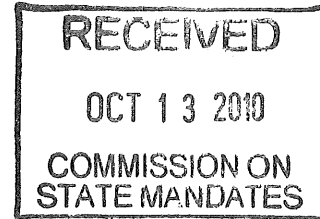




October 8, 2010



Ms. Paula Higashi, Executive Director  
Commission on State Mandates  
980 Ninth Street, Suite 300  
Sacramento, CA 95814

Re: Test Claim for Unfunded Mandates Relating to California Water Quality Control Board, San Francisco Region, Permit No. CAS612008, issued as Order No. R2-2009-0074 (October 14, 2009).

Dear Ms. Higashi:

The City of Alameda submits the enclosed Test Claim seeking reimbursement of funds expended and to be expended to comply with various activities mandated by Municipal Regional Stormwater Permit No. CAS612008, issued by the Regional Water Quality Control Board, San Francisco Region as Order No. R2-2009-0074.

The following documents are enclosed herewith:

1. Test Claim dated October 7, 2010;
2. Narrative Statement;
3. Exhibit 1 – Municipal Regional Stormwater Permit No. CAS612008, issued by the Regional Water Quality Control Board, San Francisco Region as Order No. R2-2009-0074 (the “MRP”);
4. Exhibit 2 – Permit No. CAS0029831 issued by Order No. R2-2003-0021 on February 19, 2003, amended by Order No. R2-2007-0025 on March 14, 2007 (the “Prior Permit”);
5. Exhibit 3 – Table of The City of Alameda’s Costs of Complying with the MRP;
6. Declaration of Jim Scanlin from the Alameda Countywide Clean Water Program, and Exhibits A-D thereto;

7. Declaration of Barbara Hawkins, City Engineer, on behalf of the City of Alameda; and
8. Appendix A – Laws and regulations cited in the Narrative Statement.

If you have any questions or need additional information to process the Test Claim please contact Jim Barse, City of Alameda Clean Water Program Specialist, at (510) 749-5840. Thank you for your consideration and attention to this matter.

Sincerely,



Ann Marie Gallant  
Interim City Manager

AMG:jn

Encl.



**1. TEST CLAIM TITLE**

Municipal Regional Stormwater Permit

**2. CLAIMANT INFORMATION**

City of Alameda  
 Name of Local Agency or School District

Barbara Hawkins  
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**3. CLAIMANT REPRESENTATIVE INFORMATION**

Claimant designates the following person to act as its sole representative in this test claim. All correspondence and communications regarding this claim shall be forwarded to this representative. Any change in representation must be authorized by the claimant in writing, and sent to the Commission on State Mandates.

Jim Barse  
 Claimant Representative Name

Clean Water Program Specialist  
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*For CSM Use Only*

Filing Date: **RECEIVED**  
**OCT 13 2010**  
**COMMISSION ON STATE MANDATES**

Test Claim #: **10-TC-02**

**4. TEST CLAIM STATUTES OR EXECUTIVE ORDERS CITED**

*Please identify all code sections, statutes, bill numbers, regulations, and/or executive orders that impose the alleged mandate (e.g., Penal Code Section 2045, Statutes 2004, Chapter 54 [AB 290]). When alleging regulations or executive orders, please include the effective date of each one.*

Municipal Regional Stormwater Permit No. CAS612008, issued by the Regional Water Quality Control Board, San Francisco Region as Order No. R2-2009-0074 on October 14, 2009.

*Copies of all statutes and executive orders cited are attached.*

Sections 5, 6, and 7 are attached as follows:

- 5. Written Narrative:** pages 2 to 515 .
- 6. Declarations:** pages 516 to 535 .
- 7. Documentation:** pages 536 to 579 .

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## NARRATIVE STATEMENT IN SUPPORT OF TEST CLAIM

### I. INTRODUCTION

The City of Alameda seeks the Commission's approval of claims to recover costs associated with obligations mandated by a handful of provisions of the Municipal Regional Stormwater Permit issued on October 14, 2009 ("MRP") by the California Regional Water Quality Control Board ("Regional Water Board"), San Francisco Bay Region.<sup>1</sup> The MRP regulates the discharge of storm water runoff from the municipal separate storm sewer systems ("MS4s") maintained by a total of 76 cities, counties, and flood control districts within the jurisdiction of six Bay Area regional stormwater programs.

The issues presented by this Test Claim are, by now, familiar to the Commission. Twice in the last year, the Commission found that similar permit provisions constituted unfunded mandates. First, in September 2009, the Commission approved a test claim concerning costs associated with new trash collection obligations imposed in a municipal regional stormwater permit issued by the Los Angeles Regional Water Board.<sup>2</sup> Second, in March 2010, the Commission approved an additional test claim concerning several new requirements of a municipal regional stormwater permit issued by the San Diego Regional Water Board, including street sweeping, reporting requirements, education and public outreach obligations, and mandatory collaboration with other dischargers in the same watershed.<sup>3</sup>

The Commission determined that these obligations constituted unfunded mandates because they (1) were state mandates that exceeded the requirements of

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<sup>1</sup> A copy of the MRP, NPDES No. CAS612008, issued as Order No. R2-2009-0074 (October 14, 2009), is attached hereto as Exhibit 1.

<sup>2</sup> In re Test Claim on: Los Angeles Regional Quality Control Board Order No. 01-182, Case Nos.: 03-TC-04, 03-TC-19, 03-TC-20, 03-TC-21 (September 3, 2009) ("Los Angeles Decision").

<sup>3</sup> In re Test Claim on: San Diego Regional Water Quality Control Board Order No. R9-2007-0001, Case No.: 07-TC-09 (March 26, 2010) ("San Diego Decision"). On July 20, 2010, the State Finance Department, the State Water Resources Control Board, and the Regional Water Quality Control Board, San Diego Region filed a petition in the Sacramento Superior Court seeking a writ of mandate ordering the Commission to set aside the San Diego Decision.

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the federal Clean Water Act and its implementing regulations; (2) created new programs or otherwise required an increase in the level of stormwater pollution controls delivered by the permittees; and (3) imposed more than \$1,000 in costs that the permittees had insufficient authority to recover through the imposition of fees.

Now, The City of Alameda asks the Commission to apply the same rationale to several new obligations imposed by the MRP. While the new provisions are not all identical to those considered in the San Diego and Los Angeles Decisions, the principles animating the Commission's conclusions in those cases are similar and compel the same results here.

Specifically, the MRP creates new programs or higher levels of service with regard to three categories of activities: Monitoring, Trash Load Reduction, and stormwater Diversion Studies. Each of these requirements represents an obligation The City of Alameda did not have under its prior permit. Each represents the Regional Water Board's imposition of state law requirements, which are both stricter and more specific than is required under federal law. These new mandates have imposed or will impose significant financial burdens on The City of Alameda that The City of Alameda has no authority to recover through the imposition of fees.

To be clear, this Test Claim does not question the wisdom of these requirements or challenge the Regional Water Board's authority to impose them under state law. However, as set forth in more detail below, these new requirements constitute unfunded state mandates for which the permittees participating in the MRP (the "Permittees") are entitled to reimbursement pursuant to Article XIII B section 6 of the State's Constitution. This Test Claim identifies the activities that are unfunded mandates and seeks to establish a basis for reimbursement for such activities.

## **II. LEGAL AND PROCEDURAL BACKGROUND**

### **A. Regional Stormwater Permits**

When a Regional Water Board issues a stormwater permit, it is implementing both federal and state law:

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Part of the federal Clean Water Act is the National Pollutant Discharge Elimination System (NPDES), “[t]he primary means” for enforcing effluent limitations and standards under the Clean Water Act. (*Arkansas v. Oklahoma, supra*, 503 U.S. at 101, 112 S.Ct. 1046.) The NPDES sets out the conditions under which the federal EPA or a state with an approved water quality control program can issue permits for the discharge of pollutants in wastewater. (33 U.S.C. § 1342(a) & (b).) In California, wastewater discharge requirements established by the regional boards are the equivalent of the NPDES permits required by federal law. (§ 13374.)

*City of Burbank v. State Water Res. Control Bd.* (2005) 35 Cal.4th 613 at 619-621.  
Section 402(p) of the federal Clean Water Act establishes that an MS4 permit:

- (i) may be issued on a system or jurisdiction-wide basis;
- (ii) shall include a requirement to effectively prohibit non-storm water discharges into the storm sewers; and
- (iii) shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.

33 U.S.C. § 1342(p)(3)(B).<sup>4</sup>

California is among the states that are authorized to implement the NPDES permit program. 33 U.S.C. § 1342(b). Permits issued by the Regional Water Board under this authority must impose conditions that are at least as stringent

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<sup>4</sup> The relevant provisions of the Clean Water Act are set forth in Appendix A to this Test Claim.



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as those required under the federal act. 33 U.S.C. § 1371; Cal. Water Code § 13377.

However, relying on its state law authority or discretion, the Regional Water Board is free to issue permits that impose limits or conditions in excess of those required under the federal law where necessary to achieve higher water quality standards and objectives established under state law:

In California, the controlling law is the Porter-Cologne Water Quality Control Act (Porter-Cologne Act), which was enacted in 1969. Its goal is “to attain the highest water quality which is reasonable, considering all demands being made and to be made on those waters and the total values involved, beneficial and detrimental, economic and social, tangible and intangible.” The task of accomplishing this belongs to the State Water Resources Control Board (State Board) and the nine Regional Water Quality Control Boards; together the State Board and the regional boards comprise “the principal state agencies with primary responsibility for the coordination and control of water quality.”

