daily dry sweeping of the property to ensure that no sediment/gravel ended up in the street by automobile traffic.

The third BMP integrated into their normal routine was the use of a magnet on the grounds outside where some work is conducted using steel. The magnet is used to sweep the entire yard and collect miscellaneous scrap metals that may have collected on the ground. This activity is conducted on an as needed basis,

but no less than once per week.

The fourth, and most important, BMP was the installation of the storm drain sump/infiltration pit at the northwest corner of the property that was designed to catch all low flow dry-weather runoff from the property and filter it before it left the property. These BMPs have been successfully implemented by the owners and are currently in place and functioning.

An improvement area that has been listed in previous annual reports involved ensuring that Baker Iron Works is complying with all requirements of the State Industrial General Permit, even though this is not a requirement of the Storm Water Permit. However, Baker Iron Works asked for the City's assistance in compliance and so City Staff has worked with Baker Iron Works to implement the necessary elements for compliance. This has further helped the relationship grow between the City and its industrial partner, furthering the great working relationship.

City Staff worked with Baker Iron Works to come into compliance under the GISW. Baker employees requested help with the monitoring requirements so City Staff trained them in the proper sampling techniques and offered options on where to take the samples for analysis. This just proves the healthy working relationship between City Staff and Baker Iron Works.

Improvement Areas: The City is confident that it is fulfilling all requirements of the Industrial Component. City Staff is committed to inspecting Baker Iron Works annually as part of its high priority facility inspections due to the potential to release pollutants into the City's MS4. City Staff believes that this industrial site is working well within the regulations of the Permit and is satisfied with the current situation. City Staff will look to continue the open communication with Baker Iron Works and conduct further inspections to ensure that all new employees are aware of and compliant with the storm water regulations. Also, City Staff will ensure that Baker Iron Works is aware of any new regulations from the State and work with them to ensure compliance.

11.4.3 Commercial Component

Program Strengths: The City has a very aggressive commercial inspection program that goes above and beyond the Permit requirements. As reported

previously in this Report, the City inspected 100% of *all commercial facilities,* regardless of priority*,* identified in the JURMP inventory. This is above and beyond the requirements of the Permit, which states that 100% of the *high priority* sites be inspected. In addition, the City implemented an aggressive Fats, Oils and Grease (FOG) inspection program to ensure the reliability of the sewer system, and prevent sewer spills caused by grease buildup. These two programs demonstrate the City's proactive approach to maintaining compliance with the Commercial Component of the Permit, and are described in more detail below.

The City also re-inventoried the commercial facilities as part of the JURMP revision and set minimum inspection frequencies per the new Permit. The facilities were inspected by an independent consultant specializing in storm water and FOG inspections, with follow-up being conducted by both the contractor inspector and City Staff.

As stated in the new JURMP, the City has 77 stationary facilities, of which 69 are identified as high Threat To Water Quality (TTWQ). The JURMP states that in the third year of JURMP implementation, at least 25% of all inventoried stationary businesses will be inspected, meaning 19 sites are required for inspection. In addition, the JURMP states that at a minimum, 100% of all sites (excluding mobile sources) determined to pose a high threat to water quality will be inspected in the second year of implementation, increasing the number of facility inspections from 69 to 77. The City went above and beyond the permit requirements and through their consultant inspected all 77 facilities. Twenty nine (29) facilities required more than one follow-up inspection and no major violations were detected. All facilities were in compliance during the enforcement inspections conducted by City Staff. A summary of the follow-up actions can be found in the Commercial Component of this Report.

Another program strength is the implementation of the City's grease management ordinance. The City is happy to report that a grease management ordinance was passed by City Council on September 7, 2004. Staff introduced the proposal to City Council on February 17, 2004, and received approval to move forward with the education of local restaurants and the public about the pending ordinance. A condition of the resolution once the proposal passed was to give restaurants 18 months to install a grease trap/interceptor, or receive an approved waiver from the City. Therefore, all restaurants in the City (even existing restaurants) must have a functioning grease trap/interceptor by March

2006. This is a huge accomplishment by City Staff as it is well documented that most major sewer spills are the result of grease related problems. Inspection of the grease traps and maintenance are accomplished in conjunction with the storm water inspections. As mentioned above, the contractor the City hired to perform facility inspections also specializes in grease management device inspections. The contractor included grease management inspections into the storm water inspections and checks for such things as proper cleaning and maintenance, record keeping, duct cleaning, screen cleaning and hood cleaning. These are all important aspects of storm water management, as grease can have an extremely detrimental environmental effect.

A significant improvement to the grease management program that occurred during this reporting period is the increased level of inspection that was authorized and conducted by the City's contractor. As mentioned above, the City's contractor checked if each required commercial facility had a grease management device during FY 07/08. However, the inspection was taken to the next step in analyzing whether or not the installed device was of sufficient size and type. As often is the case with restaurants, they change frequently. So, an appropriate size and type grease management device may be sufficient for one type of restaurant, but if that restaurant closes and another, higher grease producing restaurant moves in, then the grease trap and/or interceptor may no longer be sufficient. This was a bold new move by the City that could be extremely controversial, but the City felt it was a necessary preventive measure in proceeding with the increased inspection level. This increased inspection process continued in FY 11/12.

This process will take more time to complete as the restaurants have been notified of their insufficient management devices, but the City recognizes that to replace or install a device takes time. However, by getting the process started now, the City hopes to have all restaurants in compliance in the very near future.

Improvement Areas: In previous annual reports, one improvement that was mentioned was the inspection of 100% of all high TTWQ commercial facilities in one reporting period. As reported above, this has been accomplished. The City is confident that all requirements of the Commercial Component of the Permit are currently being satisfied. One area of improvement may be increasing the amount of education and public outreach to the business community. The City believes that they have a good relationship with the current business community

but more education is always welcome. City Staff could make an increased effort to educate new businesses as they apply for business licenses by producing additional educational brochures and pamphlets.

11.4.4 Residential Component

Program Strengths: The City provides a wide range of programs for its residents to allow for convenient implementation of pollution prevention activities. Among the many programs the City provides are:

- Curbside recycling (first in the County to provide this service)
- Curbside Green-waste collection
- Aggressive and convenient Household Hazardous Waste collection program (described in detail in Residential Component)
- Community Education Program (described in Residential Component)
- The development and maintenance of the City's website regarding the Storm Water Program
- Community workshops on proper landscape practices
- Educational opportunities at local community events (Fiesta Del Sol, Beach Blanket Movie Night, Coastal Cleanup Day, Paws in the Park, etc.)
- Free presentations on proper HHW disposal and Used Oil Recycling (conducted by Solana Center)
- Opportunity to join Community Clean and Green Team which meets monthly to discuss environmental programs

The City Council meetings are also televised and available live on the internet to all the residents of Solana Beach. Many times storm water issues are discussed during these meetings. Other positive aspects of the program are the direct mailings of education materials included in monthly trash billings and the articles placed in the community newsletter, "*Shorelines*." Tallying the amount of phone

calls to the City's Storm Water Hotline does not appear to be a good assessment of the City's program. The City, because of its relative small size, prefers to conduct business on a more personal level. This has proven to be a much more effective way to work with the public. Therefore, although the hotline is still publicized, City Staff distributes their direct telephone numbers to the public when dealing with storm water issues. This allows direct, immediate contact with a Staff member, which ensures immediate, effective response to storm water issues.

As stated in last year's Annual Report, City Staff documents contacts (phone calls, visits to City Hall, etc.) with the public regarding storm water issues to help assess the effectiveness of the program over time. The only calls documented are ones that required Staff action on some level. The community of Solana Beach is very unique in that the residents are actively involved. Staff receives numerous phone calls every day that must be addressed immediately. Therefore, it would be unreasonable to document every contact made by the public.

Another area of improvement mentioned in previous Annual Reports was to develop additional educational materials for the residential community. This activity is constantly being addressed by the two WURMP groups discussed previously in Chapter 8. In addition, as mentioned throughout this Report, a large focus was placed on developing an effective regional educational program in the requirements of the new Permit. The Copermittees have formed a regional workgroup to develop a regional "brand" that will be recognizable by all residents throughout the region. The Copermittees have adopted the "Think Blue" campaign developed by the City of San Diego, since this slogan is widely known throughout the region. The activities and programs that have been developed and implemented by this group are described in the Regional Unified Annual Report. The City has been an active member in this workgroup during this reporting period.

The City feels that it is much more effective and efficient to address these issues collaboratively with the WURMP groups and the Regional Educational Workgroup. This allows for a consistent message to be disseminated to a large population of people throughout the region, as well as resulting in a significant cost savings for the City. As for requirements/projects unique to Solana Beach, Staff will continue to develop materials as the situations arise. A few examples of these specialized educational materials are listed in Chapter 8 of this Report.

Improvement Areas: For the next reporting period, City Staff will evaluate this component and make any necessary alterations to the program. The City will continue to develop educational materials for the residential community, both jurisdictionally, on a watershed basis through the NCSWP and regionally through the Regional Educational Workgroup.

11.4.5 Land-Use Planning for New Development Component

Program Strengths: The City continued its implementation of the Standard Urban Storm Water Mitigation Plan (SUSMP) program as well as participated in the development of the new SUSMP. The City has successfully implemented the SUSMP review into all plan check processes. Although there will not be many projects within the City subject to this new requirement (the City is 95% built-out), the appropriate departments are still very aware of the requirements. In addition, the new model SUSMP was developed and approved by the City during last period and the City is now implementing the requirements of the new SUSMP program during this reporting period.

The Planning Department is actively involved in the City's Storm Water Program, and often notifies the Environmental Programs Manager when a proposed project may have storm water implications, including possible SUSMP projects. Although, as mentioned above, the City is almost completely built-out, the Planning Department has, as a result of this Permit, developed a list of possible proposed projects that may require a SUSMP. These projects have not been approved by City Council, but Planning Department Staff have surveyed the City and put this list together to warn the Environmental Staff as these projects may be proposed soon. This gives Staff a "heads up" before the projects are submitted that they will probably be subject to the SUSMP requirements and so the process can begin when, if ever, these projects are proposed.

As mentioned previously in this Report, the City is small and by nature, very intimate. This applies to development projects as well, as the City Council reviews development projects very closely. It is extremely rare when a significant development project is proposed that has not gone through extensive review by the applicants and City Staff prior to submittal. This allows the Community Development/Planning Staff to inform the applicants of possible storm water issues (especially grading, LID, HMP and SUSMP projects) prior to submitting their plans, so that the project will incorporate necessary storm water features

into the original plans. This is extremely helpful to the applicants, as it avoids the possibility of redesign (as well as increased costs) and speeds up the process. Therefore, most applicants set up meetings beforehand with Staff to review their plans to avoid any possible delays or impediments to their proposed projects.

Improvement Areas: The City will continue to educate prospective applicants regarding the SUSMP, LID and HMP if their respective projects will be subject to the new regulations. The City is very confident that its Land Use Planning component is very effective; however, it will continue to be modified in the future when necessary. The City is working on updates to its General Plan. This will have a major impact on the storm water program and City Staff will make certain that elements of the Permit and JURMP are incorporated into the new General Plan. In addition, as the new SUSMP, LID and HMP are finalized and adopted City Staff will develop new educational materials for the construction community.

11.4.6 Construction Component

Program Strengths: The Assistant Civil Engineer is responsible for conducting construction site inspections. This has proven to be a good use of resources as the Assistant Civil Engineer is trained in stormwater compliance as well as construction inspection criteria.

All construction sites were inspected for storm water issues based on the frequencies described in the City's JURMP. Since there are relatively few construction sites in the City, Staff often times can visit the higher priority sites more frequently. Additionally, the City's contracted Building Department (EsGil) inspector makes daily visits to most construction sites in the City. Although they do not handle storm water issues directly, they notify the Assistant Civil Engineer if they notice anything questionable onsite. This is another significant advantage to having the private building department staff housed at City Hall. Therefore, the City has three different Staff members out in the field monitoring construction sites and BMPs on a daily basis.

If the Assistant Civil Engineer or EsGil inspector notices a problem related to storm water, they notify the Assistant Civil Engineer immediately. The Assistant Civil Engineer investigates further, taking any necessary corrective or enforcement actions. This program has worked very well due to the already established relationship between the contractors and the City Staff. Because of

this pre-established relationship, the transition into storm water compliance was virtually seamless. The Inspector keeps a log of all of his activities, and storm water related issues are included. The City also mailed out a wet-season reminder to all active construction sites reminding them of their obligations under the Permit. Therefore, the City is assured that all contractors are aware of the regulations, making enforcement much easier for the City.

Additionally, for all CIP projects, the applicant/contractor is required to have a Pre-Construction Meeting with City Staff in which storm water issues are discussed. At these meetings, contractors are given a sample copy of the Site Inspection Checklist, and they are required to fill out a Wet-Weather Triggered Action Plan (if the project will be in construction during the rainy season). All of these measures are taken to ensure that all contractors are aware of the storm water regulations, and it helps the enforcement aspect of the Permit as Staff can be assured that all contractors have been educated and cannot claim ignorance of storm water issues. Appropriate enforcement actions (corrective, stop work, fines, etc.) can be enforced without fear of being challenged by violator.

Another activity that has proven very successful in regards to construction activities was the distribution of a colorful, informative BMP Construction Brochure. This brochure was developed by the Carlsbad WURMP workgroup and delivers a consistent message for all North County cities. The brochure is a tri-fold that gives background information on the storm water program and regulations and on the reverse side is a large diagram of a common construction site with the general BMPs shown and described. This brochure has been a huge success with the construction/developers as they can post this brochure at their site to remind their employees of proper BMPs. These brochures are attached to all building and grading permits.

The City believes that any opportunity to educate the community should be taken advantage of. As such, during this reporting period, approximately 80 BMP brochures were distributed during this reporting period, down from 175 in the last reporting period. The decrease in brochures distributed during the last two reporting periods directly reflects an decrease in construction activities region-wide. All building project applicants were given a brochure; there were just fewer projects during this reporting period.

As discussed in last year’s Annual Report, the City developed and now tracks the

SUSMP long-term BMP maintenance agreements as required by the Permit. In addition, the City continues to implement the Long Term BMP Maintenance Agreement that requires the applicant to submit a recorded document from the County of San Diego which includes the maintenance activities required and gives the City the legal authority to inspect the BMP to ensure compliance. This is an extremely helpful tool in ensuring that the post construction BMP is not only installed, but is being properly maintained to remain effective.

As mentioned in last year's Annual Report, there are significant new construction requirements in the new Permit. The significant additions to the new Permit include the development and implementation of the Hydromodification Plan (HMP), Low Impact Development (LID) and the update to the model SUSMP. The City is pleased to report that these new programs either have been developed and implementation is currently in the process or they are being developed and close to finalized, and the City is participating in the regional process. The HMP program is not expected to affect the City; however the City still contributed funding toward the program development as part of its Copermittee responsibility to the region. The City also revised its Municipal Code to adopt the updated model SUSMP in compliance with the new Permit regulations.

Improvement Areas: During the next reporting period, the City is committed to improving and modifying the construction program if any deficiencies are detected. The City is also committed to developing more educational materials to distribute to the public, and contractors in particular. The Construction BMP Brochure has been a major success, and the contractors/developers are constantly looking to us for more information and guidance.

With the adoption of the new Permit, additional construction activities and programs need to be developed and implemented in future years. The City will continue to work with the Copermittees to develop these programs for implementation. One area of improvement that the City is looking at is possibly hiring a specialized contractor to conduct construction inspections. This is similar to the City's decision to hire a contractor to perform commercial/industrial inspections and specialized Staff training, as this will free up limited Staff resources while providing increased service to the community. The City Council approved $10,000 in FY 11/12 specifically for construction inspections, further strengthening the City's commitment to protecting the local water quality. The

new Permit contains significant additional requirements for the Construction Component, so the City felt it was prudent to strengthen its program as well, and hiring a specialized consultant is a first step in the right direction.

11.4.7 Illicit Discharge Detection and Elimination Component

Place Holder – This will be submitted with Chapter 7 on December 15, 2012 as a result of Addendum No. 2 adopted by the RWQCB

11.4.8 Education Component

Program Strength: The City feels very strongly that the current education program being implemented by City Staff has been very effective. The amount, and quality, of educational materials developed by the City and through collaboration with the other Copermittees, has proven to be very successful. The following events have allowed City Staff to educate the community, both residential and commercial:

- Fiesta Del Sol
- Beach Blanket Movie Night
- Annual Coastal Cleanup Day
- City Council Meetings
- Clean and Green Team
- Civic and Historical Society meetings
- Friends of the Library meetings
- *Shorelines* Community Newsletter
- Green Flash website
- Brochures and Handouts at City Facilities
- Partnerships with Solana Center, Santa Fe Irrigation District, Kids Korps and the Solana Beach School District

The complete educational program is discussed thoroughly in the Educational Component of this report.

Improvement Areas: The City is very satisfied with its current educational

program. The respective WURMP groups have gone above and beyond the requirements of the WURMP's educational component, and have delivered many quality items to the residents of Solana Beach.

Also, as reported in last year's Annual Report, the City is participating in the development of the new regional educational program. The new Permit requires the development of a regional educational program, and the City is committed to working with the other Copermittees to develop a successful and comprehensive program. Also, the new Permit requires Watershed based education based on the activities chosen by the participating Copermittees, and the City is committed to working with the Copermittees in its two watersheds to develop and implement the educational activities to support the watershed activities. These activities are described in detail in the Regional Unified Annual Report (submitted with the Copermittees reports in September 2012) and the Watershed Annual Reports which will be submitted in January 2013, respectively.

11.4.9 Public Participation Component

Program Strengths: The residents of Solana Beach have multiple opportunities to interact with City Staff through the hotline, website, community events and direct interaction. All City Staff are available to discuss any issues with the community if they come into City Hall, and most all literature distributed currently has the appropriate Staff contact information listed on it. City Staff prides itself on interacting with the community on a personal basis, and as a result has established many positive relationships with key members. The City continued to host the annual Coastal Clean-Up Day that allowed the community to get involved as well as distributing educational brochures at the local community events. Some additional opportunities include:

- Copermittee meetings
- Adopt-A-Beach Program Beach Cleanups
- Fiesta Del Sol
- Beach Blanket Movie Night
- Shorelines Articles
- Opportunities to work with local Partnerships/Collaborative's
- City Hotline
- Green Flash website

- Clean and Green Community Group

Improvement Areas: The City realizes its responsibility to get the community involved in the storm water program. The City has given the residents ample opportunity to get involved in implementing the program. City Staff is very visible throughout the community on a daily basis and routinely has discussions with residents regarding storm water issues. The feedback given to City Staff has been overwhelmingly positive, and the City looks forward to continuing this personal relationship with the community.

In addition to the JURMP public participation opportunities, the community has public participation opportunities through the WURMP process. More information on the WURMP process is available in the WURMP annual reports submitted in January.

11.5 Level 4: Load Reductions

Level 4 load reduction is a key assessment measure for the storm water program. Ultimately, the goal of the storm water management program is to reduce pollutant loading into the City's MS4 and by doing so, improve the discharge and receiving water quality. However, load reductions are very difficult to quantify, and the Copermittees as a whole are struggling to develop methods to achieve this task. This being said, the City will continue to analyze any data received that may be able to show a load reduction with the hope that it will somehow be linked to improvements in discharge and receiving water quality.