Whereas the State Board establishes statewide policy for water quality control, the regional boards “formulate and adopt water quality control plans for all areas within [a] region”. The regional boards’ water quality plans, called “basin plans,” must address the beneficial uses to be protected as well as water quality objectives, and they must establish a program of implementation. Basin plans must be consistent with “state policy for water quality control.”

*City of Burbank v. State Water Res. Control Bd.* (2005) 35 Cal.4th 613 at 619 (internal citations omitted). The California Water Code expressly anticipates that the uses and objectives set forth in basin plans and the need to prevent nuisance will require permits issued by Regional Water Boards to impose more stringent regulatory controls than would otherwise result from federal law:

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Notwithstanding any other provision of this division, the state board or the regional boards shall, as required or authorized by the Federal Water Pollution Control Act, as amended, issue waste discharge requirements and dredged or fill material permits which apply and ensure compliance with all applicable provisions of the act and acts amendatory thereof or supplementary, thereto, together with any more stringent effluent standards or limitations necessary to implement water quality control plans, or for the protection of beneficial uses, or to prevent nuisance.

Cal. Water Code § 13377.

#### **B. The MRP and the Prior Permit**

The MRP was issued by the Regional Water Board, an executive agency of the State of California. It replaced individual permits issued to Permittees participating in six different areawide stormwater programs: the Alameda Countywide Clean Water Program; the Contra Costa Clean Water Program; the San Mateo Countywide Water Pollution Prevention Program; the Santa Clara Valley Urban Runoff Pollution Prevention Program; the Fairfield-Suisun Urban Runoff Management Program; and the City of Vallejo and the Vallejo Sanitary District, and governs stormwater discharges in some 76 different municipal entities (e.g., cities, counties, and flood control and water conservation districts). (Ex. 1 at 3-4.) The City of Alameda is among the Permittees participating in the Alameda Countywide Clean Water Program (the “Alameda Countywide Program”).

The permit that formerly governed the Alameda Countywide Program was Permit No. CAS0029831 issued by Order No. R2-2003-0021 on February 19, 2003, amended by Order No. R2-2007-0025 on March 14, 2007 (the “Prior Permit”). (Ex. 1 at 3-4; Ex. 2.)<sup>5</sup> For purposes of establishing that the provisions

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<sup>5</sup> The amendment to the Prior Permit described above relates to permit provisions not at issue here and is not included in the materials submitted with this test claim. The document is available at the Regional Water Board’s website, at [http://waterboards.ca.gov/sanfranciscobay/board decisions/adopted orders/2007/R2-2007-0025.pdf](http://waterboards.ca.gov/sanfranciscobay/board%20decisions/adopted%20orders/2007/R2-2007-0025.pdf). Alternatively, The City of Alameda can provide hard copies to the Commission upon request.

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of the MRP constitute new requirements or a higher level of service, those provisions are compared to the Prior Permit.

### C. State Mandate Law

Article XIII B section 6 of the California Constitution provides in relevant part:

Whenever the Legislature or any state agency mandates a new program or higher level of service on any local government, the state shall provide a subvention of funds to reimburse such local governments for the cost of such program or increased level of service . . . .

The purpose of section 6 “is to preclude the state from shifting financial responsibility for carrying out governmental functions to local agencies, which are ‘ill equipped’ to assume increased financial responsibilities because of the taxing and spending limitations that articles XIII A and XIII B impose.” (*County of San Diego v. State of California* (1991) 15 Cal.4th 68, 81; *County of Fresno v. State of California* (1991) 53 Cal.3d 482, 487.) The section “was designed to protect the tax revenues of local governments from state mandates that would require expenditure of such revenues.” (*County of Fresno, supra*, at 487; *Redevelopment Agency v. Comm’n on State Mandates* (1997) 55 Cal.App.4th 976, 984-85.) The Legislature implemented section 6 by enacting a comprehensive administrative scheme to establish and pay mandate claims. (Cal. Gov’t Code §§ 17500 *et seq.*; *Kinlaw v. State of California* (1991) 54 Cal.3d 326, 331, 333 [statute establishes “procedure by which to implement and enforce section 6”].)

Government Code section 17556 identifies seven exceptions to the rule requiring reimbursement for state mandated costs. The exceptions are as follows:

- (a) The claim is submitted by a local agency that requested legislative authority for that local agency to implement the program specified in the statute, and that statute imposes costs upon that local agency or school district requesting the legislative authority.
- (b) The statute or executive order affirmed for the state a mandate that had been declared existing law or regulation by action of the courts.

(c) The statute or executive order imposes a requirement that is mandated by a federal law or regulation and results in costs mandated by the federal government, unless the statute or executive order mandates costs that exceed the mandate in that federal law or regulation.

(d) The local agency has the authority to levy service charges, fees, or assessments sufficient to pay for the mandated program or increased level of service.

(e) The statute, executive order, or an appropriation in a Budget Act or other bill provides for offsetting savings to local agencies that result in no net costs to the local agencies or includes additional revenue that was specifically intended to fund the costs of the state mandate in an amount sufficient to fund the cost of the state mandate.

(f) The statute or executive order imposes duties that are necessary to implement, reasonably within the scope of, or expressly included in, a ballot measure approved by the voters in a statewide or local election

(g) The statute created a new crime or infraction, eliminated a crime or infraction, or changed the penalty for a crime or infraction, but only for that portion of the statute relating directly to the enforcement of the crime or infraction.

Cal. Gov't Code § 17556.

### **1. The Test**

Taken together, the Constitution, statutes, and case law described above establish a three-prong test to determine whether a claimant is eligible for reimbursement through the state's mandate law: (1) the obligations imposed must represent a new program or higher level of service; (2) the mandate must arise from a law, regulation, or executive order imposed by the state, rather than the federal government; and (3) the costs cannot be recoverable by the local agency through the imposition of a fee. Only where all three are satisfied does a mandated cost fall within the subventure requirement of article XIII B section 6.

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**a. New Program or Higher Level of Service**

In order to trigger the state mandate law, the obligations imposed by the state must represent a “new program” or “higher level of service.” Determining whether a municipal stormwater permit imposes a new program or higher level of service is largely a factual question involving the comparison of the terms of the current and former permits. However, the San Diego Decision addresses a very important general principle on this point that is of great interest here:

All stormwater permits are required to “reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.” 33 U.S.C. § 1342(p)(3)(B)(iii). This means that all permit parameters are implementing the same standard. In the proceedings leading to the San Diego Decision, the Finance Department argued that the new permit did not constitute a “new program” or a “higher level of service” because each incremental increase in best management practices or other permit requirement was necessary to assure continued compliance with the maximum extent practicable (or “MEP” standard). The Commission correctly rejected this argument (San Diego Decision at 49), and should do the same again if it is raised here.

**b. State Mandates**

“Costs mandated by the state” include “any increased costs which a local agency is required to incur after July 1, 1980, as a result of any statute enacted on or after January 1, 1975, or any executive order implementing any statute enacted on or after January 1, 1975, which mandates a new program or higher level of service of an existing program within the meaning of Section 6 of Article XIII B of the California Constitution.” (Gov’t Code § 17514.) Orders issued by any Regional Water Board pursuant to Division 7 of the California Water Code (commencing at section 13000) come within the definition of “executive order.” *County of Los Angeles v. Comm’n on State Mandates* (2007) 150 Cal.App.4th 898, 920.

Section 17556 of the Government Code exempts costs mandated solely by federal law or regulation, except where the state “statute or executive order mandates costs that exceed the mandate in that federal law or regulation” Cal. Gov’t Code § 17556(c). Courts have interpreted this provision to mean that an obligation imposed by the state in the implementation of a federal mandate should

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still be considered a “state mandate” as long as the state has a say about the manner in which that mandate is passed on to local agencies:

When the federal government imposes costs on local agencies those costs are not mandated by the state and thus would not require a state subvention. Instead, such costs are exempt from local agencies’ taxing and spending limitations. This should be true even though the state has adopted an implementing statute or regulation pursuant to the federal mandate so long as the state had no “true choice” in the manner of implementation of the federal mandate.

This reasoning would not hold true where the manner of implementation of the federal program was left to the true discretion of the state.

*Hayes v. Comm’n on State Mandates* (1992) 11 Cal. App. 4th 1564, 1593 (emphasis added). Thus, where the Regional Water Board chooses to impose specific measures of compliance as a means of implementing the more general requirements of the federal Clean Water Act, those measures are considered state mandates:

In our view the determination whether certain costs were imposed upon a local agency by a federal mandate must focus upon the local agency which is ultimately forced to bear the costs and how those costs came to be imposed upon that agency. If the state freely chose to impose the costs upon the local agency as a means of implementing a federal program then the costs are the result of a reimbursable state mandate regardless whether the costs were imposed upon the state by the federal government.

*Id.* The Commission relied on *Hayes* in both the San Diego and Los Angeles Decisions in determining that the Regional Water Quality Control Boards issuing the stormwater permits at issue “freely chose” to exercise discretion and impose conditions beyond those required by federal law, thereby constituting a state mandate. (San Diego Decision at 37; Los Angeles Decision at 23.)

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**c. Fee Authority**

In the San Diego Decision, the Commission conducted an extensive analysis of the issue of whether the local agencies charged with implementing the municipal regional stormwater permit in that matter had adequate fee authority to recover the costs mandated upon them by the San Diego Regional Water Board. (San Diego Decision at 100-120.) Mandates are exempted from the subventure requirements of article XIII B, section 6 of the California Constitution, enacted by the voters through Proposition 218, where the local agency has “the authority to levy service charges, fees, or assessments sufficient to pay for the mandated program or increased level of service.” Cal. Gov’t Code § 17556(d).

However, Article XIII D of the California Constitution requires that fees incident to property ownership be subjected to a majority vote by affected property owners or by 2/3 registered voter approval. Cal. Const., art. XIII D. As explained by the Commission in the San Diego Decision, the necessity for voter approval (and the attendant possibility of voter rejection) of a fee renders the permittees’ fee authority inadequate to satisfy the exemption of section 17556. (San Diego Decision at 102-103.) Indeed, in the San Diego Decision, the Commission determined that fee authority is inadequate where the imposition of such fees is subject to voter protest that could invalidate them. (San Diego Decision at 115.)

Article XIII D section 6, subdivision (c) provides an exception to Proposition 218’s vote requirements for property-related fees for sewer, water, or refuse collection services (Cal. Const., art. XIII D, § 6, subd. (c)). As explained by the Commission in the San Diego Decision, fees for these services are subject to different requirements:

To impose or increase refuse collection fees, the local agency must provide mailed written notice to each parcel owner on which the fee will be imposed, and conduct a public hearing not less than 45 days after mailing the notice. If written protests against the proposed fee are presented by a majority of the parcel owners, the local agency may not impose or increase the fee (article XIII D, § 6, subd. (a)(2)).

(San Diego Decision at 115.) In the San Diego Decision, the Commission concluded that this process precludes a finding that the permittees in question had sufficient fee authority within the meaning of section 17556(d):

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Under Proposition 218, the local agency has no authority to impose the fee if it is protested by a majority of parcel owners. Additionally, it is possible that a majority of land owners in the local agency may never allow the proposed fee, but the local agency would still be required to comply with the state mandate. This would violate the purpose of article XIII B, section 6, which is to “to preclude the state from shifting financial responsibility for carrying out governmental functions to local agencies, which are ‘ill equipped’ to assume increased financial responsibilities because of the taxing and spending limitations that articles XIII A and XIII B impose.”

(San Diego Decision at 115.)

Moreover, the exception for refuse collection applies only to fees that can be carefully calibrated to the costs incurred by the local agency and to the level of services provided to ratepayers:

In addition, revenues are: (1) not to exceed the funds required to provide the service, (2) shall not be used for any other purpose than to provide the property related service, and the amount of the fee on a parcel shall not exceed the proportional cost of the service attributable to the parcel. And the service must be actually used by or immediately available to the property owner.

Article XIII D, § 6, subd. (b).

Regulatory fees can be imposed under the general police powers afforded to local government without the need for a vote (or subject to a majority voter protest mechanism), but only where there is sufficient nexus between the “effect of the regulation and the objectives it was supposed to advance to support the regulatory scheme.” *Tahoe Keys Property Owner’s Assn. v. State Water Res. Control Bd.* (1993) 23 Cal.App.4th 1459. In the *Tahoe Keys* case, the Court of Appeal found sufficient nexus between properties surrounding Lake Tahoe and nutrient loads in the lake and refused to enjoin a fee to fund efforts to minimize nutrients contributing to eutrophication. *Id.* at 1480.



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Similarly, in *Sinclair Paint v. State Board of Equalization* (1997) 15 Cal.4th 866, 874, the California Supreme Court upheld a fee imposed on paint manufacturers to fund a program aimed at treating children exposed to lead. The Court held that the fee—which was targeted at “the producers of contaminating products” and was used to mitigate the harm caused by those products—was an appropriate exercise of the police power. *Id.* at 877. In view of these appellate court decisions, this Commission determined in the San Diego Decision that stormwater provisions do not fall within the exceptions provided where the costs and benefits of such provisions do not sufficiently align with the activities or interests of an identifiable group of businesses or property owners to create the nexus required under the *Sinclair Paint* and *Tahoe Keys* cases. (San Diego Decision at 107.)

In the San Diego Decision, the Commission also discussed the impact of a newly enacted provision of section 16103 of the Water Code, which went into effect in January 2010. As the Commission explained, this new law may provide a source of fee authority under some circumstances in the future, but is of no help to permittees in the near term. (San Diego Decision at 120.) Section 16103 authorizes fees for implementation of watershed improvement plans, and, in a tacit acknowledgement that such fees would otherwise fall within the scope of Proposition 218 as described above, expressly provides that such fees are “not imposed solely as an incident of property ownership.” Cal. Water Code § 16103.

However, the watershed improvement plans envisioned under section 16103 are comprehensive in scope, may be adopted only after extensive public process, and require approval by the Regional Water Board. *Id.* § 16103(b), (d). Moreover, adoption of an improvement plan is voluntary. *Id.* § 16101(a). Thus, section 16103 provides fee authority only to permittees who are voluntarily participating in the development of a watershed improvement plan. (*See* San Diego Decision at 120.) The City of Alameda is unaware of the submission or consideration of any such plan that could provide a source of funding for the costs associated with complying with the new requirements in the MRP.

### **III. THE UNFUNDED MANDATES AT ISSUE IN THIS TEST CLAIM**

The MRP contains 23 separate provisions that establish the prohibitions, limitations, and obligations of The City of Alameda and other Permittees. This Test Claim pertains to three categories of mandates:

- Provision C.8—Monitoring
- Provision C.10—Trash Load Reduction

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- Provision C.11 and C.12—Mercury and PCB Diversion Studies

As set forth in more detail below, each of these provisions imposes a new program or expanded level of service over the Prior Permit. Moreover, these new requirements exceed the mandates of the federal Clean Water Act or its implementing regulations. Finally, compliance with these obligations will impose costs beyond what The City of Alameda is authorized to recover through the imposition of fees.

#### **A. Monitoring**

Provision C.8 of the MRP requires Permittees to implement a number of water quality monitoring programs that were not required by the Prior Permit. The ways in which each of these specific monitoring requirements represents a new program or higher level of service—and the costs associated with each—are set forth in section A.1 directly below. (For convenience, the principles under which all of these monitoring provisions constitute a state mandate and the reasons that The City of Alameda has inadequate fee authority to recover the associated costs, are discussed together in sections A.2 and A.3.)

##### **1. Provision C.8 Constitutes a New Program or Higher Level of Service.**

Each of the monitoring provisions discussed below represent a new program or higher level of service compared to the requirements in the Prior Permit.

##### **a. Provision C.8.b—Regional Monitoring Program for Water Quality in the San Francisco Bay Estuary.**

Provision C.8.b requires The City of Alameda and other Permittees to participate in a cooperative effort among “stakeholder” entities that discharge into the San Francisco Bay Estuary to answer several questions about the conditions in the Estuary, including current, past, and projected future levels of contamination; sources, pathways, loadings, and processes causing or contributing to the contamination; and current and future impacts of contamination. (Ex. 1 at 65.) Permittees are required to participate in this monitoring program by paying their “fair share” of monitoring costs.

**(i) Provision C.8.b Imposes a Higher Level of Service**

The Fact Sheet to the MRP characterizes the requirements of Provision C.8.b as a mere continuation of activities required under the Prior Permit. (Ex. 1 at 65 n.20; I-59.) However, the Prior Permit required only submission of a multi-year monitoring plan that includes participation in the San Francisco Estuary Regional Monitoring Program (“RMP”) *or an acceptable alternative* monitoring program. (Ex. 2, Provision C.8.b, at 37.) By contrast, the MRP mandates that The City of Alameda financially support the RMP and participate in the development of a monitoring program designed to obtain the answers to the specific questions described above. (Ex. 1 at 65 n.20.)

In addition to the financial contribution required by the MRP, these new requirements for the RMP will require the Alameda Countywide Program in which The City of Alameda participates to devote additional resources to the RMP. Alameda Countywide Program staff participation is expected to increase by roughly 9% per year in order to provide greater coordination between RMP and MRP objectives for this provision. (Declaration of Jim Scanlin (“Scanlin Decl.”) ¶ 9(a)(i)(1)).

**b. Provision C.8.c—Status Monitoring**

Provision C.8.c of the MRP imposes substantially increased levels of monitoring relative to the Prior Permit. Specifically, and as set forth below, the MRP requires a specific monitoring protocol to analyze dozens of samples for at least eleven different parameters, measuring at least 33 different components. It also establishes “triggers” requiring further monitoring. (Ex. 1 at 65-71.)