As a result of the Regional Water Quality Control Board's comments on the City's FY 02/03 Annual Report, the City has adapted its street sweeping program. The City now requires the private street sweeper to document all load information on a weekly basis. This includes an estimated amount of debris collected. This information was collected initially in FY 05/06 and continued into this reporting period as well. The total amount of street sweeping debris collected for each FY is as follows:

- FY 05/06 – 299.1 cubic yards
- FY 06/07 – 188 cubic yards

- FY 07/08 – 275 cubic yards
- FY 08/09 – 274 cubic yards
- FY 09/10 – 270 cubic yards
- FY 10/11 – 212 cubic yards
- FY 11/12 - 234 cubic yards

The total amounts remained relatively constant over the past few years. City Staff believes that the reason is most likely that the majority of the debris picked up by the street sweeper is organic material from natural sources such as trees and vegetation. Therefore, the load reduction measure of quantifying cubic yards and hopefully detecting a decrease over time is not a good indicator for Solana Beach. The street sweeper not only quantifies the amount of debris each day collected but also records an approximation of the type of debris. And for Solana Beach, it is over 95% organic matter. There are only trace amounts of litter or trash, which is a positive thing, but it also indicates that quantifying load reductions from street sweeping activities is not a good measure of the City's storm water program. However, the information will be collected and analyzed and any trend will be documented for future use.

Another possible load reduction calculation could be documenting the amount of material collected and removed from the various BMPs throughout the City. These BMPs include:

- Annual inspection and cleaning of MS4 system
- Maintenance of CDS Unit(s)
- Maintenance of detention basin adjacent to San Elijo Lagoon
- Load reduction calculation for the Low Flow Diverter at Fletcher Cove and the filtration basket located upstream from Seascape Sur Outfall
- Load reduction calculation for the Bioswale maintained at La Colonia Community Center
- Maintenance records of permanent treatment BMPs required as part of SUSMP projects (privately owned)

All of these activities may not be feasible, however they all warrant further consideration. It has been generally agreed upon that the Copermittees are not capable at this point of performing complete load reduction calculations and assessments, but are all committed to working towards this goal. The Copermittees have decided that this Level (4) should be attacked at a regional level, and not jurisdictionally. A significant regulatory program that should force us in this direction is the TMDLs that have been developed and are now being implemented by the Copermittees in several watersheds. The City is currently involved in the San Elijo Lagoon Bacteria TMDL Investigative Order, and as relevant information is received from the monitoring they will be discussed in upcoming Annual Reports.

11.6 Levels 5&6: Changes in Discharge and Receiving Water Quality

The City has been collecting and analyzing jurisdictional monitoring data received through the dry-weather and coastal monitoring programs. The City will continue to analyze the data to better understand the collective water quality picture in the City. The data will be assessed to determine the potential water quality problems within the City. Data collected by the City will be analyzed independently as well as collectively with the regional monitoring programs. Although it is generally accepted that it will take many years to develop a trend in water quality, the City will nonetheless analyze its data on a continuous basis to see if anything develops. There are no glaring deficiencies in the water quality in the City, but the situation at Seascape Sur will continue to be monitored to ensure that the storm drain does not have an impact on the quality of the receiving water (Pacific Ocean). Seascape Sur will be explained in greater detail in the next Chapter.

The Regional Monitoring Program currently conducts trend analyses for the Wet Weather Monitoring Program. The goal of the WWMP is to collect data and analyze the data to determine if there are in fact improvements in the receiving water quality throughout the region. The City participates in this workgroup and will continue to assist the Copermittees in determining if we have obtained levels 5 and 6 of the assessment strategy.

11.6.1 Dry Weather Monitoring Data

2012 Summary

Place Holder for 2012 Dry Weather Monitoring Program – Will be submitted in December 2012 as a result of Addendum No. 2 adopted by RWQCB.

11.6.2 Coastal Water Quality

The Pacific Ocean is the ultimate receiving water for the City although there are other intermediate receiving waters, such as the San Elijo Lagoon and the San Dieguito Lagoon. To measure the quality of the coastal receiving waters and assess the JURMP effectiveness, the City has monitored its one coastal storm drain outfall (Seascape Sur). The City used to monitor another outfall at Fletcher Cove; however, a low-flow diverter was installed in 1998 to divert dry-weather flows into the sewer system. The City is currently involved in an IRWM grant application that includes the installation of an additional low-flow diverter at Seascape Sur, which is discussed in more detail in Chapter 12 of this Report.

Coastal Storm Drain Outfalls

The coastal outfall monitoring program reporting period is different than the reporting period for this Report. The coastal monitoring program reporting period runs from November through October. All cities with flowing coastal storm drains meet regularly (Coastal Monitoring Workgroup) to develop and implement this program to promote regional consistency.

The Coastal Monitoring Workgroup developed an adaptive monitoring approach. This approach was developed to allow the individual cities to adapt their program to concentrate their limited resources on problematic locations and ease up on consistently non-problematic areas. The City had *no receiving water exceedances* for bacteria during this reporting period, which was consistent with the results of the last three reporting periods. In addition, it's apparent that the increased educational and oversight of the vendors at the Fiesta Del Sol was successful as there were no exceedances after the event for the seventh year in a row. City Staff again made this a priority during this reporting period to meet with the event organizers and discuss BMP requirements with them so that they can relay that information to the individual vendors and provide them with more educational materials. In addition, City Staff monitored the Food Court during the event to ensure all vendors were abiding by the storm water regulations. This was mentioned in previous annual reports as an improvement area because of the consistent exceedances after the Fiesta Del Sol that had occurred in the

past.

The storm drain at Seascape Sur had multiple exceedances for total coliform, fecal coliform and enterococcus during this reporting period. However, the magnitude and the frequency of exceedances have decreased during the last two reporting periods, which is a significant achievement. This is a storm drain that has a history of high bacteria counts and is currently the focus of an ongoing IC/ID investigation. The City has recently installed upstream BMPs that may be contributing to the improvement in water quality. The program is being implemented by City Staff, and the complete results are presented in the Coastal Monitoring Annual Report, and explained in the next Chapter of this Report.

The Copermittees had to modify the Coastal Monitoring Program due to the new requirements of the Permit. The Coastal Monitoring Program workgroup made the necessary changes and additions to the program and are currently implementing the new model. The City is confident that it has met the requirements of both the old Permit and new Permit. The complete Copermittees Coastal Monitoring Program is incorporated into the Regional Monitoring Annual Report.

Beach Posting Data

The County Department of Environmental Health has monitored beach water quality for bacteria since the 1950's. This sampling is used to assess the health of the beaches. When bacteria levels exceed State standards, the County posts signs on the beaches warning and advising the public not to enter the water. In 2000, there was a significant change in protocol as a result of the passage of AB411, which required additional testing, incorporating testing for enterococcus, which required the beach to be posted when only one sample exceeded the standard.

During this reporting period, there were ***no beach closures*** **in the City of Solana Beach,** which bodes well for the overall effectiveness of the City's program.

CHAPTER 12
Special Investigations

CHAPTER 12: SPECIAL INVESTIGATIONS

12.1 Introduction

In accordance with Permit Section D.4.e, this section of each Annual Report will describe the Copermittee's efforts to eliminate all detected illicit discharges, illicit discharge sources, and illicit connections as soon as possible after detection. The City's Illicit Discharge Detection and Elimination (IDDE) program is designed to identify, prohibit, and eliminate discharges that are a significant source of pollutants with the goal of protecting receiving water quality. This section of each Annual Report will provide the results of any special investigations conducted during the reporting period. However, the City also responded to many other complaints of possible IC/IDs, which resulted in rapid compliance, but did not warrant or require a comprehensive special investigation.

Although this Report does not contain a completed Chapter 7 due to the extension granted in Addendum No. 2, this Chapter will remain as many activities related to this Special Investigation can be reported on. Any additional information gathered from the 2012 Dry Weather Monitoring Program will be included in the December 2012 submission.

12.2 Bacteria at Seascape Sur

12.2.1 Background

As first reported in the FY 2002/2003 Annual Report, there has been an ongoing, historical problem occurring at one particular storm drain in the City. The location, Seascape Sur, has had historically high levels of bacteria; often times exceeding limits at the storm drain and occasionally in the receiving water. Previous annual reports go into detail regarding the history of this problem and the City's efforts to remedy it. Since the history is important in describing the situation, this report will include much of what was written last year. Any added information that was discovered during this reporting period will be included in this report. Next year's report will include the City's additional efforts that were undertaken during FY 11/12.

Prior to and during this reporting period, the City began a concerted effort to determine what was causing the elevated levels of bacteria at Seascape Sur

outfall (based on results from the Dry Weather and Coastal Monitoring Programs). The problem was thought to be resolved early on, but then monitoring results in subsequent years indicated the problem had either returned or persisted. In 2000, the City Engineering/Public Works Department was fairly certain that the problem had finally been corrected; particularly when the 2001 DWMP indicated the bacteria elevated levels had *decreased* (although they were still elevated above the normal range).

However, preliminary results from the 2002 DWMP revealed that the bacterial levels had risen from the previous year to a troublesome level (see 2002 DWMP, available at City Hall upon request). As a result, the City "went back to the drawing board," and with the help of MEC Analytical (consultant for the 2002 DWMP), began an upstream investigation that continued through the end of calendar year 2002.

12.2.2 History

The City began its DWMP in 1993, with no significant problems reported until 1996 when elevated bacteria levels were noted at the Fletcher Cove Outfall. Subsequently, the City constructed a low flow diverter (in 1998), which corrected the problem by diverting dry weather flow to the City's sanitary sewer system.

Between 1997 and 1999 results from the DWMP revealed some minor issues that were readily resolved, but nothing significant at Seascape Sur or Fletcher Cove Outfalls.

However, results from the 2000 DWMP identified two locations with high levels of coliform bacteria, which was of significant concern because both locations flowed directly to the beach via the Seascape Sur Outfall and were in fact, just a short distance from the outfall. The City conducted an extensive investigation and eventually found an old leaking sewer lateral that was buried under the ground near the site of the upstream catch basins in the parking garage of a business complex. The lateral was dug up, examined, and staff determined that cementing over the pipe would be the best method to ensure it was completely sealed off (investigation confirmed that the pipe was no longer in use). Because the leaking lateral was located close to the curb inlet, City staff, plumbing contractors and the consultant were fairly certain that the pipe was the cause of the elevated bacteria counts.

To confirm that the pipe was the cause of the suspected pollution, the City contracted with Kinnetic Labs to provide additional testing, which showed reduced counts during several follow-up tests. At that point, staff was optimistic that their efforts had been successful.

The 2001 DWMP included ten sites for testing. To ensure the problem from the previous year had been corrected, the program included the same two sites that had elevated bacteria counts in 2000. Surprisingly, the site had elevated bacteria levels, but because they were much lower than the previous year, staff believed that the problem might be residual bacteria. As a result, the City ordered that the line between the curb-inlet and the outfall be televised in 2002. The televising of the lines was scheduled during the routine cleaning of the storm drains later that year. Due to various issues, the televising of the lines did not take place prior to the implementation of the 2002 DWMP, which was under the regulations of the new Permit.

The City requested proposals from consultants to design and conduct the 2002 DWMP. The contract was awarded to MEC Analytical in late spring, early summer 2002. The City requested that the same two monitoring sites from 2000 and 2001 be included in the program, regardless of the new sampling procedures required of the Permit. The City included those sites to ensure continual monitoring of the area.

12.2.3 The 2002 Investigation

Samples for the 2002 program were collected on August 6th and 7th, 2002 throughout the City by MEC Analytical (MEC). Shortly thereafter, MEC contacted the City and informed the Storm Water Coordinator that significantly high levels of bacteria had been found at the locations for 2000 and 2001. As shown on Table 13-1, the amounts were troublesome.

Table 12-1 DWMP Initial Results (Sampled August 6-7, 2002)

Site	Site Location	Total Coliform	Fecal Coliform	*Enterococcus*
1	West Side of Sierra Ave	700,000	30,000	24,000
2	Manhole between sites 1 and 2.	900,000	50,000	28,000
3	Seascape Sur Outfall (downstream from sites 1 and 2)	800,000	21,000	35,000

Results are reported in MPN/100 mL.

Based on the above results, it appeared that the problem, whatever the cause, was more pronounced at Site 2, the manhole, than at either Site 1 or 3. Therefore, the City immediately requested that the conveyance system be televised. At the same time, the City authorized MEC to conduct an upstream investigation, accompanied by City staff. MEC indicated to staff that the elevated levels of bacteria, combined with the results from previous years, were a sign that an illegal sanitary wastewater connection may be the cause of the problem. However, subsequent inspection by City staff (including public works crews that inspected various locations of the line) did not reveal any expected accompanying waste solids. A somewhat consistent drip was noticed, which was traced back to a nearby condo complex that was discharging their pool (the process was discontinued and the complex changed their procedures to drain into the sewer system). Other causes of the slow drip appeared to be over-watering of the many condominium complexes on Sierra Avenue.

Staff sent letters to all HOAs on Sierra Avenue that drain to the Seascape Sur outfall to eliminate the slow drip. Staff received calls from some of the HOAs in response to the letters and discussed the issue in more detail and received positive responses.

The results of the televised line were viewed by the City Engineer, which revealed a dip in the line approximately at the location of the manhole (with the elevated bacteria) and two possible illegal connections just west of the curb inlet. However, an additional investigation indicated that the connections were not a problem, but staff thought that the dip in line could be harboring residual bacteria, and possibly re-growth.

12.2.4 Additional Testing

In an attempt to pinpoint the source of the contamination, MEC and City staff began the upstream investigation on August 19, 2002. Samples were collected from Site 1, and at a curb inlet catch basin on the *eastside* of Sierra Avenue, directly upstream from Site 3 (named Site IE).

Staff was surprised when the results of the second round of sampling revealed *higher levels of total coliform (2,400,000), fecal coliform (50,000) and Enterococcus (500,000)* at Site 1E, than the previous results from Sites 1 and 3. Further, the results were surprising given that the dip in the line at Site 2 was

thought to be the source of the contamination. *The results seemed to indicate that the source of the bacteria was coming upstream from Site 1E.*

12.2.5 Traveling Further Upstream

The curb-inlet catch basin on the east side of Sierra Ave (Site IE) receives street runoff and runoff from the Beachwalk Business Complex (Beachwalk). Beachwalk is a collection of various businesses located at 437 South Highway 101 in Solana Beach. Beachwalk businesses, at that time, included several restaurants (Pacific Coast Grill, California Pizza Kitchen, Rubio's), several small food facilities (Solana Beach Coffee Company, VitaFit, etc.,) several professional offices, a bike shop and others. Beachwalk was constructed approximately 13 years ago and at the time of construction, an on-site storm drain system, that collects on-site runoff from the property, was lawfully connected to the City's MS4.

Based on the results of the second round of testing, City staff thought that the source of the contamination must somehow come (or significantly contribute) from Beachwalk. Upon speaking with the Management Group that oversees the property, staff made several visits to look for possible non-point source explanations and speak with business owners to discuss BMPs (see Timeline below for more details).

On August 27th, 2002, City staff went to Beachwalk and personally delivered educational brochures to *all of the businesses,* educating business owners about storm water regulations and BMPs. To ensure that all the businesses were addressed, door hangers were left at the businesses that were not open at the time of the visit and additional property visits were scheduled. City staff also spoke with the person responsible for maintenance of the property and provided detailed information about pollution prevention, storm water regulations, and BMPs and how to report violations. Many of the business owners were extremely helpful and all were cooperative. Some business owners went out of their way to show staff potential problem areas, discuss BMPs and provide access to private restroom facilities (staff were looking for overflow problems and unusual construction or evidence of recent repairs).

Staff conducted another visit on September 3rd, 2002 in response to a call from one of the business owner's that staff had contacted on August 27th, 2002. City

staff confirmed that foul smelling odors were coming from catch basins on-site. Further inspection revealed excess watering occurring on the patio of the Pacific Coast Grill restaurant. A manager at the restaurant was contacted and educated regarding BMPs and the new storm water regulations. During this visit, staff determined that samples were needed at various storm drains throughout the complex to try and pinpoint and eliminate the problem. City staff identified several locations that should be tested and requested permission to collect the samples from the property owners.

On September 4th, 2002, City staff accompanied MEC to conduct additional testing and investigation. The process confirmed staff's suspicion that the bacteria levels were coming from Beachwalk. Various samples were collected at locations throughout the complex. An outdoor floor drain just outside the kitchen of Pacific Coast Grill appeared to have dark brown, stagnate water in it. On-site ammonia tests were also consistent with elevated bacterial numbers (60 mg/L). A sample (Site 32) was then collected for further lab analysis. Sites IE and 3 were also sampled again for additional information. As shown on Table 12-2, Site 32 confirmed that the contamination was coming from Beachwalk and most likely, the source was near or in, the floor drain outside Pacific Coast Grill Restaurant.

Table 12-2 Upstream Testing Results

Site	Site Location	Total Coliform	Fecal Coliform	*Enterococcus*
32	Beachwalk floor drain	>16,000,000	300,000	>241,960
1E	East Side of Sierra Ave	3,000,000	50,000	3,550
3	West Side of Sierra Ave	800,000	70,000	24,950

Results are reported in MPN/100 mL.

After the lab results came back and confirmed what was suspected, the property owners were notified of the severity of the situation and were eager to remedy the problem and work with the City to find a solution.

The property owners worked together with the City's Public Works Supervisor and a local plumber experienced in storm drain cleaning to correct the problem. The east side catch basin was temporarily sealed, the pipe was flushed and a specially equipped trucked was placed at the catch basin to vacuum out the resulting sludge for proper disposal. As soon as the procedure was complete, on September 18th, 2002, City staff collected additional samples from all three sites (32, 1E and 3), *expecting the results to show a decrease in bacteria levels*. The

residual water in the pipes was clear of the brown, stagnate water, which also contributed to the hope that the problem was resolved. However, while results from Site 32 indicated *reduced bacterial levels*, downstream sample *again* indicated *high bacteria levels* (the sample on the west side of the street).

12.2.6 Brainstorming

At first, these results seemed a bit perplexing (maybe it was the dip in the line?, etc.), but then, while staff continued to brainstorm ideas to solve the problem, some engineers thought that the flushing of the system might have loosened some bacteria, which escaped collection by the Vactor truck. The City decided to wait a few weeks to see if the problem was alleviated after the system had time to completely flush out.

In the meantime City staff met with the property owners and 1) reviewed old construction plans for the property to look for potential areas of cross contamination; 2) discussed possible options that may help alleviate the situation, including training and education of business owners, television activities that might occur near the catch basin; and 3) decided that a temporary cap would be placed on the floor drain of Site 32 to secure it from contamination for 30 days (the cap could be removed during rain to prevent flooding).

After 30 days (and two rain events), the plumbing contractor agreed to remove the temporary cap to allow further testing.

Surprisingly, results from this last round of testing indicated that there was still a significant problem on the property. A meeting was scheduled immediately with the property owners, who were informed of the test results and that the City now required them to remedy the problem through televising the lines, locating the illegal connection and reconstruction, or face serious fines by the RWQCB and the City. The property owners were concerned, responsive, cooperative and resolute in their attempts to solve the problem.