**(i) Provision C.8.c Imposes a Higher Level of Service.**

This provision of the MRP imposes new, specific and detailed obligations on The City of Alameda with respect to creek monitoring. Provision C.8.c of the MRP greatly expands the number of monitoring sites and parameters, including:

- Algae bioassessment including expanded physical habitat measurements (20 sites/yr)
- Chlorine (23 sites/yr)
- General Water Quality logger (6 sites/yr)
- Toxicity – Water Column (6 sites/yr)

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- Toxicity – Bedded Sediments (3 sites/yr)
- Pollutants – Bedded Sediments (3 sites/yr)
- Stream Surveys (9 miles/yr)
- Total Phosphorus (20 sites/yr)
- Dissolved Orthophosphate (20 sites/yr)
- Total Nitrogen (20 sites/yr)
- Nitrate (20 sites/yr)
- Ammonia (20 sites/yr)
- Silica (20 sites/yr)
- Chloride (20 sites/yr)
- Dissolved Organic Carbon (DOC) (20 sites/yr)

(Ex. 1 at 65-71, Tbls 8.1 & 8.2, Attachment H) None of these specific requirements were included in the Prior Permit. (Ex. 2 at 37-38.)

**c. Provision C.8.d—New Monitoring Studies and Projects**

Provision C.8.d of the MRP requires The City of Alameda and other Permittees to undertake three types of projects within their watersheds. (Ex. 1 at 71-73.)

*Identifying Stressors and Sources.* Provision C.8.d.i provides that, when status monitoring reveals a potential source of stress to the water bodies identified in Table 8.1, the Permittees are required to conduct a site-specific study to identify the stressor or source. (Ex. 1 at 71.) The study sets forth very specific protocols for these studies:

This study should follow guidance for Toxicity Reduction Evaluations (TRE) or Toxicity Identification Evaluations (TIE). A TRE, as adapted for urban stormwater data, allows Permittees to use other sources of information (such as industrial facility stormwater monitoring reports) in attempting to determine the trigger cause, potentially eliminating the need for a TIE. If a TRE does not result in identification of the stressor/source, Permittees shall conduct a TIE.

(*Id.* at 71.) If a source is identified, the MRP requires implementation of “one or more controls” and continued monitoring to assess whether those controls are reducing the cause or causes of the trigger stressor or source. (*Id.*) If The City of

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Alameda and other Permittees conduct these studies through the Alameda Countywide Program, they may be required to conduct up to five such projects within the five-year permit term. (*Id.* at 71-72.)

***Evaluation of BMP Effectiveness.*** Provision C.8.d.ii. requires investigations into the effectiveness of BMPs. (*Id.* at 72.) The City of Alameda is required to investigate one BMP during the term of the MRP. (*Id.*)

***Geomorphic Studies.*** Finally, Provision C.8.d.iii requires all permittees governed by the MRP to select one water body within each county, and complete one of three types of studies:

- (1) Gather geomorphic data to support the efforts of a local watershed partnership to improve creek conditions; or
- (2) Inventory locations for potential retrofit projects in which decentralized, landscape-based stormwater retention units can be installed; or
- (3) Conduct a geomorphic study which will help in development of regional curves which help estimate equilibrium channel conditions for different- sized drainages.

(*Id.* at 72-73.)

**(i) Provision C.8.d Imposes a New Program.**

All three requirements of Provision C.8.d are completely new to the The City of Alameda. There is nothing comparable in the Prior Permit. This entire provision constitutes a “new program or higher level of service” within the meaning of the mandate law.

**d. Provision C.8.e.i—Pollutants of Concern Monitoring**

Provision C.8.e.i requires The City of Alameda and other Permittees to establish and maintain fixed monitoring stations on specified waterbodies, or approved alternatives for purposes of monitoring pollutants of concern. (Ex. 1 at 73-74.) The monitoring mandated under these provisions is to be directed toward:

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- (1) identifying which Bay tributaries (including stormwater conveyances) contribute most to Bay impairment from pollutants of concern;
- (2) quantifying annual loads or concentrations of pollutants of concern from tributaries to the Bay;
- (3) quantifying the decadal-scale loading or concentration trends of pollutants of concern from small tributaries to the Bay; and
- (4) quantifying the projected impacts of management actions (including control measures) on tributaries and identifying where these management actions should be implemented to have the greatest beneficial impact.

*(Id. at 73.)*

Provisions C.8.e.iii, iv, and v defines the parameters and frequencies, protocols, and methods required for monitoring pollutants of concern. For example:

**Parameters and Frequencies** – Permittees shall conduct Pollutants of Concern sampling pursuant to Table 8.4, Categories 1 and 2. In Table 8.4, Category 1 pollutants are those for which the Water Board has active water quality attainment strategies (WQAS), such as TMDL or site-specific objective projects. Category 2 pollutants are those for which WQAS are in development. The lower monitoring frequency for Category 2 pollutants is sufficient to develop preliminary loading estimates for these pollutants.

*(Id. at 74.)*

Table 8.4 sets forth explicit requirements for sampling years, minimum sampling occurrences, and sampling intervals for three categories of pollutants.

*(Id.)*

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**(i) Provision C.8.e.i Imposes a Higher Level of Service.**

The Prior Permit characterizes the identification of pollutants of concern in stormwater discharge as both an objective and control programs for the required monitoring program. The Prior Permit required the development of a multi-year receiving water monitoring program designed to achieve the following objections with relation to pollutants of concern:

- Assessment of existing or potential adverse impacts on beneficial uses caused by pollutants of concern in stormwater discharges, including an evaluation of representative receiving waters;
- Identification of potential sources of pollutants of concern found in stormwater discharges; and,
- Evaluation of effectiveness of representative stormwater pollution prevention or control measures.

To obtain those objectives, the monitoring program was required to include the following measures:

- Provision for conducting and reporting the results of special studies conducted by the Permittees which are designed to determine effectiveness of BMPs or control measures, define a Performance Standard or assess the adverse impacts of a pollutant or pollutants on beneficial uses.
- Provisions for conducting watershed monitoring activities including: identification of major sources of pollutants of concern; evaluation of the effectiveness of control measures and BMPs; and use of physical, chemical and biological parameters and indicators as appropriate.
- Identification and justification of representative sampling locations, frequencies and methods, suite of pollutants to be analyzed, analytical methods, and quality assurance procedures. Alternative monitoring methods in place of these (special projects, financial participation in regional, state, or national special projects or research, literature review, visual observations, use of indicator

parameters, recognition and reliance on special studies conducted by other programs, etc.) may be proposed with justification.

(Ex. 2 at 37.) However, the Prior Permit itself imposed no specific requirements for these activities.

In addition, Provisions C.10.b and C.10.d of the Prior Permit required Permittees to take measures to control the discharge of mercury and PCBs into stormwater. (Ex. 2 at pp. 39-40, 41-42.) These measures largely consisted of identification of potential sources of mercury and PCBs in stormwater (e.g., mercury-containing products, contaminated sediments, and polluted urban runoff) and the development of control mechanisms to reduce or eliminate them. (*Id.*)

By contrast, the MRP requires significant additional specific steps for Co-Permittees to monitor for these pollutants in the receiving waters that are included in the following list and within the jurisdiction of the Alameda Countywide Program:<sup>6</sup>

Permittees shall conduct Pollutants of Concern monitoring at stations listed below. Permittees may install these stations in two phases providing at least half of the stations are monitored in the water year beginning October 2010, and all the stations are monitored in the water year beginning October 2012. Upon approval by the Executive Officer, Permittees may use alternate POC monitoring locations.

- (1) Castro Valley Creek S3 at USGS gauging station in Castro Valley
- (2) Guadalupe River
- (3) Zone 4 Line A at Chabot Road in Hayward
- (4) Rheem Creek at Giant Road in Richmond
- (5) Walnut Creek at a downstream location

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<sup>6</sup> Not all of the stations identified in the MRP fall within the jurisdiction of the Alameda Countywide Program. Only the second and third are within Alameda County.



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- (6) Calabazas Creek at Lakeside Drive in Sunnyvale, at border with Santa Clara
- (7) San Mateo Creek at downstream location
- (8) Laurel Creek at Laurie Meadows park, off Casanova Drive in City of San Mateo.

(Ex. 1 at 73-74.) These new requirements represent a significant increase of what was required under the Prior Permit. Specifically:

- The City of Alameda and other Permittees in the Alameda Countywide Program are required to monitor two stations instead of one, involving new costs for development and maintenance of the second stations;
- Due to numerous pollutants to be sampled, both the new and existing station will require additional setup (purchasing equipment, installation, calibration of equipment) of monitoring equipment prior to beginning to monitor annually at one station in October 2011 and another beginning in October 2012;
- A minimum of four storms have to be sampled per year at each station. While previous monitoring sampled an average of seven storms per year, there will be increased costs for each event, for mobilizing larger field crews, setup and preparation of sampling equipment, and post-storm sample collection, and transport to laboratory. This increased effort would more than double the annual average cost at just one station compared to the previous 5-year period.
- Numerous new pollutants or analytes are required to be monitored.
- Specialized protocols or extra field visits will also be required for some pollutants.

(Scanlin Decl. ¶ 9(a)(i)(4).)

**e. Provision C.8.e.ii—Long-Term Monitoring**

Provision C.8.e.ii requires Long-Term monitoring at specified stations. Alternate locations are permissible only after consulting with the Regional Water Board Surface Water Ambient Monitoring Program (“SWAMP”) and approval by the Regional Water Board’s executive officer. (Ex. 1. at 74.) The City of Alameda and other Permittees in the Alameda Countywide Program are responsible for monitoring at either Alameda Creek or the Lower San Leandro Creek. The MRP suggests locations for where such monitoring should occur for either water body. (*Id.*)

Provision C.8.e.iii requires “Long-Term monitoring pursuant to Table 8.4, Category 3. (*Id.*) Table 8.4 describes Category 3 as requiring testing for toxicity of “Bedded Sediment, fine-grained,” to be coordinated with SWAMP’s scheduled collection of Category 3 data at the Long-Term monitoring locations.” (*Id.*)

**(i) Provision C.8.e.ii Imposes a New Program.**

The Prior Permit makes no provision for monitoring designed to detect long-term trends. (Ex. 2. at 37-38) This is a new requirement.

**f. Provision C.8.e.vi—Sediment Delivery Estimate/Budget**

Provision C.8.e.vi requires Permittees, by July 1, 2011, to develop “a design for a robust sediment delivery estimate/sediment budget in local tributaries and urban drainages.” (Ex. 1 at 76). The study itself must be implemented by July 1, 2012.

**(i) Provision C.8.e.vi Imposes a New Program.**

The Prior Permit contained no requirement to design or implement sediment delivery studies. This is an entirely new program under the MRP.

**g. Provision C.8.f—Citizen Monitoring and Participation**

Provision C.8.f requires permittees to encourage “citizen monitoring,” although it does not define this term. Instead, it merely directs that

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- i. Permittees shall encourage Citizen Monitoring.
- ii. In developing Monitoring Projects and evaluating Status & Trends data, Permittees shall make reasonable efforts to seek out citizen and stakeholder information and comment regarding waterbody function and quality.
- iii. Permittees shall demonstrate annually that they have encouraged citizen and stakeholder observations and reporting of waterbody conditions. Permittees shall report on these outreach efforts in the annual Urban Creeks Monitoring Report.

(Ex. 1 at 76.)

The Fact Sheet provides no additional description or specification of what is required, but says that “Provision C.8.f. is intended to do the following:

Support current and future creek stewardship efforts by providing a framework for citizens and Permittees to share their collective knowledge of creek conditions; and

Encourage Permittees to use and report data collected by creek groups and other third-parties when the data are of acceptable quality.

(*Id.* at App. I 64-65.)

**(i) Provision C.8.f Imposes a New Program.**

Provision C.8.f is an entirely new requirement. There is no similar provision in the Prior Permit.

**h. Provision C.8.g—Reporting**

Provision C.8.g.ii requires submission of “an Electronic Status Monitoring Data Report no later than January 15 of each year, reporting on all data collected during the foregoing October 1–September 30 period. Electronic Status Monitoring Data Reports shall be in a format compatible with the SWAMP database. Water Quality Objective exceedences shall be highlighted in the Report.” (Ex. 1 at 77.)

Provision C.8.g.iii requires submission of

- a comprehensive Urban Creeks Monitoring Report no later than March 15 of each year, reporting on all data collected during the foregoing October 1–September 30 period, with the initial report due March 15, 2012, unless the Permittees choose to monitor through a regional collaborative, in which case the due date is March 15, 2013.

(*Id.* at 77.) Each Urban Creeks Monitoring Report shall contain summaries of Status, Long- Term, Monitoring Projects, and Pollutants of Concern Monitoring. (*Id.*) The materials required for this submission are extensive, and include maps, data tables, descriptions of data quality, analyses of the data, identification of any “long-term trends in stormwater or receiving water quality,” and a discussion of the data relative to beneficial uses identified in the basin plan. (*Id.* at 77-78.)

Finally, Provision C.8.g.vi requires that electronic reports be made available through a regional data center, and optionally through their web sites. The City of Alameda and other Permittees are required to notify stakeholders and members of the general public about the availability of electronic and paper monitoring reports through notices distributed through appropriate means, such as an electronic mailing list. (*Id.* at 79.)

**(i) Provision C.8.g Imposes a New Program or Higher Level of Service.**

The Prior Permit required The City of Alameda and other Permittees to prepare a single annual report, which included a description of data collected over the previous fiscal year, and general interpretation of the results. (Ex. 2 at 33-36.) The Prior Permit also required Permittees to submit workplans, annual updates and one-off reports on illicit discharges and industrial discharge controls. The format of these reports was unspecified. (*Id.*)

The MRP requires electronic reporting and requires that the data be maintained in a database accessible by the public. (Ex. 1 p. 77.) In addition, the requirement for submission of a separate annual Urban Creeks Monitoring Report is new. This submission prescribes roughly similar report contents, but due to the increased number of data parameters and programs, the total level of reporting effort will increase.

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**i. Provision C.8.h— Monitoring Protocols and Data Quality**

Provision C.8.h requires that

Where applicable, monitoring data must be SWAMP comparable. Minimum data quality shall be consistent with the latest version of the SWAMP Quality Assurance Project Plan (QAPP) for applicable parameters, including data quality objectives, field and laboratory blanks, field duplicates, laboratory spikes, and clean techniques, using the most recent Standard Operating Procedures. A Regional Monitoring Collaborative may adapt the SWAMP QAPP for use in conducting monitoring in the San Francisco Bay Region, and may use such QAPP if acceptable to the Executive Officer.

(Ex. 1 at 79.)

**(i) Provision C.8.h Imposes a Higher Level of Service.**

The Prior Permit makes no mention of the SWAMP program. By contrast, Provision C.8.h of the MRP requires the Alameda Countywide Program to develop significant updates or additions to existing field standard operating procedures and train field staff to allow for monitoring data to be collected by the Permittees using “SWAMP comparable” methods defined by the State Water Resources Control Board’s Surface Water Ambient Monitoring Program.

Additionally, new data management systems must be developed and managed at significant costs, as the MRP requires data to be reported electronically to the Regional Water Board in “SWAMP comparable” formats. Monitoring data quality assurance procedures (also SWAMP comparable) will also have to be developed, documented and adhered to by the Alameda Countywide Program at all times, which requires an additional level of effort (staff time) compared to previous quality assurance procedures conducted by Alameda Countywide Program under the Prior Permit.

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2. The New Requirements of Provision C.8 Constitute State Mandates.

The Fact Sheet prepared by Regional Water Board staff in conjunction with the MRP cites to both federal and state law as providing “broad legal authority” for all of the monitoring requirements imposed therein:

**Broad Legal Authority:** [Federal Clean Water Act] sections 402(p)(3)(B)(ii-iii); [California Water Code] section 13377; Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)

(Ex. 1 at App I-57.) However, for authority specific to the monitoring requirements in Provision C.8, the Fact Sheet cites only to federal regulations:

**Specific Legal Authority:** Permittees must conduct a comprehensive monitoring program as required under Federal NPDES regulations 40 CFR 122.48, 40 CFR 122.44(i), 40 CFR 122.26.(d)(1)(iv)(D), and 40 CFR 122.26(d)(2)(ii)-(iv).

(*Id.* at App I-57.)<sup>7</sup>

Section 122.48 of the federal regulations implementing the Clean Water Act requires all NPDES permits to contain certain monitoring provisions, including those establishing “type, intervals, and frequency sufficient to yield data which are representative of the monitored activity” 40 C.F.R. § 122.48. Section 122.44(i) requires certain types of monitoring “to assure compliance with permit limitations.” 40 C.F.R. § 122.44(i). The requirements described under this provision apply largely to parameters governing an individual permittee’s discharge. *Id.*<sup>8</sup> Similarly, the monitoring requirements specific to stormwater permits under section 122.126 of the federal regulation are largely aimed at identifying sources and characterizing pollution arising from outflows within each MS4’s jurisdiction. 40 C.F.R. §§ 122.26(d)(1)(iv)(D); (2)(ii)-(iv).

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<sup>7</sup> The text of the referenced sections is set forth in Appendix “A” to this Narrative Statement.

<sup>8</sup> Section 122.44(i)(iii)-(iv) applies to specific types of discharges other than stormwater.

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Stormwater management programs “*may* impose controls on a systemwide basis, a watershed basis, a jurisdiction basis, or on individual outfalls.” *Id.* § 122.26(d)(2)(iv). However, while cooperative agreements may be required, “each copermitttee is only responsible for their own systems.” 40 C.F.R. § 122.26(d)(2)(i)(D). Similarly, consistent with the scope of the monitoring provisions discussed above, even where a programmatic approach is taken, federal regulations say that “Copermitttees need only comply with permit conditions relating to discharges from the municipal separate storm sewers for which they operate.” (40 C.F.R. § 122.26(a)(3)(vi).) In the San Diego and Los Angeles Decisions, the Commission correctly read these regulatory provisions to mean that, while the Regional Water Board may impose collaborative approaches to monitor and control pollutants on a watershed basis, such requirements exceed the mandate in federal law or regulations and are state law mandates. (San Diego Decision at 74; Los Angeles Decision at 30-31.)

**a. Requirements for Collaborative or Watershed Monitoring.**

Virtually all of the provisions discussed above require The City of Alameda to engage in some degree of collaborative or watershed-wide monitoring programs. As described above, federal regulations require a stormwater permit to contain provisions aimed at characterizing and controlling pollutants in a permittee’s own discharges. Nothing in the plain language of federal statute and regulations requires participation or contributions to the sort of specific collaborative monitoring program mandated by Provision C.8 of the MRP.