In addition, the City agreed to purchase a storm drain inlet filter to be placed in the catch basin just downstream from the complex, leading to the ocean outfall. It was installed the first week of December, and is maintained by the City's Public Works Staff. Although it does not filter the water passing through from Beachwalk, it does help alleviate the problem by filtering out the water coming

from the street. The City hopes that this will help reduce the high bacteria numbers found in the catch basin.

12.2.7 Action Taken By Property Owners during FY 03/04 Annual Reporting Period

By the end of December 2002, Beachwalk property owners had done the following to remedy the problem:

While attempting to televise the lines, a significant amount of sludge built up in the pipe prevented the camera from penetrating the pipes (which is likely the source of the problem, City staff also reviewed the small amount of footage that was performed in the pipes).

An extensive flushing out of the entire system was conducted, which took some time to accomplish amidst the rain events in December and the amount of material in the pipes.

The lines were televised and detected a large dip in the pipe where sediment and sludge were building up, possibly providing a breeding haven for re-growth of bacteria.

No illegal connections or sanitary waste connections were detected. There were a few pipes connected to the outfall pipe coming from the adjacent condos, however these lines were proven to be outdoor area drains. Beachwalk property owners and condo associations are completely aware of the responsibility to rectify the situation.

The City decided that they must increase their efforts to rectify this continuous problem to ensure the integrity of the receiving waters at Seascape Sur. The bacteria levels were still consistently high, often exceeding standard limits for the outfall, but, fortunately, not yet affecting the receiving waters. Growing increasingly frustrated, City staff decided that an increased effort, and the high costs that come with it, were necessary to finding the cause, and solution, to the problem at Seascape Sur.

On March 4, 2004, City staff televised the Seascape Sur storm drain line for maintenance purposes. The video showed a significant amount of sediment accumulation at the end of the pipe coming from the Beachwalk Business

Complex. Staff met with the Beachwalk property management and mandated that they clean the sediment from the line. The Beachwalk management complied with our request and immediately cleaned the pipe, and City staff supervised to ensure all BMPs were used and abided by at all times.

Laboratory results were still coming back consistently high, so the City decided to take on the cost of completely cleaning the storm drain pipe with the hopes that it would remove any residual bacteria that may be contributing to the problem. The problem the City faced was that this had never been done before, and the dimensions of the pipe made it very difficult to develop a plan of attack. The pipe starts at the curb inlet on Sierra Avenue, then travels completely underground and slopes downward until it empties out onto the beach. The distance from the street to the outfall is approximately 550 feet and dips to 30 feet below the surface, making access very difficult. The City was able to gain access from the neighboring condominium complex to place a Vactor truck to ensure that no excess water would escape containment and empty onto the beach. The project took 5 days to complete (ending on Friday, May 7, 2004), with City staff working with its private contractor, and cost approximately $10,000. The City removed 4 cubic yards of sediment from the pipe, and used over 5,000 gallons of water. The City was confident that the next lab results would come back spotless.

On the following Monday (May 10, 2004), City staff received a phone call from the County of San Diego Department of Environmental Health advising them that samples they took in the receiving water adjacent to the Seascape Sur outfall had failed AB 911 standards. It appeared that all the effort and money spent to clean the pipe had actually made it worse. However, Staff immediately began an IC/ID investigation and discovered that an adjacent condominium complex had a sewer spill that weekend and raw sewage had entered into the Seascape Sur storm drain. City staff was relieved that they found the cause of the high bacteria, but highly disappointed that all of their work, time, and money had been wasted by a small sewer backup.

Because the sewage was traced back to a private lateral, the City was determined to put the pressure on the condominium complex to clean the pipe again. Staff met with the HOA representative and a deal was worked out to have the pipe cleaned again, at the HOA's expense. Additionally, the City took this opportunity to once again educate the HOA and wrote an article regarding the proper handling and disposal of grease for the HOA's monthly newsletter. The

City then set the HOA up with a plan of attack and supervised the process. Staff worked with the Regional Water Quality Control Board to allow the City to use a small concentration of bleach mixed with the water to make sure that the pipe was completely sterilized at the end. This cleaning was done on September 24, 2004.

12.2.8 Progress in FY 04/05

The results of the cleaning performed on September 24, 2004 proved to be very successful. The bacteria levels were reduced significantly and the City hoped that the sterilization would be a permanent fix. However, the results in the following few months showed that the bacteria was slowly increasing back to its historical levels, further frustrating City staff. This may be due to City staff's worst fear that the dip in the pipe could be harboring and resulting in re-growth of bacteria that may enter by way of decomposing organic debris and/or illegal dumping.

Since this did not permanently solve the problem, the City continued to explore other options. In March 2005, the City was discussing the situation with its contract lab, Weston Solutions, and jumped at the opportunity to participate in a pilot study aimed at refining a new lab analysis that would potentially categorize the generic coliform and enterococcus bacteria indicators as deriving from human or animal origins. This would be an extremely significant discovery because the City could further identify where the bacteria was coming from, human (IC/ID) or from animals (dogs, possums, raccoons, etc.), to help direct what steps to take in the future. The City could further refine its source identification and, in theory, stop wasting limited resources on sources that don't exist.

The pilot program is completed; however, the results did not come back revealing anything substantial. Only one sample came back positive for human bacteria (and this was somewhat inconclusive), and samples collected after this positive result all came back negative. Therefore, the City concluded with relative certainty that the source of the bacterial contamination is not human. This one positive result may be caused by a single illegal dumping occurrence or by laboratory error. The resulting negative results show that there is not a continuous inflow of sewage, as would result if there were an illegal connection. Although the pilot program is complete, one early, important conclusion would be

that the bacteria is not coming from human origins, which would allow the City to eliminate this from source identification and focus its efforts on non-human sources.

12.2.9 Special Pilot Program FY 07/08

The City's lab (Weston Solutions) offered their services to the City for a special pilot program during FY 07/08. On May 30, 2007 Weston staff met with City staff to investigate the surrounding areas to see if they could detect anything that may be contributing to the high bacteria levels adjacent to the east catch basin. Weston has performed similar investigations in other cities with positive results. They were very interested in finding the source for the City, as we have been partners now for years on this. The results were very interesting and reconfirmed the City's belief that there is substantial re-growth occurring in the pipe as the bacteria results were much lower in the catch basins than at the outfall. The results are as follows:

Table 12-2 Results from Weston Solutions Pilot Program

	East Side Catch Basin (MPN/100mL)	Outfall (MPN/100mL)
Total Coliform	700,000	16,000,000
Fecal Coliform	80	50,000
Enterococci	41	483

The City and Weston Solutions partnered for a unique pilot study with the hopes of finally determining the source of the bacteria. The specialized studies were conducted to further analyze a unique phenomenon called "pseudofluorescence." This phenomenon first was detected in some samples from Seascape in the summer of 2007, when using the Enterolert method resulted in some false positives, or "pseudofluorescence." The lab noticed that the tests began to increase in frequency, and brought it to the attention of City staff after the March 31, 2008 samples were analyzed. The City and Weston then developed a plan to determine why this phenomenon was occurring, and if this could bring us any closer to solving the mystery.

Starting on April 30, 2008, Weston began testing the samples using the IDEXX method (SM 9223B) side by side with the Multiple Tube method (SM 9230B) for Enterococci in order to determine if the different methods yielded different results. Parallel analyses were carried out only on the outfall samples, as the

paired ocean samples never exhibited pseudofluorescence. The following are the results:

Table 12-3 IDEXX and Multiple Tube Results

Date	IDEXX Results (MPN/100mL)	Multiple Tube Results (MPN/100mL)
4/30/2008	<10	170
5/29/2008	<10	300

Analyzing the results, it is easy to confirm that something is causing interference with the IDEXX method. Because of this, PCR analyses were also performed, with results ranging between 1,000-10,000 (PCR includes viable and non-viable cells, as it only looks for specific DNA markers, regardless of cellular viability), which validates the Multiple Tube results by showing a definite presence of the target bacteria.

There is some concern that detergents may be the cause of the interference and pseudofluorescence. Enteroalert (IDEXX) analysis from both months displayed pseudofluorescence wells, so both were tested for detergents using an MBAS kit. The results are as follows:

Table 12-4 MBAS Results

Date	MBAS Results (ppm)
4/30/2008	15
5/29/2008	25

The sample taken on May 29th, 2008 had a larger number of pseudofluorescent Quantitray -2000 wells, which seems to confirm the relationship between pseudofluorescence and the amount of detergent in the sample.

As a result of this pilot study, an official method change for enterococcus was instituted beginning with the samples taken on June 28th, 2008. Using the Multiple Tube method, MPN for enterococcus was determined to be 3,000 per 100mL, while results from Enterolert (performed as a continued comparison) were found to be 63 MPN/100mL, with a continued pseudofluorescent. In addition, continued upstream investigations will focus on detergents as the presence has been recorded a couple of different times.

The City will continue cooperating with Weston and their professional staff to

investigate this ongoing mystery until a resolution is found.

12.2.10 Timeline of Significant Actions

August 27, 2002- City staff distributed storm water brochures to all the businesses located in the Beachwalk complex. Staff toured the mall, visually inspected on site catch basins, outdoor floor drains, restroom facilities, and inspected several restaurants and discussed pollution prevention BMPs.

September 4, 2002- Based on feedback from the testing, staff spoke with the managers of Pacific Coast Grill, reviewed the storm water regulations, spoke about prohibited activities and distributed storm water brochures.

September 4, 2002- City staff and an employee from MEC conducted upstream investigation. A small outdoor floor drain contained brown, stagnate water with a very pungent odor. The drain cover was removed and the material was sampled. MEC called a few days later and reported that the results were consistent with the numbers for raw sewage for total and fecal coliform and *Enterococcus*.

September 18, 2002 - The Beachwalk storm drains were flushed out using clean, fresh water and the sludge was vacuumed out into a Vactor truck at Site 3. Results from follow-up samples indicated that a problem still existed.

October 24, 2002- Additional samples were taken to see if the problem had been eliminated. Results from the lab showed that the problem had not been solved. City staff continued to meet with property owners to pinpoint the source.

November 2002- The City installed a specialized catch basin filter unit that is designed to catch all debris (trash, organics, etc.) from the street before it reached the MS4 system. It also has specialized bio-filter rolls to filter out the hydrocarbons.

November 13, 2002- a semi-permanent cap was placed on the floor drain that seemed to be the source of the bacteria. A follow-up sample was scheduled for 30 days.

December 13, 2002- Samples were taken after the cap was removed and preliminary results indicate that the problem has not been resolved. More

extensive investigation was ordered.

December 14-31, 2002- All property drains were cleaned and televised.

January through June 2002- Increased monitoring and sampling through Coastal Monitoring Program to try and determine if the steps taken previously had successfully remedied the problem. An intensive educational program to the HOA's and the Business Complex was also implemented to assure compliance under the Permit.

March 4, 2004- Mandated and required the Beachwalk Business Complex to clean out storm drain system that leads to the City's Seascape Sur storm drain due to accumulation of debris (sediment, trash, etc.).

May 5, 2004- Completed cleaning of entire Seascape Sur storm drain line from Sierra Avenue to the beach outfall. A sewer spill occurred that following weekend from a private lateral connected to the Seascape line.

May 20, 2004- Wrote two articles for *Seascape Sur News,* the monthly newsletter distributed to the Seascape Sur condos, educating the residents on activities that may reduce bacteria that could be a possible source of the problem at Seascape Sur outfall. The first article was titled, "Sewer Clean-Outs," and it describes the proper way to dispose of grease (not down the sink) to prevent sewer blockages and spills. The second article was titled, "Walk Dogs Off The Property and Clean Up After Them".

September 24, 2004- Completed cleaning again with the addition of bleach to counteract the sewer spill that occurred on May 5, 2004. Access issues during the summer months prevented the cleaning from occurring earlier.

November 2004- Samples showed a dramatic decrease in bacterial indicators, proving the cleaning was successful. However, future results showed the bacteria increasing back to historically high numbers.

March 1, 2005- Started participating in contract lab's pilot program to differentiate bacteria into human and animal origins.

May 30, 2007 – Conducted a thorough investigation with our lab (Weston) to

detect any possible sources of the ongoing pollution (see below). Results of the investigation revealed that bacteria levels were in fact higher at the outfall than the catch basin; further reinforcing what City staff believes is a structural deficiency in the pipe that is leading to bacteria re-growth.

March 30, 2008 – Initiated a pilot study with lab to determine if the correct analytical analysis was being conducted

June 18, 2008 – Installed a catch basin inlet guard to prevent organic material from entering into the catch basin on the east side of Seascape Sur storm drain. This was done to hopefully prevent the organic matter from decomposing inside the storm drain pipe and providing an area for bacterial re-growth.

August 10, 2008 – City contracted a company to place concrete inside the catch basins to fill in a one inch gap at the bottom where stagnant water would sit. The City thought this might be contributing to the bacteria load at the end of the pipe. By filling in the gap, water and organic matter would not have a place to stagnant and harbor bacteria.

September 29, 2008 – City hired a contractor to clean the entire Seascape Sur storm drain from street to outfall.

August 30, 2008 – City entered into a pilot project with a company that installs catch basin curb inlet screens to prevent leaves and debris from entering the catch basin. Screen was installed on east side catch basin to prevent organic debris from entering the catch basin and rotting inside the pipe.

October 2, 2008 – City entered into a pilot project with a different company that installs catch basin curb inlet screens to prevent leaves and debris from entering the catch basin. Screen was installed on west side catch basin to prevent organic debris from entering the catch basin and rotting inside the pipe.

12.2.11 Where We Are Now

As listed above, the City is participating in two unique pilot programs at Seascape Sur. The City has installed two different catch basin debris screen BMPs at the east and west catch basins directly upstream from the Seascape outfall. The goal of the debris screens is to prevent organic debris and trash from

entering the pipe and rotting, producing a perfect food source for bacterial re-growth in the sag in the pipe. The BMPs were installed in August and September 2008, with the intent to monitor the bacteria results at the outfall after a year.

As is shown in the following table, the bacteria results have decreased when compared to previous years, with the exception of December 2009 and January 2010. This may be attributable to the new BMP installations upstream or the continuous educational efforts of City Staff. Whatever the case may be, the results are still not acceptable to City Staff or the community. It cannot be emphasized enough that the outfall does not seem to impact the receiving water at all; however the City is still focusing its efforts on eliminating the source of the bacteria in the very near future.

Table 12-5 Seascape Sur Results, September 2009 to June 2012

Date	Total Coliform (MPN/100mL)	Fecal Coliform (MPN/100mL)	Enterococcus (MPN/100mL)
9/22/09	80,000	23,000	3,000
10/26/09	130,000	9,000	2,000
11/16/09	600,000	230,000	4,000
12/21/09	9,000,000	110,000	600
1/11/10	9,000,000	17,000	9,000
2/16/10	40,000	20,000	<200
3/15/10	240,000	11,000	220
4/20/10	140,000	20,000	200
5/10/10	210,000	20,000	500
6/23/10	160,000	160,000	<20
7/26/10	900,000	23,000	700

8/16/10	23,000	<2,000	1,100
9/13/10	3,000,000	1,300,000	13,000
10/28/10	300,000	<20,000	2,100
11/2/10	170,000	<2,000	3,000
12/6/10	11,000	200	200
1/24/11	>1,600,000	5,000	22,000
2/7/11	8,000	400	2,300
3/14/11	220,000	2,000	40
4/11/11	11,000	400	<200
5/16/11	2,200	1,100	40
6/21/11	160,000	160,000	<20
7/12/11	>1,600,000	23,000	90
8/15/11	1,600,000	17,000	360
9/19/11	900,000	30,000	2,400
10/14/11	23,000	2,000	800
11/15/11	80,000	13,000	2,400
12/5/11	80,000	<2,000	<20
1/9/12	110,000	800	40
2/13/12	50,000	4,000	70
3/12/12	300,000	<2,000	550

4/3/12	30,000	<200	<20
5/7/12	30,000	<200	60
6/18/12	>1,600,000	5,000	16,000

The City continues to struggle with this ongoing situation, although has made some improvements to the bacteria levels during this reporting period. The budget continues to include money for cleaning the line once per year, but this is merely a temporary fix to the problem, whereas the City is looking for a permanent solution. The one positive to take from this is that the discharge is not affecting the water quality of the receiving water (Pacific Ocean) yet, there is no guarantee that this will not change in the future. Here are some options the City is now looking at to hopefully solve this reoccurring problem:

Repairing sag in the outfall pipe: This option is being actively researched as re-growth in the pipe is now the most suspected culprit. The City's Public Works Operation Manager is researching this option with other City Staff. In addition, City Staff is looking into other options such as re-lining the pipe or "pipe-blasting", which may help reduce the sag and improve flow through the pipe.

Blocking off connections from adjacent residential complexes and making them drain to the street so that discharge can be sampled: This option is seen as a last ditch effort, as it would be very expensive and politically challenging. This would only be considered if the outfall started affecting receiving water quality.

Installing permanent BMP such as a low flow diverter: This option is also seen as a last ditch effort as it would be expensive and has not been fully researched to check the feasibility. City engineers would have to check the locations of the sewer main and the capacity to determine if this would be feasible. Funding may be available through grants for water quality, but again this option is a long term effort. City staff will continue to look into various funding options, one being the recent grant that allowed the City of Imperial Beach to install a low-flow diverter. Staff will monitor that project closely and may seek the same grant to place a diverter in this location.

During this reporting period, the City partnered with the San Elijo JPA (the local WWTP) to apply for grant funding to assist with the costs associated with

installing a low-flow diverter. The grant is through the IRWM Proposition 84 and includes, among other local water quality improvement projects, the City's Seascape Sur Low-Flow Diverter project. The City's grant application received the highest ranking by the IRWM review board. It is currently included in the Phase 1 application process that will be submitted to the State for approval. The City is anticipating receiving $100,000 to install a Low Flow Diverter. This project and funding have not been finalized yet and will be reported on in future reports.

12.2.12 Future Activities

The City is committed to finding a solution to the bacteria problem at Seascape Sur, or at least installing a permanent treatment control BMP to redirect the flow to the sewer system. During the last reporting period, the City installed and monitored additional upstream BMPs at the catch basins leading into the problem pipe. This activity seems to have slightly improved the bacteria levels at the outfall and has encouraged City Staff that some of their efforts seem to be paying off. As discussed above, the City is now looking at other structural options with its engineering staff to hopefully find another angle in this seemingly unending battle, and also applied for a grant to help with funding a Low Flow Diverter.

The City has committed to setting money aside in its CIP budget to undertake some major projects to help solve the problem. As stated in the Fiscal Analysis Chapter, the FY 12/13 budget has $5,000 set aside specifically for the Seascape Sur storm drain cleaning. The City is committed to thoroughly cleaning the pipe annually if need be, or until a long-term solution is found. The City is currently investigating other structural options and may find it better financially to undertake a large CIP project than continually spending $5,000 a year for a temporary fix. However, the location and depth of this particular pipe make it very difficult to work on, so it is taking some time to develop a sound engineering plan to fix the pipe or divert the flows. If this is the option the City ultimately takes, it will be very prudent to take the time to do it correctly, so the City is committed to taking the time to develop a plan to ensure its effectiveness.