Rather, the Regional Water Board freely chose to impose these particular and specific requirements on The City of Alameda. As the Court of Appeal in *Hayes v. Comm’n on State Mandates* explained only those mandates forced on the state by the federal government may truly be considered “federal” for purposes of Article XIII B section 6 of the State’s Constitution:

In our view the determination whether certain costs were imposed upon a local agency by a federal mandate must focus upon the local agency which is ultimately forced to bear the costs and how those costs came to be imposed upon that agency. If the state freely chose to impose the costs upon the local agency as a means of implementing a federal program then the

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costs are the result of a reimbursable state mandate regardless whether the costs were imposed upon the state by the federal government.

*Hayes v. Comm'n on State Mandates* (1992) 11 Cal. App. 4th 1564, 1593-94.

Just as the Commission correctly determined in the San Diego and Los Angeles Decisions, collaborative watershed-level activities as required under the MRP may be *authorized*, but are *not required* by federal law. Therefore, Regional Water Board freely chose to include them the MRP permit, rendering these provisions state mandates. (San Diego Decision at 59, 74; Los Angeles Decision at 30-31.)

**b. New Requirements for Characterization of MS4 Discharges.**

Requirements of the MRP, such as those set forth in provision C.8.c and C.8.h, impose new requirements to measure specific constituents in stormwater. The level of specificity in these provisions goes far beyond the very general monitoring requirements established under the federal Clean Water Act or its implementing regulations. 40 C.F.R. §§ 122.44(i); 122.48; 122.26(d)(1)(iv)(D); (2)(ii)-(iii). The federal regulations simply require permittees to develop monitoring plans that are sufficient to demonstrate compliance with permit limits and assess impacts of a permittee's discharges.

While outfall monitoring requirements are more directed at the type of information anticipated under the federal regulations than the watershed monitoring discussed above, again the requirements of the MRP are far more specific than is required by the Clean Water Act. While the federal regulations require monitoring sufficient to yield data which are representative of the MS4's own discharges, the means and manner in which these requirements are implemented and specified in the MRP is an exercise of discretion by the Regional Water Board, which freely chose the specific parameters, testing locations, and sampling frequencies as part of the MRP. Under the test articulated in *Hayes*, this choice as indicated in the MRP renders the requirements in Provision C.8.c a state—rather than a federal—mandate. *Hayes v. Comm'n on State Mandates* (1992) 11 Cal. App. 4th 1564, 1593-94 (defining as state mandates requirements “where the manner of implementation of the federal program was left to the true discretion of the state.”).



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Indeed, with regard to the provisions in Provision C.8.h, which require the The City of Alameda to conform the format and quality assurance methods to those set by SWAMP, the Regional Water Board provides no specific legal authority—state or federal. And, unquestionably, there is no federal statute or regulation that would require compatibility with SWAMP methods, formats, or quality assurance procedures. The Regional Water Board “freely chose” to impose the SWAMP compatibility requirement of its own accord. *Hayes v. Comm’n on State Mandates* (1992) 11 Cal. App. 4th 1564, 1593.

**c. Citizen Monitoring Requirements.**

The Fact Sheet for the MRP describes the legal authority for Provision C.8.f as follows: “CWA section 101(e) and 40 CFR Part 25 broadly requires public participation in all programs established pursuant to the CWA, to foster public awareness of environmental issues and decision-making processes.” (Ex. 1 at App. I-64.)

Section 101(e) of the Clean Water Act says: “Public participation in the development, revision, and enforcement of any regulation, standard, effluent limitation, plan, or program established by the Administrator or and State under this chapter shall be provided for, encouraged, and assisted by the Administrator and the States.” 33 U.S.C. § 342 1251(e). Part 25 of the Code of Federal Regulations sets the “minimum” standards to encourage public participation. 40 C.F.R. § 25.1. The application of Part 25 appears to be focused on public participation in U.S. EPA or equivalent state-level agency decision-making with regard to water quality regulatory activities such as regulations and the adoption of NPDES permits.

While these provisions could be read to authorize or even encourage the Regional Water Board to impose additional measures to bring the public into other proceedings or other aspects of the permitting process, nothing in the Clean Water Act or its implementing regulations comes close to requiring the measures identified in Provision C.8.f. of the MRP. As with many other requirements in the MRP, the federal regulations may authorize, but do not require, the specific requirements imposed by Provision C.8.f. Thus, as the Commission correctly determined when considering specific public outreach requirements in the San Diego Decision, this provision constitutes a state mandate. (San Diego Decision at 63, citing *Long Beach Unified School Dist. v. State of California, supra*, 225 Cal.App.3d 155.)

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**d. Electronic Reporting.**

There is no federal requirement that reports be submitted electronically. Indeed, the Fact Sheet cites only state authority as support for these requirements:

[California Water Code] section 13267 provides authority for the Water Board to require technical water quality reports. Provision C.8.g. requires Permittees to submit electronic and comprehensive reports on their water quality monitoring activities to (1) determine compliance with monitoring requirements; (2) provide information useful in evaluating compliance with all Permit requirements; (3) enhance public awareness of the water quality in local streams and the Bay; and (4) standardize reporting to better facilitate analyses of the data, including for the CWA section 303(d) listing process.

(Ex. 1 at App I-165.) This is a requirement freely chosen by the Regional Water Board and is a state mandate.

**3. The City of Alameda Will Incur Significant Costs as a Result of the Increased Monitoring Requirements Imposed Under Provision C.8 of the MRP.**

The City of Alameda will incur significant costs as a result of all the specified increased monitoring requirements imposed under Provision C.8 of the MRP. The City of Alameda has calculated the costs it will incur in implementing these requirements for fiscal years 2010 and 2011. These calculations are reflected in Exhibit 3 to the Test Claim, and are described in more detail in the declaration submitted on behalf of the Alameda Countywide Program in support of this Test Claim. (Scanlin Decl. ¶ 10 & Ex. A.)

**4. The City of Alameda Has Inadequate Fee Authority to Recover Monitoring Costs.**

The City of Alameda does not have adequate authority to impose a regulatory fee to recoup the costs of implementing the requirements of Provision C.8 of the MRP. No statutory authority exists for imposing fees to recover the costs of water quality monitoring.

There is no sufficient nexus between either the cause of stormwater pollution or the benefits to be derived from the monitoring requirements imposed by and any specific businesses or individuals to allow a targeted fee. Outside of a general finding that municipal stormwater discharges may be contributing to pollution of various receiving waters, there is no finding in the MRP or its Fact Sheet tying stormwater pollutants to specific businesses or individuals. In fact, many of the ongoing monitoring requirements set forth in the MRP are geared toward identifying potential pollutant contributing sources. (Ex. 1 at 71.) This is insufficient to allow the identification of the cause or benefit nexus discussed in the *Sinclair Paint* and *Tahoe Keys* cases described above. The only fee that would suffice would have to be a broad-based property fee, which would trigger Proposition 218's voter approval requirement. For this reason, Provision C.8.b does not fall within the exception of section 17556(d) of the Government Code.

Moreover, even if an appropriate group of businesses or individuals could be identified, there is no way that such a fee could be precisely calibrated to assure that it would sufficiently reimburse The City of Alameda for monitoring costs without exceeding those costs, as is required under Article XIII D, § 6, subd. (b). For all of these reasons, The City of Alameda cannot recover the state mandated costs of Provision C.8 through the imposition of a fee.

**A. Trash Load Reduction**

Provision C.10 of the MRP requires The City of Alameda to develop short- and long-term plans for reducing the amount of trash entering receiving waters from their stormwater systems and to create a baseline against which future reduction achievements may be measured. The City of Alameda must also take immediate steps to identify "trash hot spots" within its jurisdiction and to perform and document cleanup actions in those areas. Finally, The City of Alameda must install full trash capture devices to prevent trash from entering storm drains.

**1. Provision C.10 Constitutes a New Program or Higher Level of Service.**

**a. Provision C.10.a.i—Short Term Trash Load Reduction Plan**

Provision C.10.a.i requires The City of Alameda to submit a Short-Term Trash Load Reduction Plan, including an implementation schedule, to the Water Board by February 1, 2012. (Ex. 1 at 84.):

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The Plan shall describe control measures and best management practices, including any trash reduction ordinances, that are currently being implemented and the current level of implementation and additional control measures and best management practices that will be implemented, and/or an increased level of implementation designed to attain a 40% trash load reduction from its MS4 by July 1, 2014.

(*Id.*) In addition, the Plan “shall account for required mandatory minimum Full Trash Capture devices called for in Provision C.10.a.iii and Trash Hot Spot Cleanup called for in Provision C.10.b.” (*Id.*)

**b. Provision C. 10.a.ii—Baseline Trash Load and Trash Load Reduction Tracking Method**

Provision C.10.a.ii requires The City of Alameda to document the amount of trash currently being discharged from their stormwater systems:

Each Permittee, working collaboratively or individually, shall determine the baseline trash load from its MS4 to establish the basis for trash load reductions and submit the determined load level to the Water Board by February 1, 2012, along with documentation of methodology used to determine the load level.

(Ex. 1 at 84.). The City of Alameda is also required to develop a mechanism to track the reductions in trash loads achieved through the measures imposed by the MRP:

The submittal shall also include a description of the trash load reduction tracking method that will be used to account for trash load reduction actions and to demonstrate progress and attainment of trash load reduction levels. The submittal shall account for the drainage areas of a Permittee’s jurisdiction that are associated with the baseline trash load from its MS4, and the baseline trash load level per unit area by land use type and drainage area characteristics used to

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derive the total baseline trash load level for each Permittee.

*(Id.)*

Finally, Provision C.10.a.ii requires The City of Alameda to report its progress on these obligations by February 2011, and disclose whether they are working alone or in conjunction with other Permittees:

Each Permittee shall submit a progress report by February 1, 2011, that indicates whether it is determining its baseline trash load and trash load reduction method individually or collaboratively with other Permittees and a summary of the approach being used. The report shall also include the types and examples of documentation that will be used to propose exclusion areas, and the land use characteristics and estimated area of potentially excluded areas.

*(Id.)*

**c. Provision C.10.a.iii—Minimum Full Trash Capture**

Provision 10.a.iii requires the installation of a “mandatory minimum number of full trash capture devices by July 1, 2014, to treat runoff from an area equivalent to 30% of Retail/Wholesale Land that drains to MS4s within their jurisdictions (see Table 10.1 in Attachment J).” (Ex. 1 at 85.)

This provision defines “a full trash capture device” as “any single device or series of devices that traps all particles retained by a 5 mm mesh screen and has a design treatment capacity of not less than the peak flow rate  $Q$  resulting from a one-year, one-hour, storm in the sub-drainage area.” *(Id.)*

**d. Provision C.10.b.i—Trash Hot Spot Cleanup and Definition**

Provision C.10.b introduces a number of cleanup and reporting activities for The City of Alameda. The City of Alameda is to identify and clean “Trash Hot Spots” within its jurisdiction: “Trash Hot Spots in receiving waters shall be cleaned annually to achieve the multiple benefits of beginning abatement of these

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impacts as mitigation and to learn more about the sources and patterns of trash loading.” (*Id.* at 85.)

No express definition of Trash Hot Spot is provided. Provision C.10.b.i describes them in terms of minimum size: “Trash Hot Spots shall be at least 100 yards of creek length or 200 yards of shoreline length.” (*Id.* at 86.) Provision C.10.b.ii suggests that they are “high trash-impacted locations on State waters.” (*Id.*)

**e. Provision C.10.b.ii—Trash Hot Spot Selection and Cleanup**

Provision C.10.b.ii provides that The City of Alameda must designate “at least one Trash Hot Spot per 30,000 population, or one per 100 acres of Retail/Wholesale Commercial Land Area, within their jurisdictions based on Association of Bay Area Governments (ABAG) 2005 data, whichever is greater.” (*Id.*) Provision C.10.b.ii also requires The City of Alameda to select at least one Trash Hot Spot, and to submit information, including “photo documentation (one photo per 50 feet)” and initial assessment results for the proposed hot spots to the Regional Water Board by July 1, 2010. (*Id.*) The minimum number of Trash Hot Spots per Permittee is set forth in Attachment J of the MRP

**f. Provision C.10.b.iii—Trash Hot Spot Assessment**

Provision C.10.b.iii requires The City of Alameda to “quantify the volume of material removed from each Trash Hot Spot cleanup, and identify the dominant types of trash (e.g., glass, plastics, paper) removed and their sources to the extent possible” and to provide before-and-after photographic documentation of the cleanup. (*Id.*)

**g. Provision C.10.c—Long-Term Trash Load Reduction Plan**

Provision C.10.c requires each Permittee to create and submit a plan describing trash reduction measures being implemented and for achieving the reduction goals beyond the five-year MRP term:

Each Permittee shall submit a Long-Term Trash Load Reduction Plan, including an implementation schedule, to the Water Board by February 1, 2014. The Plan shall describe control measures and best management practices, including any trash reduction ordinances,

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that are being implemented and the level of implementation and additional control measures and best management practices that will be implemented, and/or an increased level of implementation designed to attain a 70% trash load reduction from its MS4 by July 1, 2017, and 100% by July 1, 2022.

(Ex. 1 at 86.)

#### **h. Provision C.10.d—Reporting**

Provision C.10.d requires The City of Alameda to report annually on its trash load reduction efforts and maintain records documenting these actions and their effects. Provision C.10.d.i requires a summary of

trash load reduction actions (control measures and best management practices) including the types of actions and levels of implementation, the total trash loads and dominant types of trash removed by its actions, and the total trash loads and dominant types of trash for each type of action. The latter shall include each Trash Hot Spot selected pursuant to C.10.b. Beginning with the 2012 Report, each Permittee shall also report its percent annual trash load reduction relative to its Baseline Trash Load.

(*Id.* at 86-87.) Provision C.10.d.ii requires The City of Alameda to retain records and documentation of trash load reduction efforts “for review,” and requires that the preserved records “have the specificity required for the trash load reduction tracking method established pursuant to Provision C.10.a.iii. (*Id.* at 87.)

#### **i. Provision C.10 is a New Program.**

The Prior Permit contained no comparable provisions. Provision C.10 clearly is a new program and each of its provisions requires a higher level of service from The City of Alameda.

### **2. The Requirements of Provision C.10 Constitute State Mandates.**

The Fact Sheet prepared by Regional Water Board staff in connection with the MRP contains the following narrative recitation of federal statutory and

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regulatory authority specific to the Trash Load Reduction Provisions found in Provision C.10 of the MRP:

**Specific Legal Authority:** Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B) requires, “shall be based on a description of a program, including a schedule, to detect and remove (or require the discharger to the municipal storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(2) requires, “a description of procedures to conduct on-going field screening activities during the life of the permit, including areas or locations that will be evaluated by such field screens.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(3) requires, “a description of procedures to be followed to investigate portions of the separate storm sewer system that, based on the results of the field screen, or other appropriate information, indicate a reasonable potential of containing illicit discharges or other sources of non-storm water.”

Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B)(4) requires, “a description of procedures to prevent, contain, and respond to spills that may discharge into the municipal separate storm sewer.”

(Ex. 1 at 71.)

The Fact Sheet also describes authority provided under the Regional Water Board’s Basin Plan for the San Francisco Bay:

San Francisco Bay Basin Plan, Chapter 4 – Implementation, Table 4-1 Prohibitions, Prohibition 7, which is consistent with the State Water Board’s Enclosed Bays and Estuaries Policy, Resolution 95-84,



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*prohibits the discharge of rubbish, refuse, bark, sawdust, or other solid wastes into surface waters* or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas. This prohibition was adopted by the Water Board in the 1975 Basin Plan, primarily to protect recreational uses such as boating.

(*Id.* (emphasis added).)

The Regional Water Board's adoption of this prohibition and other provisions of the Basin Plan represent the exercise of discretion in choosing the means and manner that the federal Clean Water Act will be applied to receiving waters within its jurisdiction. The Trash Load Reduction measures in C.10 of the MRP represent a second and additional level of discretion by the Regional Water Board, which chose the means and manner by which this prohibition of the Basin Plan is applied to the Co-Permittees under the MRP. The requirements of Provision C.10 are therefore at least two steps removed from and exceed the general provisions of federal law cited in the Fact Sheet. Because the Regional Water Board freely chose to impose the obligations under Provision C.10, this renders section C.10 a state, not a federal, mandate. *Hayes v. Comm'n on State Mandates* (1992) 11 Cal. App. 4th 1564, 1593. In the Los Angeles Decision, the Commission applied a similar rationale, and concluded that street-sweeping requirements designed to reduce trash in stormwater were far more specific than what was required under federal law. (Los Angeles Decision at p. 55.) The same logic applies and compels the same result with respect to the trash load reduction provisions in the MRP.

3. **The City of Alameda Will Incur Significant Costs as the Result of the New Trash Load Reduction Requirements Imposed Under Provision C.10 of the MRP.**

The City of Alameda will incur significant costs as a result of the new trash load reduction requirements imposed under Provision C.10 of the MRP. The City of Alameda has calculated costs it will incur in implementing these requirements for fiscal years 2010 and 2011. These calculations are reflected in Exhibit 3 to the Test Claim, and are described in more detail in the declaration submitted on behalf of the Alameda Countywide Program in support of this Test Claim (Scanlin Decl. ¶ 10 & Ex. B.)

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4. **The City of Alameda Has Inadequate Fee Authority to Recover the Costs of Implementing Provision C.10.**

For all of the reasons discussed above with regard to the monitoring provisions of the MRP, The City of Alameda does not have adequate authority to impose a regulatory fee to recoup the costs of complying with the Trash Load Reduction requirements of Provision C.10. No statutory authority exists for imposing fees to recover for such costs.

Public Resources Code section 40059 provides local governments with authority over the collection and handling of solid waste, and allows for the collection of fees related to these activities:

Notwithstanding any other provision of law, each county, city, district, or other local governmental agency may determine all of the following: (1) Aspects of solid waste handling which are of local concern, including, but not limited to, frequency of collection, means of collection and transportation, level of services, charges and fees, and nature, location, and extent of providing solid waste handling services.

Cal. Pub. Resources Code § 40059(a).