Additionally, the City actively monitors the outfall pipe and all surrounding areas for any unusual occurrences, and the Marine Safety Department will continue to notify the Engineering Department whenever there seems to be unusual spikes or odors coming from the outfall pipe, as one of the lifeguard towers is located directly in front of the outfall (during summer months). Lastly, City Staff will

continue to work with the neighboring condominium associations to educate the residents as well as perform inspections of upstream businesses.

12.3 Summary

The City has thoroughly utilized the results from its DWMPs and Coastal Monitoring Program during the last several years to identify and attempt to eliminate the source of bacteria that was identified through testing and upstream investigations. With the efforts of City Staff, and the cooperation of the Beachwalk property owners/managers and neighboring condominium complexes, the sources of the bacteria have almost been solved. Unfortunately, with the structural deficiencies (the sag) in the pipe, it may only take a small amount of bacteria entering the pipe to remain in the sag and promulgate (re-growth). Fortunately, the elevated bacteria levels do not seem to be affecting the receiving waters (no receiving water exceedances in the past five years) yet, but the City wants to take care of the situation before it becomes a problem. Therefore, the City is currently examining other options such as re-lining the pipe, “pipe-blasting” or installing a low-flow diverter.

CHAPTER 13
Non-Emergency Fire Fighting

CHAPTER 13: NON-EMERGENCY FIRE FIGHTING

In accordance with Permit section J.3.a.(3)(l), this section of the report describes the City's efforts to control Non-Emergency Fire Fighting events. The City understands that the health and safety of its residents supersedes the storm water regulations when it comes to emergency situations, such as a fire. However, for non-emergency fire fighting activities such as routine maintenance and training, the release of water into the City's MS4 is not permitted. Therefore, the City's Fire Department trains at two special facilities, one in San Marcos and the other in Rancho Santa Fe. Both facilities have BMPs installed to properly handle the excess water, and comply with all regulations of the storm water Permit. ***No training exercises that involve water are conducted within the City limits.***

Routine maintenance of the City's fire trucks and apparatus is essential to ensuring public health and safety, as all equipment must be in top condition and functioning properly during an emergency. Most of the time, this maintenance is conducted onsite at the Fire Department. To handle the excess water, the Fire Department staff redirects the flows onto a large slope of vegetation behind the Fire Station. Staff takes extra precaution to ensure no water leaves the site. Also, the washing of trucks and apparatus occurs inside the large bays, which is plumbed directly to the sewer system.

Non-Emergency Fire Fighting is also discussed in the Municipal Component.

CHAPTER 14
JURMP Revisions

CHAPTER 14: JURMP REVISIONS

In accordance with Permit section Permit sections I.1.b. and J.3.a.(3)(m), this section of the report describes any revisions that occurred to the City's JURMP.

As reported in last year's Annual Report, the City made multiple revisions to the JURMP based on comments by RWQCB staff after initial review of the new document. Those revisions have been made and are currently included in the City's JURMP.

Tables 5.1 and 5-2 have been updated based on recommendations by the San Diego Coast Keeper. The City is confident that this newly formatted table complies with the requirements of the permit.

CHAPTER 15
Conclusions and Recommendations

CHAPTER 15: CONCLUSION AND RECOMMENDATIONS

15.1 Conclusion

During the FY 2011/2012 reporting period, the City was able to successfully implement the many requirements of the Permit. Although the City has been required to have a storm water program under previous Orders issued by the RWQCB, this new Permit greatly expanded the types of activities and documentation efforts required of the cities. This was the third full year of implementation under Permit No. 2001-07 and the second full year of JURMP implementation. The City is very satisfied with the progress of the new program and is actively developing the regional large scale programs such as the HMP, LID, SUSMP and regional educational programs.

The City continued its "team approach" in implementing the JURMP by integrating the evolving requirements of the Permit into specific tasks that each member would be responsible for implementing in their respective departments. The Assistant Civil Engineer is responsible for bringing the group together and updating the respective departments on any changes that may affect their respective daily activities. Additionally, the Environmental Programs Manager is responsible for ensuring that all requirements of the Permit are being addressed and satisfied. This collaborative method allowed the City to more rapidly modify procedures and handle the increased workload quickly and efficiently, especially with a small staff with lean resources.

The City's accomplishments during this reporting period provide evidence of the City's pro-active approach to improving storm water quality. The requirements under Order 2001-01 expanded the previous Order (90-42) significantly and have altered many of the daily routines of Staff at the City. In addition, the City is actively working on developing and implementing the new programs to satisfy Permit Order No. 2007-0001, including, but not limited to, modifying the Municipal Code for the new model SUSMP, LID and HMP requirements, updated the City's JURMP and implementing the new Coastal Monitoring Program.

During the next reporting period, the City expects to build on the accomplishments of FY 11/12, and determine the most effective and meaningful program activities as to their impact on water quality (pollutant specific)

collaboratively with the other Copermittees, and implement the approved program assessment strategy. The City is confident that it is in compliance with the goals set out under Permit No. 2007-0001. These include but are not limited to:

- Minimum commercial, industrial and construction inspections
- Minimum municipal inspection and maintenance of BMPs
- Implementing comprehensive educational and public participation component
- Developing Hydromodification Plan
- Implementing SUSMP Model update
- Developing Low Impact Development (LID) program
- Minimum inspection and street sweeping frequencies
- Post Construction BMP verifications and inspections

The City eagerly anticipates working collaboratively with the other Copermittees in further developing and implementing these significant programs during this Permit cycle. The City is confident that the Copermittees will continue to develop and implement these programs to meet the requirements and goals of the new Permit. The City understands that all parties' involved (Copermittees and RWQCB staff) are in this together to improve the discharge and receiving waters in the region and we will continue to support and work collaboratively with all parties to accomplish this goal.

15.1.1 2011/2012 Accomplishments

The following is a small list of notable accomplishments achieved during the 2011/2012 reporting period. All of these activities are described in more detail throughout this report. They are the following:

- Continued development and implementation of new SUSMP, LID and HMP programs.

- Continued implementation of new BEACH database to track building permits, post-construction BMP inspections, and plan check comments.

- Implementation of post-construction BMP verification and maintenance tracking system.

- Development of stakeholder cooperation and partnerships with key organizations such as the Santa Fe Irrigation District, Solana Center and Kids Korps.

- Upgrades to web portal "Green Flash" to house all of the City's environmental programs and information.

- Development of relationship with local Solana Beach School District to foster open communication for environmental education in local schools.

- Continued work with the Clean and Green Team, consisting of active environmentally conscientious community members to develop and implement environmental programs and education.

- Continued educational outreach at all local events, and conducting cleanups and community bulky-item pickup days.

- Continued implementation of aggressive and convenient HHW program to provide easy and efficient HHW pickup and proper disposal.

- Continued extensive landscape and irrigation educational series for public and private landscapers. The classes were given in both English and Spanish and taught the participants proper landscaping and irrigation practices.

- Participated in regional workgroup to develop new mobile sources program.

- Continued to conduct specialized Staff trainings utilizing an outside consultant to target priority educational areas.

- Lined approximately 2,600 linear feet of sewer pipe throughout the City to help prevent wastewater infiltration.

- Staff re-inventoried the commercial and industrial sites throughout the

City.

- Staff continued to outsource the commercial/industrial facility inspections to a specialized contractor that inspected 100% of all facilities, regardless of priority.

- Staff inspected 100% of all municipal inspections.

- Implemented a single-use plastic bag ban ordinance to reduce liter and waste in the City.

- Participated in Board held focused workshops to discuss the new permit.

15.2 Recommendations

Since the new Permit was adopted in January 2007, FY 2011/2012 was again dedicated to developing new programs and fine tuning existing programs to comply with the new requirements. The City is committed to working cooperatively with the other Copermittees to develop and implement the new required programs to provide a consistent and recognizable message for the region. However, the City still must develop jurisdictional specific programs to address the specific pollutants of concern and their respective sources. In an effort to implement a successful and meaningful program, the following are recommendations to improve the City's storm water program for FY 12/13:

- Continue to educate new and existing City Staff to ensure compliance in with evolving storm water regulations.
- Complete the special investigation to uncover and eliminate the root cause of reoccurring problems upstream from Seascape Sur Outfall, or install a permanent treatment control BMP to eliminate the ongoing bacteria exceedances at the outfall.
- Evaluate staff needs and program responsibilities and continue to research the possibility of utilizing outside consulting services.
- Continue implementation of SUSMP, LID and HMP requirements and ensure all plans are in compliance.
- Continue implementation of the new JURMP program plan and implement measures to comply with Permit requirements

- Increase the education of residential sector which is a main focus of the new Permit. These programs will be addressed cooperatively at the regional level, but the City is committed to helping develop the materials to be distributed to our residents.
- Continue to collect and analyze monitoring data to establish a long-term assessment of the City's storm water quality.
- Develop additional industry specific educational materials to distribute to the community.
- Develop and implement pollutant specific activities to address high priority COCs (Constituents of Concern).
- Make any changes necessary to comply with the new permit if adopted.

APPENDICES

APPENDIX A: CONSTRUCTION BMP BROCHURE

CONSTRUCTION SITES

In 1972, the Environmental Protection Agency developed regulations to control water pollution. As a result, the National Pollutant Discharge Elimination System (NPDES) Permit was created. NPDES permits are issued to municipalities as well as construction sites.

In addition to complying with local regulations, which are governed by our municipal NPDES permit, you may be required to obtain a permit through the State of California under the State General Construction Permit (99-08-DWQ). All construction sites over one acre are required to obtain coverage under this permit.

Construction sites can contribute pollutants such as sediment, metals, and chemicals, to our local creeks, rivers, lakes, lagoons, and ocean. These pollutants make their way down our streets and into storm drains, eventually discharging to the nearest body of water.

All construction sites are required to implement Best Management Practices (BMP) to prevent storm water pollution. This brochure is intended to assist your construction site in understanding BMP requirements.

Each municipality has one or more persons dedicated to ensuring that all construction sites are in compliance with state and local storm water control regulations. Contact your local municipality for further information.

RIGHT-OF-WAY PERMITTING

We understand that there are times when space on construction sites is limited. If at any point, you (as a contractor or subcontractor) need to use the public right-of-way in order to work or store materials, you must apply for a special permit. This permit allows you to use the City's right-of-way areas, and describes what is required to prevent illegal contaminants from entering local storm drains. For more information or to obtain a permit application contact your local jurisdiction.

INSPECTION AND ENFORCEMENT PROGRAM

Each jurisdiction has established an enforcement program to ensure that all businesses operate in compliance with all appropriate storm water laws and other City requirements. Contractors, site supervisors and property owners can be held responsible for violations, which may lead to a civil penalty of up to $10,000 per day and/or reimbursing the local jurisdiction for all expenses associated with clean up.

BEST MANAGEMENT PRACTICES

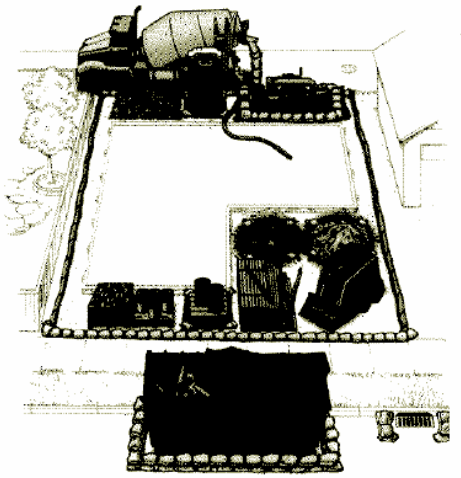
Construction materials such as paint, dirt and trash often find their way into our storm drains, polluting the environment and jeopardizing our creeks, rivers, lakes, lagoons, and ocean.

The NCSWP is working with contractors to implement what are known as Best Management Practices (BMPs) on all construction sites. That is, methods used to keep pollution out of our storm drains and off public property, such as sidewalks, streets, parkways and alleys. Carrying out and maintaining these BMPs on the construction site is critical to protecting our ocean and bay.

The following is a list of BMPs and pollution prevention measures that shall be implemented at all construction sites:

1. **Conduct daily site cleanings.**
2. **Develop spill response and containment procedures.**
3. **Educate employees and subcontractors about BMPs.**
4. **Develop an erosion control plan for wind and rain.**
5. **Regularly maintain all BMPs at project site.**

A Pollution Prevention Guide for the Construction Industry



North County Storm Water Program

Carlsbad • Del Mar • Encinitas • Oceanside • San Marcos • Solana Beach • Vista

Only Rain in the Storm Drain

Water Quality Regulations for Construction Sites

Dear Contractor,

The North County Storm Water Program is a collective of jurisdictions in northern San Diego County working together to protect our watersheds. We believe that reducing pollution is critical to maintaining our communities' way of life.

It is our hope that this brochure will help you identify activities that are recognized to cause water pollution and implement appropriate Best Management Practices (BMPs) to minimize their impact. By providing you with these tools, we hope to make your job easier while keeping our waterways clean.

Each jurisdiction will be inspecting their construction sites to ensure the protection of water quality. We look forward to seeing the BMPs presented in this brochure implemented at your sites.

Together we have the ability to preserve and improve the quality of life in our communities.

Sincerely,

The North County Storm Water Program

Contact Phone Numbers:

City of Carlsbad
760-602-2799

City of San Marcos
760-744-1050

City of Encinitas
760-633-2787

City of Del Mar
858-755-9313

City of Oceanside
760-435-5800

City of Solana Beach
858-720-2470

City of Vista
760-726-1340

APPENDIX B: STORM WATER PLAN CHECK COMMENT FORM

CITY OF SOLANA BEACH
ENGINEERING DEPARTMENT
STORM WATER PLAN CHECK COMMENTS

Project: _____ Address: _____

☐ Construction phase **Erosion Control** shall be shown on the permitted plans, such as silt fences, gravel bags, de-silting basins, slope protection and entrance controls. **Best management practices (BMP's)** shall be developed and implemented to manage storm water and non-storm water discharges from the site at all times during construction activities. Erosion prevention shall be emphasized to keep sediment on site during excavation and grading activities. Sediment controls such as mulch, jute netting and straw blankets shall be used as a supplement to erosion control for keeping sediment on site.

- **Submit Storm Water Management Plan** (attached)
- **Add the following note to plans**: "**EROSION CONTROL:** Best management practices shall be developed and implemented to manage storm water and non-storm water discharges from the site at all times during excavation and grading activities."

☐ The Applicant shall demonstrate that the **project does not increase storm water runoff** or peak discharge from their property. For example, add a storm water retention and infiltration feature such as a depressed landscape area or below ground drywell using course rock (1.5" to 2.5") or a pre-fabricated chamber. The amount of retention volume should be at least equal to 0.60 inches (0.05 feet) times the added impervious area. This should be designed to avoid runoff damage to downstream properties, such as not concentrating runoff where it was previously not concentrated. (For 5,000 SF or more of added impervious area, use County of San Diego Hydrology Manual)

☐ Storm Water and Non-Storm Water Runoff Control. Post-development measures that **reduce pollutant discharges from the site** shall be shown on the permit plans. For example, maximize permeable areas (landscaping, driveway grass strips, gravel paths, concrete pavers on sand) to allow runoff seepage into the ground and drain impermeable surfaces (roofs, hardscape, driveways) to permeable areas (i.e. planted areas) and other approved pollutant treatment BMP's.

- Is runoff from hardscape areas routed over natural treatment areas before draining off site?
- **Show on the plans** where hardscape and roofs drain to.

- **Show BMP's** on the plans (grassy swales, landscaping, infiltration pits, pervious pavements, gravel paths, etc.).
- The volume of treatment should be at least 0.60 inches (0.05 feet) times the added impervious area.

APPENDIX C: BUILDING PLAN CHECK ROUTING FORM

CITY OF SOLANA BEACH
635 S. Highway 101, Solana Beach, CA 92075
(858) 720-2440
APPLICATION TRACKING FORM

Plancheck No.: _____
Received by: _____
Date:

Site Address _____ Suite # _____
Site Business Name _____ APN _____
Project/Property Owner's Name _____
Contact Person _____ Phone # _____
Address _____ Fax # _____
Project Description _____ E-Mail _____
Discretionary Permit Applicable? _____ Sq. Ft. _____
Estimated Building Valuation? _____ Estimated Grading Required? _____
Is/will the building equipped with fire sprinklers? ☐Yes ☐No Is the property on a septic system? ☐Yes ☐ No
Is there an existing swimming pool &/or spa on the property? ☐Yes ☐ No **If "yes," see the Pool & Spa note below**

THE FOLLOWING "CHECKED" ITEMS MUST HAVE WRITTEN APPROVAL PRIOR TO PERMIT ISSUANCE. APPROVALS FROM THE PLANNING, ENGINEERING, FIRE, HEALTH DEPARTMENTS, AND THE AIR POLLUTION CONTROL DISTRICT MAY ALSO BE REQUIRED PRIOR TO FRAME AND/OR FINAL INSPECTION AND OCCUPANCY (INDICATED ON "BLUE" CARD). IF YOU HAVE ANY QUESTIONS, PLEASE CONTACT THE INDIVIDUAL DEPARTMENT(S) AT THE NUMBERS SHOWN.

CITY DEPARTMENTS

☐ **PLANNING / ZONING**.....858-720-2440
- ☐ O.K. for Plancheck Only. By _____ Date _____
- ☐ Fees Due. ☐ Park Fees ☐ Public Facilities Fees ☐ Public Arts Fee
- ☐ Fee Payment Required Prior to ☐ Permit Issuance ☐ Final Inspection
- ☐ Height Certificate Required prior to Requesting Frame Inspection.
- ☐ Approval Req'd prior to: ☐ Permit ☐ Frame Insp ☐ Final Insp
- ☐ Approval required prior to ☐ Frame ☐ Final Inspection
- ☐ Project shall comply with Wildland Urban Interface Standards (WUI)
- ☐ O.K. to Issue Building Permits _____

☐ **ENGINEERING / SANITATION**.....858-720-2470
- ☐ O.K. for Plancheck Only. By _____ Date _____
- ☐ Permits Req'd ☐ Dedication Req'd ☐ Fees Req'd.
- ☐ Approval required prior to ☐ Frame ☐ Final Inspection (Sewer, Plancheck, In Lieu)
- ☐ See attached form for Storm Water BMP'S
- ☐ O.K. to Issue Building Permits _____

☐ **ENVIRONMENTAL**.....858-720-2477
- ☐ O.K. for Plancheck Only By _____ Date _____
- ☐ See attached form for Storm Water comments
- ☐ WMP Required Prior to ☐ Permit Issuance ☐ Final Inspection
- ☐ Post Construction BMP Inspection Required:
  - ☐ During Construction ☐ Prior to Final Inspection
- ☐ O.K. to Issue Building Permits _____

☐ **FIRE PREVENTION**.....858-720-2410
- ☐ O.K. for Plancheck Only By _____ Date _____
- Approval required prior to ☐ Frame ☐ Final Inspection
- ☐ O.K. to Issue _____

☐ **POOL & SPA SAFETY ENCLOSURE & SAFETY FEATURES**
Effective 1/1/07, AB 2977 requires all existing pools and spas shall comply with current State mandated enclosure & safety features.

AGENCY APPROVALS

☐ **SCHOOL FEES**
(Obtain signature on the attached forms)
Solana Beach Elementary &
San Dieguito Union H.S. District.....760-753-6491

☐ **HEALTH DEPARTMENT**
- ☐ Health Regulated Business
- ☐ Hazardous Materials Management.....619-338-2222
  1255 Imperial Avenue, San Diego 92138-5621
- ☐ Final Approval Required
- ☐ Septic Approval Required 760-471-0730
  151 Carmel St, San Marcos 92078

Approved by _____

☐ **AIR POLLUTION CONTROL DIST.** ..... (858) 586-2600
(Obtain stamp and signature on APCD Questionnaire)
10124 Old Grove Rd., San Diego CA 92131

☐ **WATER AND SEWER**
(Obtain signatures on attached forms)
- ☐ Santa Fe Irrigation District.....858-756-2424
- ☐ Solana Beach Sanitation District 858-720-2470

☐ **CALIFORNIA COASTAL COMMISSION**....619-767-2370
Call for an appointment

☐ **ASSESSOR'S COPY OF PLANS**
At permit issuance, provide a third copy of Title Sheet, Plot Plan & Floor Plan (per Senate Bill 493).

☐ **OWNER/BUILDER AFFIDAVIT AND/OR CONTRACTOR INFORMATION**

☐ **SDG&E WORK ORDER**..... (800) 411-SDGE
For new / relocated gas & electric meters

_____ _____
Signature of Applicant Date

F:/Common/UpdatedApplications/Tracking Sheet Eff 09/08

APPENDIX D: RAINY SEASON REMINDER (SAMPLE)

October 15, 2008

XXXXXXXXXXXX
XXXXXXXXXXXX
Solana Beach, CA 92075

RE: EROSION CONTROL RESPONSIBILITIES FOR CONSTRUCTION SITES

Dear Owner and/or Contractor:

As the rainy season begins, this is a reminder to make sure that your project site at **XXXXXXXX** is in compliance with the City of Solana Beach's Storm Water Management Section 13.60 and Excavation and Grading Ordinance Section 15.40. Your responsibility as owner/contractor is to control and reduce pollutants in runoff from all your construction activities. You are required to comply throughout the year, but the "rainy season" requires special attention and practices.

Since we are now in the official "rainy season," you shall implement all the required measures in the Storm Water Pollution Prevention Plan or Erosion Control Plan for your project site. Your responsibility to implement these measures is not only to comply with the City of Solana Beach's Ordinances and Jurisdictional Urban Runoff Management Program (JURMP), but also to comply with the Regional Water Quality Control Board Permit Order 2007-0001.

At a minimum you must implement these practices on all disturbed areas during the rainy season:

- Cover and stabilize all exposed soil, particularly on slopes, in order to prevent erosion.
- Employ any erosion control measures that are adequate to prevent erosion.
- Implement Best Management Practices (BMPs) to reduce the tracking of sediment onto public or private roads.
- Conduct pre- and post-storm inspections of erosion prevention and control measures and determine whether they function properly; modify if necessary to improve effectiveness.
- Maintain all erosion prevention and control measures throughout the season and replace them as needed to ensure measures accomplish the task.
- Ensure that all site personnel are trained in erosion prevention and control techniques as well as in the requirements of the Statewide General Construction Storm Water Permit.

- Review, upgrade, and fully implement your site-specific Storm Water Pollution Prevention Plan consisting of Best Management Practices for all pollutants, including those other than sediment. The City of Solana Beach will be inspecting your project site for compliance. The California Regional Water Quality Control Board plans to conduct their compliance inspections jointly with the United States Environmental Protection Agency. Other agencies may inspect your site at will.

If you would like additional information on selecting appropriate BMPs, the City has developed a BMP Brochure that is available upon request. Failure to comply with the City's storm water regulations can result in enforcement actions, including stop work notices and fines.

If you have any questions, or require additional information, please contact me at (858) 720-2477.

Sincerely,

Danny King
Environmental Programs Manager
City of Solana Beach

APPENDIX E: PUBLIC PROJECT PRE-CON MEETING AGENDA

PRE-CONSTRUCTION MEETING
EL VIENTO AT GRANADOS AVENUE
SEWER, WATER AND STREET REALIGNMENT
&
LOMAS SANTA FE DRIVE SIDEWALKS
Bid 2012-04

May 3, 2012 – 1:30 pm

Introductions

Contacts

1. Contractor — **Piperin Corporation**
(760) 510-6747 office
Craig Barry (619) 339-7875

2. City — City of Solana Beach
635 S. Highway 101
Solana Beach, CA 92075
(858) 720-2470 (Engineering Dept.)
(858) 755-1782 (Engineering fax)

Jim Greenstein – Project Manager (858) 720-2476
Hector Ezquerro – Project Inspector (858) 354-8876
Taryn Dunbar – City Inspector (858) 720-2487
Steve Kerr – Public Works Operations Manager (858) 449-2630

3. Utilities — Santa Fe Irrigation District – (858) 756-2424

Project Status: Notice to Proceed – pending contract
Start within 10 working days; Complete within 90 working days of start

Contract Amount: $365,870

Project Goals:
- Safety
- Community
- Quality
- Schedule
- Budget
- On-time completion

Contractor Requirements:
- Submit Names/Phone Numbers of Foreman/Emergency People
- Submit Names of Additional Subcontractors
- Construction Schedule - received

Page 1 of 2

Storm Water & Erosion Control
- Best management practices shall be used & maintained

Labor Compliance, Certified Payroll and Progress Payments

Public Notification: Contractor's responsibility (keep the public informed & keep the City informed) Section H, Part 1-M
- Advance notification of road closure
- Door hangers

Project Safety: Contractor's responsibility
- Traffic Control Plans – submitted and under review
    - El Viento & Granados
    - Lomas Santa Fe Drive

Inspection & Testing
- City will provide inspection; testing by City on-call consultant as needed.

Change Orders
- Notification must be in writing if there is a request for a change order or extra work.
- Work is not approved until change order is signed by the City Manager or the City Engineer. Authority to sign change orders is regulated by the municipal code based on the price of the change order. Project Manager and Project Inspector cannot approve change orders. Any work performed before a signed change order is issued is done at that the contractor's risk.

Submittals and Requests for Information (RFI) – submit to the city's project manager.

Operating hours
- 7 a.m. to 3:30 p.m. Monday thru Friday. Do not operate, start equipment or congregate near residential areas before 7 a.m. Any requests to modify these hours must be submitted in writing to the city.
- If the contractor wants to work on Saturday, the contractor must reimburse the city for inspection services. All requests for Saturday work must be submitted to the city by 5:00 pm on the Thursday before the work is to be performed.

Project Issues
- Power Pole relocation
- Sewer realignment
- Water main replacement
- Access to driveways, particularly on El Viento
- Lomas Santa Fe Sidewalks
    - Restriping

F:\Common\City Projects\El Viento Improvement Project\El Viento pre-con agenda.doc

Page 2 of 2

APPENDIX F: CIVIL PENALTY MATRIX

SOLANA BEACH
CIVIL PENALTIES MATRIX

The following factors will be considered in determining the amount of civil penalties from the Solana Beach Municipal Code 13.10.140 A. any person who violates any of the provisions of this chapter shall be liable for a civil penalty not to exceed $1,000 for **each day** such a violation exists and will be assessed: (1) The seriousness of the violation (2) the duration of the violation; (3) the frequency or recurrence of the violation; (4) the history of the violation; (5) the Responsible Party's conduct after issuance of the Notice and Order; (6) the good faith efforts of the Responsible Party to comply; (7) the impact of the violation upon the community.

*** Criminal Penalties**

These factors are assigned to two categories, "**Environmental Significance**" and "**Compliance Significance**," in order to easily present them in a graphical form in the matrix chart.

Environmental Significance includes the following factor: Seriousness of the violation.

Compliance Significance includes the remaining factors: The duration of the violation, frequency or recurrence of the violation, the history of the violation, the Responsible Party's conduct after issuance of the Notice and Order; the good faith efforts of the Responsible Party to comply and the impact of the violation on the community.

Environmental Significance

Compliance Significance	Moderate	Major	Severe
Moderate	*NOV-$100	$100 - $200	$500
Major	$100- $200	$500	$1,000
Severe	$500-$1,000	$1,000	$1,000-Referral to Regulating Agency

* Notice of Violation

The list below gives examples of issues specific to storm water violations that could be considered under each of the factors.
Increased Penalties will be factored as Notice of Violation to Moderate, Moderate to Major or Major to Severe.
Decreased Penalties could be Severe to Major, Major to Moderate or Moderate to Notice of Violation.

Environmental Significance
Seriousness of the Violation

Relatively inert discharges (e.g., soil, sediment, cement residue, stucco residue**,** etc.) **[Moderate Environmental Impact]**

Moderate toxicity / moderate health threat discharges (e.g., cleaning products with no specific hazard, i.e. detergent, latex paint) **[Major Environmental Impact]**

Significant toxicity / significant health threat discharges (e.g., sewage, hazardous materials/wastes, etc.) **[Severe Environmental Impact]**

SOLANA BEACH
CIVIL PENALTIES MATRIX

Compliance Significance

Duration of Violation

Extent of discharge as determined by volume, area covered, how long it continued **[Greater Discharge Can Lead to Increased Penalty]**

Number of days the discharge remained unabated in the conveyance system **[Unabated Discharge Can Lead to Increased Penalty]**

Impact on the Community

Results in damage, degradation, or obstruction of the storm water conveyance system **[Can lead to Increased Penalties]**

Results in actual degradation of aquatic habitat in receiving waters **[Can lead to Increased Penalties]**

Results in actual impact on wildlife including benthic communities **[Can lead to Increased Penalties]**

Results in algal bloom, discoloration or odor in receiving waters **[Can lead to Increased Penalties]**

Discharge of constituent of concern within a watershed that leads to a 303 (d) listed water body **[Can lead to Increased Penalties]**

Regulated industry (e.g., subject to OSHA chemical right-to-know requirements or subject to Hazardous Material / Hazardous Waste Permit) **[Can lead to Increased Penalties]**

Recurrence of Violation

No prior administrative enforcement penalty can be a factor for officer's discretion in lowering penalties.

Prior administrative penalties action can lead to increased penalties.

Prior administrative enforcement within the last year maybe a factor in determining higher penalties leading up to a **criminal citation**.

Intentional discharge will be a factor to increase penalties leading up to a criminal citation.
SOLANA BEACH
CIVIL PENALTIES MATRIX

History of Violation

Prior violations or warnings issued by other regulatory or City agencies (e.g., County Dept. of Health, County Dept. of Env. Health, RWQCB, FEWD, MWWD) **[Can lead to Increased Penalties]**

Prior warnings (letter or Notice of Violation) from Storm Water Pollution Prevention Program **[Can lead to Increased Penalties]**

Good Faith Efforts to Comply

Responsible Party failed to implement BMPs and should have known of requirement for BMPs (e.g., gasoline service station or construction industry) **[Can lead to Increased Penalties]**

Existing BMPs failed to prevent discharge (e.g., employee failed to comply with documented training and procedures or structural BMP failed to perform to design) **[Can lead to Reduced Penalties]**

Rapid and appropriate response to discharge **[Can lead to Reduced Penalties]**

The Solana Beach Municipal Code 13.10.140 A States the following:

13.10.140 Penalties for violation.

A. Civil Penalties. Any person who violates any of the provisions of this chapter shall be liable for a civil penalty not to exceed $1,000 for **each day such a violation exists**, and all pollution detection and mitigation costs (if applicable).

B. Criminal Penalties. Any person who knowingly or intentionally violates any provision of this chapter shall be subject to liability for a misdemeanor, punishable by imprisonment for a period not to exceed one year, or a fine not to exceed $10,000 for each day such a violation exists, or both.

C. Any monetary penalties collected by the city of Solana Beach pursuant to violations of this chapter shall be returned to the storm water management program to be used for storm water pollution monitoring and management practices. (Ord. 184 § 1, 1993)

13.10.150 Continuing violation.

Unless otherwise provided, a person, firm, corporation or organization shall be deemed to have committed a separate offense for each and every day during any portion of which a violation of this chapter is committed, continued or

permitted by the person, firm, corporation or organization and shall be punishable accordingly as herein provided. (Ord. 184 § 1, 1993)

13.10.160 Concealment.
Causing, permitting, aiding, abetting or concealing a violation of any provision of this chapter shall constitute a violation of such provision. (Ord. 184 § 1, 1993)

13.10.170 Acts potentially resulting in violation of Federal Clean Water Act and/or Porter-Cologne Act.
Any person who violates any provision of this chapter, any provision of any permit issued pursuant to this chapter, or who discharges waste or wastewater which causes pollution, or who violates any cease and desist order, prohibition, or effluent limitation, may also be in violation of the Federal Clean Water Act and/or Porter-Cologne Act and may be subject to the sanctions of those Acts including civil and criminal liability. Any enforcement action authorized under this chapter should also include notice to the violator of such potential liability. (Ord. 184 § 1, 1993)

13.10.180 Violations deemed a public nuisance.
A. In addition to the penalties hereinbefore provided, any condition caused or permitted to exist in violation of any of the provisions of this chapter is a threat to the public health, safety and welfare and is declared and deemed a public nuisance and to impact storm water quality, and such nuisance may be summarily abated and/or restored by any authorized enforcement official. Civil action to abate, enjoin or otherwise compel the cessation of such nuisance may be taken by the city attorney.
B. The cost of such abatement and restoration shall be borne by the owner of the property and the cost thereof shall be a lien upon and against the property and such lien shall continue in existence until the same shall be paid. If the lien is not satisfied by the owner of the property within three months after the completion by the authorized enforcement official of the removal of the nuisance and the restoration of the property to its original condition, the property may be sold in satisfaction thereof in a like manner as other real property is sold under execution.
C. If any violation of this chapter constitutes a seasonal and recurrent nuisance, the city of Solana Beach shall so declare. Thereafter such seasonal and

recurrent nuisance shall be abated every year without the necessity of any further hearing. (Ord. 184 § 1, 1993)

13.10.190 Civil actions.

In addition to any other remedies provided in this section, any violation of this chapter may be enforced by civil action brought by the city of Solana Beach. In any such action, the city of Solana Beach may seek, and the court shall grant, as appropriate, any or all of the following remedies:

A. Injunctive relief;

B. Assessment of the violator for the costs of any investigation, inspection, or monitoring survey which led to the establishment of the violation, and for the reasonable costs of preparing and bringing legal action under this subsection;

C. Costs incurred in removing, correcting, or terminating the adverse effects resulting from the violation;

D. Compensatory damages for loss or destruction to water quality, wildlife, fish and aquatic life. Assessments under this subsection shall be paid to the city of Solana Beach to be used for costs associated with monitoring and establishing storm water discharge pollution control systems and/or implementing or enforcing the provisions of this chapter. (Ord. 184 § 1, 1993)

APPENDIX G: GENERAL CONSTRUCTION "GOOD NEIGHBOR" BROCHURE

PROPERTY OWNERS ARE RESPONSIBLE FOR THE ACTIONS OF THE CONTRACTORS AND SUBCONTRACTORS WORKING ON THEIR PROPERTY.

Construction Hours and Noise Levels:

Construction workers shall not congregate at or report to the site prior to the beginning of construction hours.

Monday - Friday:
7:00 a.m. to 7:00 p.m.

Saturday:
9:00 a.m. to 6:00 p.m.

No construction is permitted on Sundays and Holidays. Please check the City's website for a list of observed holidays at:

www.ci.solana-beach.ca.gov

Construction noise levels shall not exceed 75 decibels for more than eight hours during any 24 hour period.

For information concerning construction hours and noise levels contact the Community Development Department at: (858) 720-2440

Storm Water Best Management Practices (BMPs)

Violations of the storm water regulations can result in penalties, including fines of $1000 per day per violation. These practices are strictly enforced.

Storm Water BMPs Continued:

- Perimeter Protection Controls: Silt fences, straw wattels, sand bags, etc. must be used to control run-on and run-off from project site.
- Tracking Controls: All entrances and exits to the site must have protection measures installed to prevent tracking of sediment off the project site.
- Washout Area: All sites must have a designated "wash-out" area to clean equipment and dispose of excess concrete, stucco, and paint.
- Concrete Trucks/Pumpers: Concrete trucks and pumpers must have perimeter protection installed around and under them at all times. Any spill must be contained on-site and no washing of equipment permitted without a washout area.
- Materials Storage: All materials stored on-site must be contained and covered at all times.
- Trash Containers/Portable Restrooms: Dumpsters must be covered and have adequate perimeter protection and all portable restrooms must have secondary containment measures installed.
- Storm Drain Inlets: All adjacent storm drain inlets must be protected at all times to prevent pollutants from the project site from entering (including sediment).

For more Information concerning Storm Water BMPs contact the Environmental Services Department at (858) 720-2477.

Fire Safety:

Obey all Fire Codes:

- Ensure fire lanes are kept clear and unobstructed.
- Any combustibles onsite must be stored safely.
- Remember oily rags catch on fire spontaneously, even when no ignition source or flame is present.

For more information concerning fire safety contact the Fire Department at: (858) 720-2410

Encroachment Permits:

Encroachment Permits are required before you start work within the public right of way.

- Constructing new or repairing old curbs, gutters and sidewalks, constructing new driveways or placing dumpsters in the right of way requires approval from the City and a fee of $245.
- The installation of new or repair of existing utilities requires approval from the City and a fee of $575.

For more information concerning encroachment permits please contact the Engineering Department at: (858) 720-2470

Questions, Comments, Concerns?
Contact City Hall at: (858) 720-2400

Construction Site "Golden Rules":

Treat the construction site as if you were living next door to it.

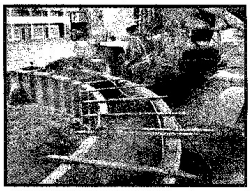
- Communicate construction timetables to the surrounding neighbors. Consider distributing a letter to neighboring properties listing proposed timetables and contact information for the property owner and construction contractor.
- Notify neighbors if you expect excessive noise and/or traffic disruptions on a particular day. For example, if you are planning to demolish an existing residence or if you are expecting heavy equipment onsite to pour concrete.
- Avoid parking in front of neighbors homes and do not run car engines unnecessarily.
- Minimize noise by not using radios and refrain from shouting whenever possible.
- Construction vehicles should be parked legally and accommodated on the construction site whenever possible.
- Use respectful personal conduct by using the onsite restroom facilities and do not use profanity.

Community Development Department

City of Solana Beach
635 South Highway 101
Solana Beach, CA 92075
Phone: (858) 720-2440
FAX: (858) 755-1782
www.ci.solana-beach.ca.gov

City of Solana Beach

Construction Site Supervision in Solana Beach: Code Requirements and Good Neighbor Practices



This fact sheet is provided to increase awareness of the basic rules all construction sites are required to follow by city ordinance. These rules are a minimum, and if not followed can result in penalties if you are found to be in violation of City or State applicable regulations.

In addition, we've provided some tips for additional measures that you can take at the site that would be appreciated by the City and your neighbors. We recognize that a construction site by its nature has a certain amount of noise, debris and inconvenience for the neighborhood. We have found from experience that where you can go above and beyond the minimum City Municipal Code requirements, and implement these good neighbor practices, your project can benefit from the improved neighborhood relations.

APPENDIX H: UNDERGROUND UTILITY DISTRICT SPECIAL BMP HANDOUT

Undergrounding Utility District Construction Best Management Practices

When conducting trenching work, construction Best Management Practices (BMPs) must be utilized at all times. Failure to keep all sediment and debris on your property is a violation of the City's Storm Water Regulations and can result in fines. The following list contains BMPs that may be used to keep sediment onsite and out of the City's storm drain conveyance system:

- Perimeter protection BMPs such as silt fences, straw waddles and/or sand bags can be used to contain sediment onsite.
- Cover all materials and keep above ground when a predicted rain event is to occur (>50% chance).
- Keep all materials/sediment out of street and gutter to prevent nuisance water from washing into storm drain system.
- Prevent sediment tracking into street by placing down gravel where equipment is entering and exiting property and sweeping area frequently.

These are all common general BMPs that can be utilized to prevent discharges into the City's storm drain conveyance system. If you or your contractor have any questions or require additional information on any of this, please feel free to call me at the number below.

Sincerely,

Danny King
Environmental Specialist

APPENDIX I: SPECIAL EVENT VENDOR BMP GUIDELINES

VENDOR GUIDELINES

Fiesta del Sol

- All electric cords should be out of the public access areas. If they must extend into a public access area, the cords must be protected with pedestrian transition molding to minimize the trip hazard.
- All cooking areas and devices shall have at least one 2A-20BC fire extinguisher readily accessible to persons working in the immediate proximity of each device or cooking area and shall be in plain view.
- All portable LP-gas containers, valves, and fittings shall be properly secured in a fixed upright position and protected in accordance with the Uniform Fire Code.
- The following conditions apply to canopies in excess of 400 square feet, and to tents and temporary membrane structures having an area in excess of 200 square feet:
- All tents, temporary membrane structures, and/or canopies that are to be used at the function shall be adequately braced and anchored to prevent weather related collapse. Documentation of structural stability shall be furnished to the Fire Chief on request.
- All tent, canopy, or temporary membrane structure exits shall be in accordance with the Uniform Fire and Building Codes.
- The design and construction of the fabric envelope, method of anchoring, and inflation systems for air-supported and air-inflated structures shall be in accordance with the Building Code.
- The sidewalls, drops and tops of temporary membrane structures, tents and canopies shall be composed of flame-resistant material or shall be treated with flame retardant in an approved manner. Floor coverings, bunting, combustible decorative materials and effects, including sawdust when used on floors or passageways, shall be composed of flame-resistant material or shall be treated with flame retardant in an approved manner. Temporary membrane structures, tents or canopies shall have either a permanently affixed label or a Certificate of Flame Resistance bearing the following information:
  - Identification of the temporary structure's size and fabric or material type.
  - For flame-resistant-treated materials, the date that the temporary membrane structure, tent or canopy and other combustible materials were last treated with an approved flame retardant. The trade name and type of flame retardant utilized in the flame-retardant treatment. The name of the person and firm that applied the flame retardant.
- The following general storm water run-off practices shall apply to the event:
  - No dumping or allowing any material into City storm drains.
  - Install secondary containment around portable restroom facilities when feasible.
  - Prompt and proper clean-up of all trash debris.
  - Do not use water or any liquid to rinse down any debris or dirt on any ground surface. Dry sweeping only of event debris is allowed.
  - Protect all storm drain catch basins/inlets when feasible with proper storm water Best Management Practices implementation.
  - Do not allow excess water to leave the site. Properly contain everything onsite before it enters the City's storm drain system.

APPENDIX J: MANDATORY COMMERCIAL RECYCLING ORDINANCE

ORDINANCE 417

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF SOLANA BEACH, CALIFORNIA, AMENDING SECTIONS OF CHAPTER 6.20 OF THE SOLANA BEACH MUNUCIPAL CODE, ALL RELATED TO RECYCLING

WHEREAS, the City's Solid Waste Collection and Disposal Ordinance (Chapter 6.20 of the Solana Beach Municipal Code) was enacted in 1993 pursuant to Ordinance Number 177; and

WHEREAS, the City's Solid Waste Collection and Disposal Ordinance, Sections 6.20.090 and 6.20.135 were amended in 2006 pursuant to Ordinance Number 345;

WHEREAS, Section 6.20.135 fails to mandate that all business types must recycle;

WHEREAS, Section 6.20.135 does state that residents and businesses may choose other methods to recycle other than through the City's recycling services;

WHEREAS, the City Council desires to update Chapter 6.20 to clarify certain provisions.

NOW THEREFORE, THE CITY COUNCIL OF THE CITY OF SOLANA BEACH DOES ORDAIN AS FOLLOWS:

Section 1. Section 6.20.090 of the Solana Beach Municipal Code is hereby amended as follows:

6.20.090 Containers.

It shall be the duty of the occupants of residential, commercial and industrial occupancies to maintain containers for the accumulation and disposal of garbage, recyclables, combustible and noncombustible rubbish, miscellaneous debris, rubbish, recyclable material and other refuse. All containers or receptacles used for the reception, removal and disposal of garbage, recyclables, food plant wastes, market greens, market refuse and like refuse, should be water-tight, constructed of a material of suitable strength and durability, shall be tight-seamed and provided with handles and tight-fitting lid or cover, which lid shall be and remain affixed to the container at such time as the garbage, recyclables, food plant waste, market greens, market refuse and other refuse are placed within the container. Noncombustible refuse and other like refuse, other than garbage, may be deposited in well-constructed containers having a capacity not in excess of 96 gallons each (residential) and which, when filled, do not collectively exceed a weight of 150 pounds for solid waste and recyclables. Green waste may be deposited in well-constructed containers having a capacity not in excess of 32 gallons each (residential) and which, when filled, do not collectively exceed a

commercial or residential property; or from donating to another entity for reuse or recycling recyclables generated from that business, commercial or residential property.

E. It is unlawful for any person to fail to segregate designated recyclable material. Violations of this section shall be punishable as provided in Chapters 1.16 and 1.18 SBMC. Nothing in this subsection shall prevent the city from obtaining voluntary compliance with the provisions of this section through educational programs, issuance of warning notices, or other means.

EFFECTIVE DATE: This Ordinance shall be effective thirty (30) days after its adoption. Within fifteen (15) days after its adoption, the City Clerk of the City of Solana Beach shall cause this Ordinance to be published pursuant to the provisions of Government Code Section 36933.

INTRODUCED AND FIRST READ at a regular meeting of the City Council of the City of Solana Beach, California, on the 12th day of May, 2010; and

THEREAFTER ADOPTED at a regular meeting of the City Council of the City of Solana Beach, California, on the ____ day of _____, 2010, by the following vote:

AYES: Councilmembers –
NOES: Councilmembers –
ABSTAIN: Councilmembers –
ABSENT: Councilmembers –

_____
THOMAS M. CAMPBELL, Mayor

APPROVED AS TO FORM:

_____
JOHANNA N. CANLAS, City Attorney

ATTEST:

_____
ANGELA IVEY, City Clerk

APPENDIX K: STREET SWEEPING MATERIALS FORM

Employee Name and Organization (below)

Date (above) use N/S below if not scheduled

1st 2nd 3rd 4th Tuesday	Time in: Time out:	Time in: Time out:	Equipment Number: Year, Make & Model

OBSTRUCTIONS (identify as vegetation, vehicle, etc. and provide description).

Reference previous date(s) reported (no entry above required):

End of day Volumn in Cubic Yards:
% (percentage) Sediment:
%(percentage) Organics:
Litter (describe-or-enter –0-)

Operator enter reason(s) for not following schedule or other comments:

C.O.S.B. Initial

Forward to R.W.Q.C.B. (C.O.S.B. Initial on Sending) City of Solana Beach 2004(adinf)

APPENDIX L: SMOKING BAN ORDINANCE

ORDINANCE NO. 316

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF SOLANA BEACH, CALIFORNIA, AMENDING SOLANA BEACH MUNICIPAL CODE SECTION 11.12.020 A TO INCLUDE TOBACCO LITTER AND ADDING SECTION 11.12.020 EE TO PROHIBIT SMOKING IN CITY PARKS AND BEACHES

THE CITY COUNCIL OF THE CITY OF SOLANA BEACH DOES HEREBY ORDAIN AS FOLLOWS:

SECTION 1. Findings and Purpose. The City Council of the City of Solana Beach hereby finds and declares that:

A. The City of Solana Beach is committed to keeping its beaches and parks clean, safe, healthy and pleasant for everyone.

B. Smoking is hazardous to health. Numerous studies have shown that second-hand smoke is a significant public health hazard. The U.S. Environmental Protection Agency has classified second-hand smoke as a group A carcinogen, the most dangerous class of carcinogen. Smoking in parks and beaches endangers children and others by exposing them to second-hand smoke. Moreover, children and youth who observe smoking and tobacco use in public beaches and parks may model the behavior.

C. The U.S. Centers For Disease Control and Prevention (CDC) estimates that second-hand smoke causes 3,000 lung cancer deaths per year among adult non-smokers in the U.S. The California Environmental Protection Agency has concluded that second-hand smoke causes coronary heart disease in non-smokers. Second-hand smoke is especially hazardous to particular groups, including those with chronic health problems, the elderly and children. The CDC has found that second-hand smoke causes children to suffer from lower respiratory tract illness, such as bronchitis and pneumonia, exacerbates childhood asthma, and increases the risk of acute chronic middle ear infection in children.

D. Additionally, discarding cigarettes and cigar butts and tobacco onto the ground in City parks and beaches is unsightly, unclean and particularly hazardous to small children who handle and sometimes ingest them. The City must collect tobacco litter in parks and beaches or it will be collected by stormwater and washed directly into our ocean waters in violation of the City's stormwater pollution prevention permit and to the detriment of ocean life and all ocean users.

ORDINANCE NO. 316
No Smoking in Public Beaches and Parks
Page 2

E. The City Council therefore determines that banning smoking and the improper disposal of tobacco products in City parks is necessary to protect the health, safety and welfare of Solana Beach residents and visitors.

SECTION 2. Section 11.12.020 A. of the Solana Beach Municipal Code is hereby amended to read as follows:

A. To dump or deposit any trash, specifically including cigarette and cigar butts and tobacco, refuse, rubbish, litter, or other kind of waste materials, except in approved containers specifically placed and designated to receive such waste materials. No person shall dispose of any animal carcass in or on any beach or park.

SECTION 3. Section 11.12.020 EE of the Solana Beach Municipal Code is hereby added to read as follows:

EE. No person shall smoke within the boundaries of any public beach or park unless the City has designated a specific temporary or permanent signed smoking area.

SECTION 4. If any section, subsection, sentence, clause, or phrase of this Ordinance is for any reason held to be invalid or unconstitutional by a decision of any court of competent jurisdiction, such decision shall not affect the validity of the remaining portions of this Ordinance. The City Council hereby declares that it would have passed this Ordinance and each section, subsection, sentence, clause, or phrase not declared invalid or unconstitutional without regard to whether any portion of the ordinance would be subsequently declared invalid or unconstitutional.

SECTION 5. This ordinance shall become effective thirty (30) days following its adoption. Within fifteen (15) days after its adoption, the City Clerk shall publish this ordinance, or the title hereof, as a summary, in a newspaper of general circulation within the City of Solana Beach as required by law.

APPENDIX M: SINGLE-USE PLASTIC BAG REDUCTION

ORDINANCE 435

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF SOLANA BEACH, CALIFORNIA, ADDING CHAPTER 5.01 OF THE SOLANA BEACH MUNICIPAL CODE, ALL RELATED TO PLASTIC BAG USE REDUCTION

WHEREAS, about nineteen billion (19,000,000,000) single use bags are used annually in California but less than 5% are recycled; and

WHEREAS, there are approximately 461 licensed retail businesses in the City of Solana Beach ("the City"); and,

WHEREAS, approximately 160 of these licensed retail businesses provide single use, disposable carry-out bags to their customers; and

WHEREAS, about 6.5 million single use carry-out bags are distributed by licensed retail establishments in the City each year; and

WHEREAS, most of these single use carry out bags are made from plastic or other material that does not readily decompose; and

WHEREAS, numerous studies have documented the prevalence of single use plastic carry out bags littering the environment, blocking storm drains, fouling beaches and the ocean environment; and

WHEREAS, the City's taxpayers must bear the brunt of the clean-up costs; and

WHEREAS, plastic bags are a significant source of marine debris and are hazardous to marine animals and birds which often confuse single use plastic carry out bags for a source of food. The ingestion of these bags can result in reduced nutrient absorption and death to birds and marine animals; and

WHEREAS, single use paper bags are made from renewable resources and are much less environmentally problematic than single use plastic bags, yet they do require environmental resources to manufacture, transport, and recycle and/or dispose of; and

WHEREAS, from an overall environmental and economic perspective, the best alternative to single use plastic carryout bags is a major shift to reusable bags; and

WHEREAS, this ordinance permits stores to implement incentives to generate a shift in consumer behavior toward the use of reusable bags and significantly reducing single-use bag consumption; and

WHEREAS, there are several alternatives to single-use carry out bags readily available in the City, including reusable bags produced from sustainable materials; and

WHEREAS, it is the City's desire to whenever possible conserve resources, reduce the amount of green house gas emissions, waste, beach litter and marine pollution and to protect the public health and welfare including local wildlife, all of which increase the quality of life for Solana Beach's residents and visitors; and

WHEREAS, the City Council of the City of Solana Beach conducted a noticed public hearing regarding the proposed ordinance at their regular scheduled meeting of April 25, 2012. The public hearing was advertised pursuant to applicable law and testimony was invited and received; and

WHEREAS, the proposed ordinance is exempt from review under the California Environmental Quality Act (CEQA) based upon the commonsense exemption under 14 CCR 15061(b)(3) and the reasoning in the California Supreme Court case *Save the Plastic Bag Coalition v. City of Manhattan Beach*, 52 Cal. 4th 155 (2011); and

WHEREAS, even though the proposed ordinance is exempt from CEQA, an Initial Environmental Study was prepared in an abundance of caution under the applicable provisions of CEQA. Based upon this study it was determined that the proposed ordinance is not an action involving any significant impacts upon the environment, and a Negative Declaration was prepared and is hereby adopted; and

WHEREAS, the proposed ordinance does not preempt compliance with the California Retail Food Code or any other state of federal law.

WHEREAS, the City Council desires to add Chapter 5.01 to the Solana Beach Municipal Code, entitled "Single-Use Carryout Bag Use Reduction" to provide for restrictions on the use of plastic bags within the City.

NOW THEREFORE, THE CITY COUNCIL OF THE CITY OF SOLANA BEACH DOES ORDAIN AS FOLLOWS:

Section 1. Section 5.01.010 of the Solana Beach Municipal Code is hereby added as follows:

Section 5.01.010 Definitions

(a) "Food Vendor" means any person or establishment in the City of Solana Beach, that provides prepared food for public consumption on or off its premises and includes, without limitation, any store, shop, sales outlet, restaurant, Grocery Store, delicatessen, or catering truck or vehicle.

(b) "Grocery Store" means any Retail Establishment that sells groceries, fresh, packaged, canned, dry, prepared or frozen food or beverage products and similar items, and includes, without limitation, supermarkets, convenience stores, liquor stores and gasoline stations.

(c) "Non-Profit Vendor" means a recognized tax exempt organization which provides goods as a part of its services.

(d) "Paper Bag Cost Pass-Through" means the cost which may be collected by retailers from their customers when providing a Recycled Paper Bag.

(e) "Pharmacy" means any retail store, where prescriptions, medications, controlled or over the counter drugs, personal care products or health supplement goods or vitamins are sold, but excluding any licensed pharmacy located within a hospital.

(f) "Product Bag" means any bag, provided to a customer for use within a Retail Establishment to assist in the collection or transport of products such as produce, bulk items, meat, poultry, dry cleaning or laundry, to the point-of-sale within the Retail Establishment.

(g) "Recyclable Paper Bag" means a paper bag that meets all of the following requirements: (1) contains no old growth fiber; (2) is one hundred percent (100%) recyclable overall and contains a minimum of forty percent (40%) postconsumer recycled material; (3) is capable of composting, consistent with the timeline and specifications of the American society of Testing and Materials (ASTM) Standard D6400; (4) is accepted for recycling in curbside programs in the City; (5) has printed on the bag the name of the manufacturer, the location where the bag was manufactured, and the percentage of postconsumer recycled material used; and (6) displays the word "Recyclable" in a highly visible manner on the outside of the bag.

(h) "Retail Establishment" means any person, including any corporation, partnership, business, facility, vendor, organization or individual that sells or provides merchandise, goods or materials, including, without limitation, clothing, food, or personal items of any kind, directly to a customer; Retail Establishment includes, without limitation, any Grocery Store, department store, hardware store, Pharmacy, liquor store, restaurant, catering truck, convenience store, and any other retail store or vendor.

(i) "Reusable Bag" means a bag with handles that is specifically designed and manufactured for multiple reuse and meets all of the following requirements: (1) has a minimum lifetime of 125 uses, which for purposes of this subsection, means the capability of carrying a minimum of 22 pounds 125 times over a distance of at least 175 feet; (2) has a minimum volume of 15 liters; (3) is machine washable or is made from a material that can be cleaned or disinfected; (4) does not contain lead, cadmium, or any other heavy metal in toxic amounts, as defined by applicable state and federal standards and regulations for packaging or reusable bags; (5) has printed on the bag, or on a tag that is permanently affixed to the bag, the name of the manufacturer, the location (country) where the bag was manufactured, a statement that the bag does not contain lead, cadmium, or any other heavy metal in toxic amounts, and the percentage of postconsumer recycled material used, if any; and (6) if made of plastic, is a minimum of at least 2.25 mils thick.

(j) "Single-Use Plastic Carry-Out Bag" means any bag that is less than 2.25 mils thick and is made predominately of plastic derived from petroleum or from bio-based sources, such as corn or other plant sources provided by a Retail Establishment at the point of sale to a customer for use to transport or carry away purchases, such as merchandise, goods or food, from the retail establishment. Single-Use Plastic Carry-Out Bags do not include Product Bags as defined in this Chapter.

(k) "Vendor" means any store, shop, restaurant, sales outlet or other commercial establishment located within or doing business within the City of Solana Beach, which provides perishable or nonperishable goods.

Section 2. Section 5.01.020 of the Solana Beach Municipal Code is hereby added as follows:

5.01.020 Prohibitions

(a) No Retail Establishment in the City shall provide a Single-Use Plastic Carry-Out Bag to a customer at the point of sale unless otherwise permitted pursuant to Section 5.01.040.

(b) No Retail Establishment in the City shall provide any type of bag to a customer at the point of sale except a Reusable Bag or a Recycled Paper Bag unless otherwise permitted pursuant to Section 5.01.040.

(c) No person shall distribute a Single-Use Plastic Carry-Out Bag at any City Facility, City-managed concession, City sponsored event, or City permitted event unless otherwise permitted pursuant to Section 5.01.040.

(d) No person shall distribute a Single-Use Plastic Carry-Out Bag at any Farmers Market within the City of Solana Beach.

(e) Nothing in this Chapter shall prohibit the provision of bags, including including Single-Use Plastic Carry-Out Bags, as may be necessary to comply with the California Retail Food Code or any other state or federal law.

Section 3. Section 5.01.030 of the Solana Beach Municipal Code is hereby added as follows:

5.01.030 Incentives for Use of Reusable Bags

(a) Affected Retail Establishments are strongly encouraged to provide incentives for the use of Reusable Bags through passing through the cost of recycled bags, through credits or rebates for customers that use Reusable Bags, or through education. Such incentives may include one or more of the following:

(1) Paper Bag Cost Pass-Through

A. Subject to subsection (B) of this Section, an affected Retail Establishment may provide a Recycled Paper Bag to a customer if it collects a Paper Bag Cost Pass-through from the customer for each Recycled Paper Bag provided.

B. The Paper Bag Cost Pass-through shall not be less than 10 cents unless a store has previously submitted a full accounting to the City, signed by a responsible manager under penalty of perjury that identifies all costs including bag purchase, shipping, handling and storage, showing a lesser actual cost to the store for each bag. Any such accounting shall expire one year from the date of original submission and a new accounting would need to be resubmitted.

(2) Rebate. An affected Retail Establishment may rebate or otherwise reimburse a customer for use of a Reusable Bag up to 5 cents per Reusable Bag per transaction.

(3) Each Retail Establishment is strongly encouraged to educate its staff to promote reusable bags and to post signs encouraging customers to use reusable bags.

Section 4. Section 5.01.040 of the Solana Beach Municipal Code is hereby added as follows:

5.01.040 Exemptions

Notwithstanding the requirements contained in Section 5.01.020:

(a) A Retail Establishment shall provide a customer participating in the California Special Supplemental Food Program for Women, Infants, and Children pursuant to Article 2 (commencing with Section 123275) of Chapter 1 of Part 2 of Division 106 of the California Health and Safety Code and a customer participating in the Supplemental Food Program pursuant to Chapter 10 (commencing with Section 15500) of Part 3 of Division 9 of the California Welfare and Institutions Code, with a reusable bag or a recycled paper bag at no cost at the point of sale.

(b) The City Manager, or his or her designee, may exempt an Affected Retail Establishment, Vendor or Non-Profit Vendor from the requirements of this Chapter for a period of up to one additional year after the operative date of this Ordinance, upon sufficient showing by the applicant that the provisions of this Chapter would cause undue hardship. The phrase undue hardship includes:

1. Situations where there are no acceptable alternatives to Plastic Carry-Out Bags for reasons which are unique to the Retail Establishment, Vendor or Non-Profit Vendor;

2. Situations where compliance with the requirements of this Code would deprive a person of a legally protected right."

(c) The provision of Product Bags as defined in this Chapter is not prohibited.

Section 5. Section 5.01.050 of the Solana Beach Municipal Code is hereby added as follows:

5.01.050 Remedies.

(a) The City Manager, or his or her designee, is authorized to establish regulations and to take any and all actions reasonable and necessary to obtain compliance with this Chapter, including, but not limited to, inspecting any retail establishment's premises to verify compliance.

(b) Any person violating this Section shall be guilty of an infraction, which shall be punishable by a fine not exceeding two hundred fifty dollars, or a misdemeanor, which shall be punishable by a fine not exceeding one thousand dollars, or by imprisonment in the County Jail for a period not exceeding six months or by both such fine and imprisonment.

(c) The City Attorney may seek legal, injunctive, or other equitable relief to enforce this Chapter.

(d) Administrative enforcement of this ordinance shall proceed pursuant to Solana Beach Municipal Code Chapter 1.18.

(e) Each violation of this Chapter shall be considered a separate offense.

(f) The remedies and penalties provided in this section are cumulative and not exclusive, and nothing in this Chapter shall preclude any person from pursuing any other remedies provided by law.

(g) Notwithstanding any other provision of this Ordinance, this Ordinance may be enforced through any remedy as provided for in this Section upon its Effective Date.

Section 6. Chapter 5.01 of the Solana Beach Municipal Code shall become effective and operative as to: 1) Grocery Stores, Food Vendors, Restaurants, Pharmacies and City facilities three (3) months after its adoption by the City Council, and 2) all remaining Affected Retail Establishments, Vendors and Non-Profit Vendors six (6) months after its adoption by the City Council.

Section 7. Within fifteen (15) days after its adoption, the City Clerk of the City of Solana Beach shall cause this Ordinance to be published pursuant to the provisions of Government Code Section 36933.

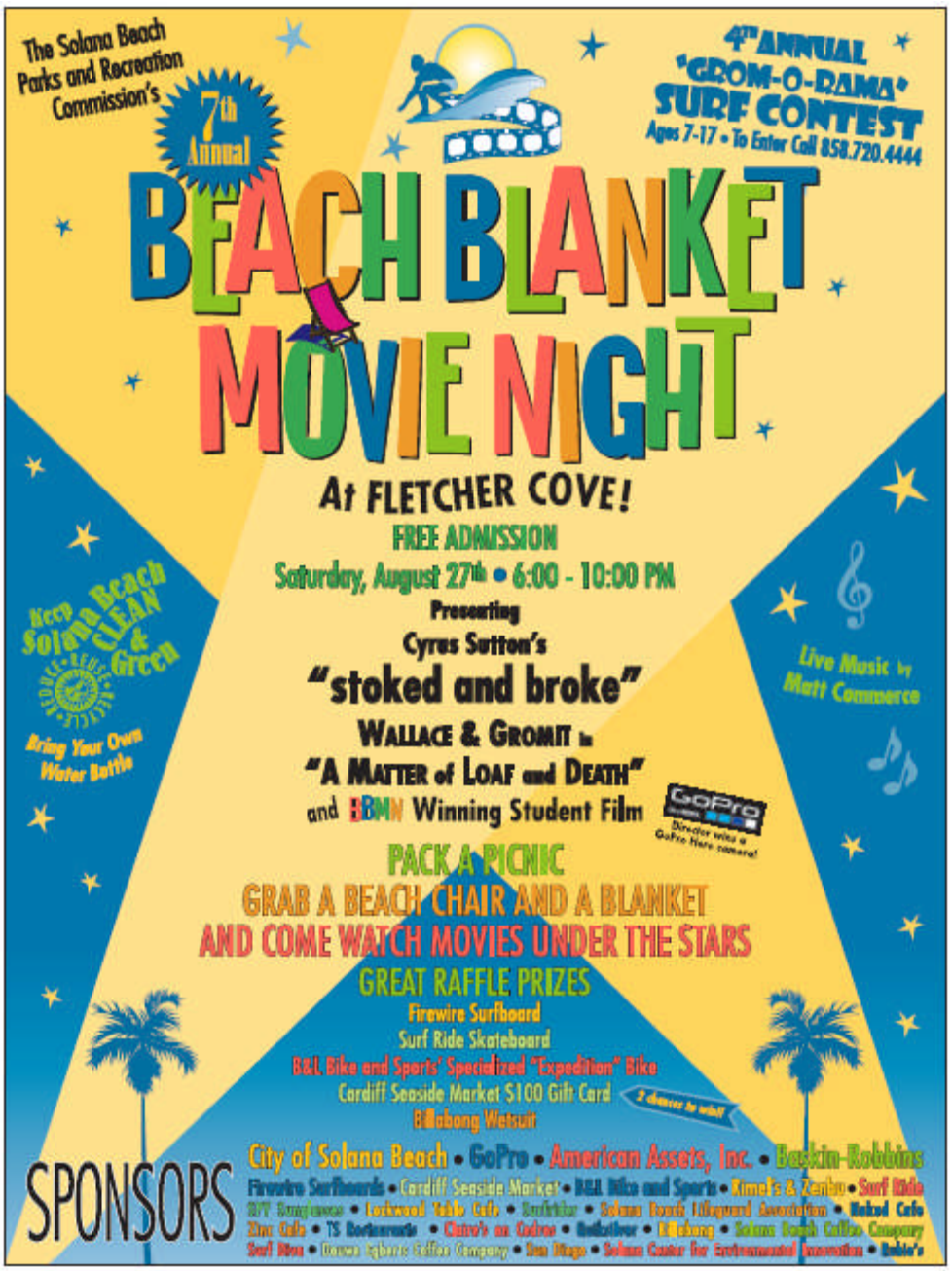
Section 8. The City Council of the City of Solana Beach hereby declares that should any section, paragraph, sentence, phrase, term or word of this Ordinance, hereby adopted, be declared for any reason to be invalid, it is the intent of the City Council that it would have adopted all other portions of this Ordinance irrespective of any such portion declared invalid.

INTRODUCED AND FIRST READ at a regular meeting of the City Council of the City of Solana Beach, California, on the 25th day of April, 2012; and

THEREAFTER ADOPTED at a regular meeting of the City Council of the City of Solana Beach, California, on the 9th day of May, 2012, by the following vote:

AYES:	Councilmembers – Kellejian, Roberts, Nichols, Heebner
NOES:	Councilmembers – None
ABSTAIN:	Councilmembers – None
ABSENT:	Councilmembers – Campbell

APPENDIX N: BEACH BLANKET MOVIE NIGHT FLYER



APPENDIX O: SPECIAL EVENTS PERMIT CONDITIONS OF APPROVAL

NOTICE OF APPROVAL FOR SPECIAL EVENT
CITY OF SOLANA BEACH

The Special Event you have applied for has been approved, according to the following information:

Date Requested: June 12, 2004
Hours: 5:30 a.m. – 2:00 p.m.
Organization: San Dieguito Boys & Girls Clubs
Type of Event: Seaside Stride 5 Mile Walk
Location: See Attached Map
Contact Person: Ellen Flanagan (760) 471-5516

Approved By:_____
Barry Johnson, City Manager

SPECIFIC GUIDELINES:

1. No City services, at the request of the applicant, for the event will be provided by the City.
2. The event participants must utilize the sidewalks and not the roadway where available on the course. If there is no sidewalk, participants must utilize the very outer edge of the roadway.
3. Event organizers must obey all traffic signs, lights, and laws.
4. Event organizers and participants shall utilize public right-a-ways and property for the purpose of this event at their own risk.
5. Event organizers and participants shall obey all traffic laws, signs, and traffic control devices at all times.
6. Event organizers must comply with all applicable water run-off regulations and must use best management practices. There will be absolutely no liquid, solid, or any other by-product generated by the event allowed in the city storm drain system. The parking lot at the conclusion of the event must be cleaned of all debris and disposed of in an acceptable manner to the City's Public Works Department.
7. Roadway and sidewalks and any other public areas utilized by the event participants and audience shall be left in a clean and orderly condition at the conclusion of the special event.
8. Applicant shall be charged for the amount of time to clean-up the areas or facilities used by the event participants if the areas utilized by the attendees of the event are not left in a clean and orderly condition. Estimated cost for retaining one City employee to clean-up refuse, and trash disposal is $ 43.20 per hour.
9. Any damage to public property as the result of this event will encumber full cost recovery from applicant by the City.

10. Event organizers shall at all times comply with any request or orders from the City's public works, lifeguard, law enforcement, or other public safety personnel. Failure to do so will result in the revocation of this permit and an immediate cease event order.

GENERAL GUIDELINES:

1. This permit and any other permits associated with this event will be available at the event.
2. If City services are required, applicant will be billed in advance for any and all City services provided above normally scheduled services. **All fees and charges shall be paid prior to final issuance of a permit for the event. Exception: Costs incurred by the City for clean up or other reasons due to the event, if any, shall be charged to the applicant billed as soon as the total cost is determined.**
3. All vehicles must comply with City parking regulations.
4. The organization and any of its subcontractors in advance of the event must file a business license application and fee, if they do not have a business license.
5. Vehicle loading and unloading cannot block pedestrian access. If required for short durations, signage directing the flow of pedestrian access, including wheelchair access must be established and posted.
6. The City reserves the right to shut down the event at any time, if necessary.
7. Applicant must comply with City noise regulations.
8. **It is the responsibility of the applicant to know and comply with the terms and conditions as stated within this special event permit and all applicable laws that pertain do the event, its organizers, and its participants whether they are stated on this permit or not.**
9. Contact Leah Escarcega or David Ott at (858) 720-2410 if there are any questions regarding the special event permit process.

C: City Manager's Office
Public Safety Director
Public Works Director
Sheriff's Department
Marine Safety Captain

APPENDIX P: FIESTA DEL SOL FLYER 2012



APPENDIX Q: EFFECTIVENESS ASSESSMENT TABLE

Inspections	Actual No. of Facilities	2006-2007	Actual No. of Facilities	2007-2008	Actual No. of Facilities	2008-2009	Actual No. of Facilities	2009-2010	Actual No. of Facilities	2010-2011	Actual No. of Facilities	2011-2012
High Priority Facilities	10	10	10	10	10	10	10	10	10	10	10	10
Medium Priority Facilities	1	1	1	1	1	1	1	1	1	1	1	1
Low Priority Facilities	6	6	6	6	6	6	6	6	6	6	6	6
Maintenance												
Material removed from MS4 (storm drain cleaning, public cleanup events, channel clearing)		~7 cubic yards (storm drain and channel clearing) - 325 pounds debris at beach clean up		~3 cubic yards (storm drain and channel clearing) - 485 pounds trash, 120 pounds of recyclables at beach clean up		~5 cubic yards (catch basin and channel clearing)		~3.5 cubic yards (catch basin and channel clearing)		~5 cubic yards (catch basin and channel clearing)		~19 cubic yards (catch basin and channel clearing)
Material prevented from entering MS4 (street sweeping operations)		188lbs street sweeping		275 lbs street sweeping		275 cubic yards street sweeping		207 cubic yards street sweeping		212 cubic yards street sweeping		234 cubic yards street sweeping
Number of catch basins cleaned (all catch basins inspected)		309 inspected / 35 catch basins cleaned		309 inspected / 17 catch basins cleaned		309 inspected / 13 catch basins cleaned		309 inspected / 26 catch basins cleaned		309 inspected / 26 catch basins cleaned		309 inspected / 26 catch basins cleaned
Education												
No. of Presentations to Municipal Employees		3		1		2		2		2		2
Industrial Businesses												
Inspections	**Actual No. of Facilities**	**2006-2007**	**Actual No. of Facilities**	**2007-2008**	**Actual No. of Facilities**	**2008-2009**	**Actual No. of Facilities**	**2009-2010**	**Actual No. of Facilities**	**2010-2011**	**Actual No. of Facilities**	**2011-2012**
High Priority Facilities	1	1	1	1	1	1	1	1	1	1	1	1
Medium Priority Facilities	0	0	0	0	0	0	0	0	0	0	0	0
Low Priority Facilities	0	0	0	0	0	0	0	0	0	0	0	0
Enforcement												
Responses to Hotline Calls in regard to Industrial Businesses		0		0		0		0		0		0
Education/Public Participation												
No. of Workshops hosted for Industrial Business Sectors		0		0		0		0		0		0
No. of Materials Distributed to Industrial Businesses		1 visit (Educational Materials Distributed and Discussed)		1 visit (Educational Materials Distributed and Discussed)		1 visit (Educational Materials Distributed and Discussed During Annual Inspection)		1 visit (Educational Materials Distributed and Discussed During Annual Inspection)		1 visit (Educational Materials Distributed and Discussed During Annual Inspection)		1 visit (Educational Materials Distributed and Discussed During Annual Inspection)
Commercial Businesses												
Inspections	**Actual No. of Facilities**		**Actual No. of Facilities**	**2007-2008**	**Actual No. of Facilities**	**2008-2009**	**Actual No. of Facilities**	**2009-2010**	**Actual No. of Facilities**	**2010-2011**	**Actual No. of Facilities**	**2011-2012**

High Priority Facilities	88	11	88	67 (35 Inspected)	88	67 (67 Inspected)	88	72 (72 Inspected)	88	77 (77 Inspected)	88	77 (77 Inspected)
Low Priority Facilities	0	0	0	10	0	10 (10 Inspected)	0	10 (10 Inspected)	0	10 (10 Inspected)	0	9 (9 Inspected)
Enforcement												
Responses to Hotline Calls in regard to Commercial Businesses		13		3		6		0		0		N/A (Will be submitted with IC/ID Component)
Education/Public Participation												
No. of Workshops hosted for Commercial Business Sectors		0		0		0		2 (During March "Sustainability Month")		2 (During March "Sustainability Month")		2 (During March "Sustainability Month")
No. of Materials Distributed to Commercial Businesses		~150 (3 per week)		~52 (1 per week)		77 (1 per inspection)		82 (1 per inspection)		82 (1 per inspection)		77 (1 per inspection)
Residential												
Household Hazardous Waste		**2006-2007**		**2007-2008**		**2008-2009**		**2009-2010**		**2010-2011**		**2011-2012**
Quantity of Household Hazardous Waste Collected		HHW Facility does not document amount of waste collected. However, 379 residents utilized this service this reporting period, up from 319 last reporting period		HHW Facility does not document amount of waste collected. However, 416 residents utilized this service this reporting period, up from 379 last reporting period		298 residents utilized this service this reporting period with a total of 32,823 pounds of material properly disposed of		260 residents utilized this service this reporting period with a total of 38,723 pounds of material properly disposed of		274 residents utilized this service this reporting period with a total of 20,838 pounds of material properly disposed of		261 residents utilized this service this reporting period with a total of 23,797 pounds of material properly disposed of
Enforcement												
Responses to Hotline Calls in Regard to Residential Activities		22		29		11		0		0		N/A (Will be submitted with IC/ID Component)
Education/Public Participation												
No. of Presentations to Residential Neighborhoods, HOA, Community Groups, Etc.		0		12 (Monthly Clean and Green Community Meetings)		23 Total - 12 Monthly Clean and Green Community Meetings and 11 Water Conservation and Storm Water Community Meetings		25 Total - 12 Monthly Clean and Green Community Meetings, 9 Water Conservation Presentation and 4 Sustainability Community Meetings (Sustainability Month)		17 Total - 12 Monthly Clean and Green Community Meetings, 5 Water Conservation Presentation		13 Total - 12 Monthly Clean and Green Community Meetings, 1 Water Conservation Presentation
No. of Cleanup Events Hosted		1		2		2		1		1		2
SUSMP		**2006-2007**		**2007-2008**		**2008-2009**		**2009-2010**		**2010-2011**		**2011-2012**
No. of Developments Subject to SUSMP requirements		2		2		0		0		0		1

Inspections	**Actual No. of Facilities**		**Actual No. of Facilities**		**Actual No. of Facilities**		**Actual No. of Facilities**		**Actual No. of Facilities**		**Actual No. of Facilities**	
High Priority Sites	4	192 (1 time per month)	4	13 Sites (2x month) = 312	4	2 Sites (2x month during wet season, 1x month during dry) = 40	4	4 Sites (2x month during wet season, 1x month during dry) = 40	3	3 Sites (2x month during wet season, 1x month during dry) = 30	3	3 Sites (2x month during wet season, 1x month during dry) = 30
Medium Priority Sites	8	96 (I time per month)	8	27 Sites (1x per wet, 1x per dry) = 54	8	10 Sites (1x per wet, as needed dry) = 97	7	7 Sites (1x per wet, as needed dry) = 38	13	13 Sites (1x per wet, as needed dry) = 45	12	12 Sites (1x per wet, as needed dry) = 45
Low Priority Sites	45	90 (1 during wet, 1 during dry)	45	As Needed	45	16 Sites (As Needed) = 74	16	16 Sites (As Needed) = 51	0	25 Sites (As Needed) = 159	0	13 Sites (As Needed) = 45
Enforcement												
Responses to Hotline Calls in regard to Construction Sites		7		10		5		2		0		N/A (Will be submitted with IC/ID Component)
Education/Public Participation												
No. of Workshops Hosted for Construction/Development Community		0		1 (Construction and Demolition Debris Recycling)		0		1 (During March "Sustainability Month")		0		0
No. of Materials Distributed to Construction/Development Community		521		470		224		~200		~180		~180
Dry Weather Sampling	**Actual No. of Locations**	**2006-2007**	**Actual No. of Locations**	**2007-2008**	**Actual No. of Locations**	**2008-2009**	**Actual No. of Locations**	**2009-2010**	**Actual No. of Locations**	**2010-2011**	**Actual No. of Locations**	**2011-2012 (Placeholder, will be submitted with IC/ID in December)**
No. of Locations Monitored	309	28	309	29	309	29	309	29	309	29	309	N/A
No. of Exceedances		9		N/A		N/A		2		2		N/A
Nitrate		0		N/A		N/A		0		0		N/A
Reactive Phosphorus		2		N/A		N/A		0		0		N/A
Bacteria		6		N/A		N/A		2		2		N/A
Cadium		0		N/A		N/A		0		0		N/A
Lead		0		N/A		N/A		0		0		N/A
Ammonia		0		N/A		N/A		0		0		N/A
Coastal Monitoring												
No. of Exceedances	0	0	0	0	0	0	0	0	0	3	0	N/A
Total Coliform		0		0		0		0		1		N/A
Fecal Coliform		0		0		0		0		1		N/A
Enterococcus		0		0		0		0		1		N/A

APPENDIX R: LEAF BLOWER BAN – ORDINANCE 399

ORDINANCE NO. 399

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF SOLANA BEACH, CALIFORNIA, AMENDING AND REPEALING SECTIONS OF CHAPTER 7.34 OF THE SOLANA BEACH MUNUCIPAL CODE, ALL RELATED TO NOISE ABATEMENT AND CONTROL AND AMENDING SECTION 13.10.030 OF THE SOLANA BEACH MUNICIPAL CODE, RELATED TO STORM WATER MANAGEMENT

WHEREAS, the City's Noise Abatement and Control Ordinance (Chapter 7.34 of the Solana Beach Municipal Code) was enacted in 1991 pursuant to Ordinance Number 147; and

WHEREAS, no amendments have been made to Chapter 7.34 of the Solana Beach Municipal Code since its enactment;

WHEREAS, the City Council desires to update Chapter 7.34 to clarity certain provisions and to repeal sections that are unnecessary.

WHEREAS, the City of Solana Beach's storm water management and discharge control ordinance, Chapter 13.10 of the Solana Beach Municipal Code, provides for the prevention and enforcement of certain discharges into the storm water system within the City; and

WHEREAS, organic contaminants whose presence degrades the quality of the receiving waters in violation of basin plan, enclosed bays and estuaries plan, inland surface water plan, and California ocean plan standards including but not limited to leaves, grass clippings and yard waste and trimmings must be prevented from entering the storm drain conveyance system, which includes, among other things, the streets, gutters, and catch basins.

WHEREAS, leaf blowers can contribute to the discharge of pollutants, specifically organic contaminants, into the City's storm drain conveyance system; and

WHEREAS, the SBMC section 13.10.030 needs to be amended to expand the definition of pollutants to specify leaves, grass clippings, and yard waste and trimmings as organic contaminants.

NOW THEREFORE, THE CITY COUNCIL OF THE CITY OF SOLANA BEACH DOES ORDAIN AS FOLLOWS:

Section 1. Section 7.34.040.A of the Solana Beach Municipal Code is hereby amended as follows:

7.34.040 Sound level limits.

A. Unless a permit has been applied for and granted pursuant to this chapter, it shall be unlawful for any person to cause or allow the creation of any noise to the extent that the one-hour average sound level, at any point on or beyond the boundaries of the property on which the sound is produced, exceeds the applicable limits set forth below except as provided in SBMC 7.34.170 and construction noise level limits governed by SBMC 7.34.100. The noise subject to the limits set forth below is that part of the total noise at the specified location that is due solely to the action of said person. The limits apply to the source of the noise only, not the source of the noise plus the ambient noise level.

Applicable Limit
One-Hour Average
Sound Level

Zone	(Time)	(Decibels)
ER1, ER2, LR,		
LMR, MR	7 a.m. to 10 p.m.	50
Residential	10 p.m. to 7 a.m.	45
MHR, HR	7 a.m. to 10 p.m.	55
Residential	10 p.m. to 7 a.m.	45
C, LC, OP	7 a.m. to 10 p.m.	60
Commercial Office	10 p.m. to 7 a.m.	55
LI, SC		
Light Industrial and	7 a.m. to 10 p.m.	70
Special Commercial	10 p.m. to 7 a.m.	60
Public/Institutional	7 a.m. to 10 p.m.	60
	10 p.m. to 7 a.m.	45
Park/Recreational	7 a.m. to 10 p.m.	60
	10 p.m. to 7 a.m.	45

B. In the event the alleged offensive noise, as judged by the noise control officer, contains a steady, audible tone such as a whine, screech, or hum, or is a repetitive noise such as hammering or riveting, the applicable limits set forth above shall be reduced by five dB. The noise control officer may use an octave band spectral filter coupled to a sound level meter to aid in the judgment of the presence of an audible tone. If the sound intensity measured in any audible octave band exceeds that in adjacent bands by five dB, then an audible tone shall be judged as present.

C. The sound level limit at a location on a boundary between two zoning districts is the arithmetic mean of the respective limits for the two districts.

D. Fixed location public utility distribution or transmission facilities located on or adjacent to a property line shall be subject to the noise level limits of this section,

measured at or beyond six feet from the boundary of the easement upon which the equipment is located.

Section 2. Section 7.34.070 of the Solana Beach Municipal Code is hereby amended as follows:

7.34.070 Solid waste management vehicles and parking lot and sidewalk vacuums.

No person shall operate, or permit to be operated, a refuse compacting, processing, or collection vehicle or a parking lot or sidewalk vacuum between the hours of 6:00 p.m. and 6:30 a.m. in or immediately adjacent to any residential area of the city unless a permit has been applied for and granted pursuant to this chapter.

Section 3. Section 7.34.080 of the Solana Beach Municipal Code is hereby amended as follows:

7.34.080 Leaf blowers.

A. Regulation. It is unlawful for any person to use or operate within the city limits any leaf blower powered by a 2-stroke gas-powered engine to blow leaves, dirt and other debris off sidewalks, driveways, lawns and other surfaces, except between the hours of 9:00 a.m. and 5:00 p.m. Only non-commercial residential uses of leaf blowers are permitted on Sundays.

B. No person shall operate any leaf blower without attachment of all mufflers and full extension tubes supplied by the manufacturer for that leaf blower.

C. Beginning January 1, 2011, no leaf blower powered by a 2-stroke gas engine shall be permitted to operate within the city.

Section 4. Section 7.34.140 of the Solana Beach Municipal Code is hereby amended as follows:

7.34.140 General noise regulations.

A. General Prohibitions. It is unlawful for any person to make, continue or cause to be made or continued, within the limits of the city, any disturbing, excessive or offensive noise which causes discomfort or annoyance to reasonable persons of normal sensitivity residing in the area.

The characteristics and conditions which should be considered in determining whether a violation of the provisions of this section exists, include, but are not limited to, the following:

1. The level of noise;
2. Whether the nature of the noise is usual or unusual;
3. Whether the origin of the noise is natural or unnatural;
4. The level of the background noise;
5. The proximity of the noise to sleeping facilities;
6. The nature and zoning of the area within which the noise emanates;
7. The density of the inhabitation of the area within which the noise emanates;
8. The time of the day or night the noise occurs;
9. The duration of the noise; and

APPENDIX S: COMMERCIAL FACILITY LITTER REDUCTION ORDINANCE

ORDINANCE 419

AN ORDINANCE OF THE CITY COUNCIL OF THE CITY OF SOLANA BEACH, CALIFORNIA, AMENDING SECTIONS OF CHAPTER 6.12 AND 11.16 OF THE SOLANA BEACH MUNICIPAL CODE, ALL RELATED TO LITTER CONTROL AND REMOVAL

WHEREAS, the City's Litter Control Ordinance (Chapter 6.12 of the Solana Beach Municipal Code) was enacted in 1987 pursuant to Ordinance Number 46; and

WHEREAS, the City's Sidewalk Ordinance (Chapter 11.16 of the Solana Beach Municipal Code) was enacted in 1988 pursuant to Ordinance Number 75; and

WHEREAS, Chapter 6.12 does not require all business to remove litter generated by their establishments; and

WHEREAS, Section 6.12.030 is silent in prohibiting all persons from depositing litter into gutters; and

WHEREAS, Section 11.16.050 does not specifically require all property owners to keep abutting sidewalks free of litter; and

WHEREAS, the City Council desires to update Chapters 6.12 and 11.16 to clarify certain provisions.

NOW THEREFORE, THE CITY COUNCIL OF THE CITY OF SOLANA BEACH DOES ORDAIN AS FOLLOWS:

Section 1. Section 6.12.030 of the Solana Beach Municipal Code is hereby amended as follows:

6.12.030 Prohibition.

A. It shall be unlawful for any person to throw, deposit, cause to be deposited, or leave litter in or upon any public street, alley, gutter, sidewalk, beach, public right-of-way or public place within the city except in public receptacles or authorized private receptacles.

B. It shall be unlawful for any person to throw, deposit, cause to be deposited, or leave any litter in or upon any private property within the city, vacant or occupied, other than the owner of the private property.

Section 2. Section 6.12.070 is hereby added to Chapter 6.12 of the Solana Beach Municipal Code as follows:

6.12.070 Duty to remove litter.

Any persons owning or occupying a place of business within the City of Solana Beach shall implement a general litter removal program within an area of two hundred (200) feet of their commercial establishment so as to remove litter generated by said business at least once each business day. This litter removal program shall not permit the business owner or its employees to trespass upon private property. However, the business shall attempt to gain permission of the owner of the private property for said purposes. In addition, this litter removal program requires the business owner or its employees to remove litter from public property with the exception that they are not required to remove litter from any area within a public street or highway.

Section 3. Section 11.16.050 of the Solana Beach Municipal Code is hereby amended as follows:

11.16.050 Maintenance by lot owners.

A. The owners of each lot fronting on any portion of a public street or place where the street or place is improved with a sidewalk shall maintain the sidewalk in such a condition that the sidewalk will not endanger persons or property and in a condition which will not interfere with the public convenience in the use of those works or areas, including keeping the sidewalk free of litter. The owners' obligations shall not apply to those conditions created or maintained in, upon, above or in connection with such sidewalk by any person other than the owner of the lot, where the person is authorized to do work or to maintain encroachments by virtue of a permit or right granted to the person by law or by the city. The person creating the condition pursuant to a permit shall have the duty otherwise imposed by this section upon the lot owner. The obligations of this subsection also apply to lots where the area between the property line of the privately owned lot and the back of the street line is maintained as a parkway, park or parking strip.

B. The city manager is authorized to enforce subsection A of this section, pursuant to the provisions of the State Streets and Highways Code, Division 7, Part 3, Chapter 22, commencing with Section 5600.

C. For the purposes of this section, the term sidewalk includes a park or parking strip maintained in the area between the property line and the street line and also includes curbing, bulkheads, retaining walls or other work for the protection of any sidewalk, park or parking strip.

EFFECTIVE DATE: This Ordinance shall be effective thirty (30) days after its adoption. Within fifteen (15) days after its adoption, the City Clerk of the City of Solana Beach shall cause this Ordinance to be published pursuant to the provisions of Government Code Section 36933.

INTRODUCED AND FIRST READ at a regular meeting of the City Council of the City of Solana Beach, California, on the 25th day of August, 2010; and

THEREAFTER ADOPTED at a regular meeting of the City Council of the City of Solana Beach, California, on the ___ day of _____, 2010, by the following vote:

AYES: Councilmembers –
NOES: Councilmembers –
ABSTAIN: Councilmembers –
ABSENT: Councilmembers –

_____
THOMAS M. CAMPBELL, Mayor

APPROVED AS TO FORM:

_____
JOHANNA N. CANLAS, City Attorney

ATTEST:

_____
ANGELA IVEY, City Clerk

APPENDIX T: SUMMER CAMP PROGRAMS/CLASSES

CITY OF SOLANA BEACH PARKS & RECREATION

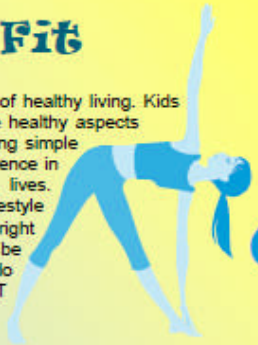
2011 Kids Summer Day Camp for Ages 6-12



All Sessions meet Monday - Friday from 8:30 a.m. to 2:00 p.m. at Fletcher Cove Community Center, 133 Pacific Ave. The fee is $106/week per child and includes activities such as beach walks, swimming at the Boys and Girls Club, arts & crafts, Library visit, fun games, friends, and a weekly field trip to an exciting destination.
After-care is offered from 2:00 p.m. - 5:00 p.m. ($27/week). Our popular "Leader in Training" program is also available this summer for 13 - 17 year olds for only $40/week!

1 Fun To Be Fit
July 11-15

Challenge your camper to a world of healthy living. Kids will get to learn how to incorporate healthy aspects into their lives in a fun way. Learning simple changes can make a world of difference in the way your child feels and lives. Campers will learn that a healthy lifestyle can be easy and fun just by eating right and staying active. The field trip will be a day full of active fun at Coronado Island for the GO PLAY GET FIT day.



2 Splish Splashtacular
July 18-22

Is your child half amphibian? This is a perfect week for campers to explore the various ways to enjoy the water through water related crafts, water balloons and water relays. From the ocean, to the pool, and the Wave Water Park, where kids can experience the fun that comes with water, without having to grow gills . . . Come splish and splash with us!



3 T-Rex & Friends
July 25-29

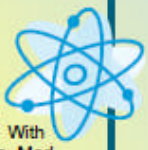
From dinosaurs to mastodons, travel through 75 million years and dig into the rich fossil history of southern California and Baja California. Ponder mysteries such as: How did dinosaurs live, move, and interact? What did they eat? Why did some animals become extinct? San Diego Natural History Museum field trip.



4 Environmentally Friendly
August 1-5

There are many exciting ecological discoveries to be investigated here in Solana Beach. Find out how easy it is to appreciate the simple aspects of the world around you. Campers will discover ways in which they can help save the environment, explore the world of marshes and lagoons, and even discover the local San Elijo Lagoon through a nature walk for this week's field trip.

5 Mad Science
August 8-12



This exciting week will offer campers a hands-on science experience without leaving Fletcher Cove. With professional equipment and experienced instructors, Mad Science workshops will offer engaging learning experiences for all campers. Are you ready to take your school's Science Day to the next level? Staff will engage your campers in a science experience they will never forget. Mad Science will bring interactive science exhibits right to us! All science activities are hands-on. Ruben H. Fleet Science Center field trip.

6 Water Wonderland
August 15-19

Welcome to the wettest week of summer! Wear your swimsuits and be prepared to get soaked! Water bucket brigade, rubber duck races, slip 'n' slide and water balloons galore are just a taste of what to expect in this wildly wet, water-filled week! Cool off and stay refreshed on the hottest days of summer in our Water Wonderland. This week's field trip will be to the Wave Water Park.

7 Animal Planet
August 22-26

There's the Grasslands, Jungle, Rainforest, and even your local beach that contains hundreds of animals that campers will get a chance to learn about and explore. Learn all about the crazy life of animals of all kinds with theme related crafts and discussions as well as a chance for the campers to explore our own Wild Animal Park.



APPENDIX U: 2010 DRY WEATHER MONITORING PROGRAM RESULTS

As a result of Addendum No. 2 adopted by the RWQCB in September 2008, this section will be submitted along with Chapter 7 "Illicit Discharge Detection and Elimination Component" in December 2012.

DECLARATION OF SERVICE BY EMAIL

I, the undersigned, declare as follows:

I am a resident of the County of Sacramento and I am over the age of 18 years, and not a party to the within action. My place of employment is 980 Ninth Street, Suite 300, Sacramento, California 95814.

On March 29, 2024, I served the:

- **Current Mailing List dated March 28, 2024**
- **Notice of Waiver of Procedural Requirements, Extension Request Approval, and Postponement of Hearing issued March 29, 2024**
- **Claimants' Comments on the Draft Proposed Decision and Parameters and Guidelines (Volumes 1-14) filed February 20, 2024**

  San Diego Regional Water Quality Control Board Order No. R9-2007-0001, Permit CAS0108758, Parts D.3.a.(3)(b)(iii), D.5.a.(1), D.5.a.(2), D.5.b.(1)(a), D.5.b.(1)(b)(iii-vi), D.5.b.(1)(c), D.5.b.(1)(d), D.5.b.(2), D.5.b.(3), E.2.f., E.2.g., F.1., F.2., F.3., I.1., I.2., I.5., J.3.a.(3)(c)(iv)-(viii), (x)-(xv), the first sentence of L.1. as it applies to the newly mandated activities, and L.1.a.(3)-(6), 07-TC-09-R County of San Diego, Cites of Carlsbad, Del Mar, Imperial Beach, Lemon Grove, Poway, San Marcos, Santee, Solana Beach, Chula Vista, Coronado, Del Mar, El Cajon, Encinitas, Escondido, Imperial Beach, La Mesa, Lemon Grove, National City, Oceanside, San Diego, and Vista, Claimants

by making it available on the Commission's website and providing notice of how to locate it to the email addresses provided on the attached mailing list.

I declare under penalty of perjury under the laws of the State of California that the foregoing is true and correct, and that this declaration was executed on March 29, 2024 at Sacramento, California.

Jill Magee

_____

Jill Magee
Commission on State Mandates
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COMMISSION ON STATE MANDATES

Mailing List

Last Updated: 3/28/24

Claim Number: 07-TC-09-R

Matter: San Diego Regional Water Quality Control Board Order No. R9-2007-0001 Permit CAS0108758 Parts D.1.d.(7)-(8), D.1.g., D.3.a.(3), D.3.a.(5), D.5, E.2.f, E.2.g, F.1, F.2, F.3, I.1, I.2, I.5, J.3.a.(3)(c)iv-viii & x-xv, and L.

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City of Chula Vista
City of Del Mar
City of Encinitas
City of Escondido
City of Imperial Beach
City of La Mesa
City of Lemon Grove
City of National City
City of Oceanside
City of Poway
City of San Diego
City of San Marcos
City of Santee
City of Solana Beach
City of Vista

TO ALL PARTIES, INTERESTED PARTIES, AND INTERESTED PERSONS:

Each commission mailing list is continuously updated as requests are received to include or remove any party or person on the mailing list. A current mailing list is provided with commission correspondence, and a copy of the current mailing list is available upon request at any time. Except as provided otherwise by commission rule, when a party or interested party files any written material with the commission concerning a claim, it shall simultaneously serve a copy of the written material on the parties and interested parties to the claim identified on the mailing list provided by the commission. (Cal. Code Regs., tit. 2, § 1181.3.)

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