In the Los Angeles Decision, the Commission concluded that the cost of placing trash receptacles at public transit locations could not be recovered through the imposition of a fee under this provision because such a fee would not be reasonably related to “providing services necessary to activity for which fee is charged.” (Los Angeles Decision at 60.). In that case, the Commission concluded that even if the Los Angeles permittees had proper jurisdiction to impose a fee on transit riders, this group would gain no particular benefit over that provided to the general public. (*Id.*)

Here, the installation of trash capture devices mandated by the MRP is similarly beyond the fee authority of The City of Alameda. The Commission in the Los Angeles Decision concluded that there were no businesses and private property owners that could be singled out to pay fees for placement of trash receptacles in transit stops. (Los Angeles Decision at 60 (“Because the trash receptacles are required to be placed at transit stops that would typically be on city property (sidewalks) or transit district property (for bus or metro or subway stations), there are no entities on which the claimants would have authority to

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impose the fees.”) Similarly, here, there are no businesses or individuals whose activities are sufficiently connected to either the benefits of Provision C.10 or the pollution it seeks to address to justify the imposition of fees.

The same is true for the “Hot-Spot” cleanup activities required under Provision C.10. In the San Diego Decision, the Commission concluded that the opt-out vote required for the imposition of fees in conjunction with the collection and handling of refuse was too contingent to place street sweeping or other refuse collection activities outside the scope of the unfunded mandate provision. (San Diego Decision at 115-17.) The costs of developing the short- and long-term trash load reduction plans and the development of a baseline under the MRP are even more attenuated from the causes of those costs or the benefits to be delivered by the activities.

For the same reasons, no authority exists for the imposition of a regulatory fee under the general police powers enjoyed by local authorities. There is no nexus between either the cause of stormwater pollution or the benefits to be derived from the requirements of Provision C.10 and any specific businesses or individuals to allow a targeted fee, as required in the *Sinclair Paint* and *Tahoe Keys* cases. The only fee that would suffice would have to be a broad-based property fee that would trigger Proposition 218’s voter approval requirement. For this reason, Provision C.10 does not fall within the exception of section 17556(d) of the Government Code.

**B. Mercury and PCB Diversion Studies**

Provisions C.11.f and C.12.f of the MRP require The City of Alameda and other Permittees to implement pilot programs to evaluate the reduction in mercury and PCB levels attainable by diverting dry weather and first-flush stormwater flows to sanitary sewers, where they may be treated for these contaminants by Publicly Owned Treatment Works (“POTWs”). (Ex. 1 at 91, 99.) The Permittees are also required to quantify and report the reductions achieved during the pilot program. (*Id.*)

The City of Alameda and other Permittees are required to implement these requirements by collectively “evaluating drainage characteristics and the feasibility of diverting flows to the sanitary sewer.” (*Id.*) Provision C.11.f.ii says

Permittees should work with local POTWs, on a watershed, county, or regional level to evaluate feasibility and to establish cost sharing agreements.

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The feasibility evaluation shall include, but not be limited to, costs, benefits, and impacts on the stormwater and wastewater agencies and the receiving waters relevant to the diversion and treatment of the dry weather and first flush flows.

(*Id.* at 91.) Provision C.12.f contains a virtually identical provision. (*Id.* at 99.) The results of the feasibility studies are to be used by Permittees to collectively select five pump stations and five alternates for pilot diversion studies. At least one diversion pilot program must be implemented in each county within the jurisdiction of the MRP. (*Id.* at 91, 100.) Sections C.11.f.ii and C.12.f.ii further direct that the pilot studies be conducted “in industrially- dominated catchments where elevated PCB concentrations are documented. (*Id.* at 91, 99). The Permittees are then required to report the outcome of the studies. (*Id.*)

**1. Sections C.11.f and C.12.f Constitute New Programs.**

The Prior Permit contained no provisions requiring the diversion studies and pilot programs for mercury and PCBs required under the MRP. The studies and pilot projects required under sections C.11.f and C.12.f are new programs.

**2. Sections C.11.f and C.11.f are State Mandates.**

For purposes of establishing legal authority, the Fact Sheet lumps Provisions C.11 and C.12 in a group that covers Provisions C.9 through C.14, and asserts that these requirements are generally authorized by sections 402(p)(3)(B)(ii-iii) of the Clean Water Act, section 13377 of the California Water Code, and sections 122.26(d)(2)(i)(B, C, E, and F) and 122.26(d)(2)(iv) of the federal NPDES regulations. (Ex. 1 at App I-66.) The Fact sheet also identifies the Regional Water Board’s basin plan as a source of authority, and uses permit conditions based on the adoption of a Total Maximum Daily Load as an example of provisions that may be imposed under this authority (“TMDL”). (*Id.*)

The Fact Sheet goes on to state that the mercury control measures in the MRP are intended to “implement the urban runoff requirements stemming from” the TMDL for this pollutant. (*Id.*) It also relates PCB control measures to a TMDL: “The control measures required for PCBs are intended to implement those that are consistent with control measures in the PCBs TMDL implementation plan that has been approved by the Water Board and is pending approval by the State Board, the Office of Administrative Law, and U.S. EPA.” (*Id.* at App I-66-67.)

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None of the federal provisions cited in the Fact Sheet requires the specific measures imposed by the MRP. The federal statute requires that NPDES permits be “consistent with” TMDLs, nothing more. 40 C.F.R. § 122.44(d)(1)(vii). It does not require the Regional Water Board to implement those TMDLs through any specific permit limit, let alone the studies and pilot projects entailed in MRP Provisions C.11.f and C.12.f. Rather, the Regional Water Board has “freely chosen” these measures as the method and manner of implementing this general “consistency” requirement of federal law. The exercise of discretion in the MRP indicates that these Provisions are state, not a federal, mandates. *Hayes v. Comm’n on State Mandates* (1992) 11 Cal. App. 4th 1564, 1593.

3. **The City of Alameda Will Incur Significant Costs as the Result of the Diversion Studies Required Under Provisions C.11.f and C.12.f of the MRP.**

The City of Alameda will incur significant costs as a result of the new requirements for Diversion Studies relating to mercury and PCB discharges imposed under Provisions C.11.f and C.12.f of the MRP. The City of Alameda has calculated costs it will incur in implementing these requirements for fiscal years 2010 and 2011. These calculations are reflected in Exhibit 3 to the Test Claim, and are described in more detail in the declaration submitted on behalf of the Alameda Countywide Program in support of this Test Claim. (Scanlin Decl. ¶ 10 & Ex. C).

4. **The City of Alameda Does Not Have Adequate Authority to Recover the Costs of Complying with C.11.f and C.12.f Through the Imposition of a Fee.**

For many of the same reasons discussed above with regard to the MRP’s monitoring and trash requirements, The City of Alameda does not have adequate authority to impose a regulatory fee to recoup the costs of implementing Provisions C.11.f and C.12.f of the MRP. No statutory authority exists for imposing fees to recover the costs of such projects.

There is no nexus between either the cause of stormwater pollution or the benefits to be derived from the diversion study requirements and any specific businesses or individuals to allow a targeted fee. This is insufficient to allow the identification of the cause or benefit nexus discussed in the *Sinclair Paint* and *Tahoe Keys* cases. The only fee that would suffice would have to be a broad-based property fee that would trigger Proposition 218’s voter approval require-

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ment. For this reason, Provisions C.11.f and C.12.f do not fall within the exception of section 17556(d) of the Government Code.

#### **IV. COSTS TO IMPLEMENT MANDATED ACTIVITIES**

Over the five-year term of the MRP, The City of Alameda will incur significant new costs to implement and administer the new programs and higher levels of service mandated by Provisions C.8, C.10, C.11.f and C.12.f. The Alameda Countywide Program has assessed actual and estimated costs to implement these measures on a Program-wide basis. Each Permittee's share of these mandated costs is based on an established funding formula which apportions costs among Program members based on each Permittee's total area and total population with certain minimum cost shares.

Under the Prior Permit, The City of Alameda incurred an average annual cost of \$12,407 to implement the monitoring activities modified by the MRP. As explained above, the activities mandated by MRP Provisions C.10, C.11.f and C.12.f are entirely new programs; therefore The City of Alameda did not incur any costs to implement such programs under the Prior Permit. During FY 2010-2011, The City of Alameda's to implement the mandated activities described above are estimated to be \$478,939, and during FY 2011-2012, these costs are estimated to be \$507,017. The City of Alameda's costs to implement each of these mandated activities in FY 2010-2011 and FY 2011-2012, are summarized in Exhibit 3 and are described in more detail in the declaration submitted on behalf of the Alameda Countywide Program in support of this Test Claim (Scanlin Decl. ¶ 10 & Exs. A-C). When a City of Alameda engineering test program is completed later this fiscal year, The City of Alameda may be able to assess whether estimated costs can be significantly lowered for implementing Provision C.10.a.iii., Minimum Full Trash Capture, for Fiscal Years 2010-11 and 2011-12.

#### **V. STATEWIDE COST ESTIMATE**

The MRP relates only to a portion of the San Francisco Bay region. This Test Claim is even narrower in scope in that, for some programs, it pertains to new programs and higher levels of service imposed by the MRP on The City of Alameda directly or indirectly in the form of contributions to work that will be performed jointly with other Permittees within the Alameda Countywide Program

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or in other collaborative efforts, compared to the Prior Permit. Therefore, the cost estimates provided relate only to The City of Alameda and other Permittees participating in the Alameda Countywide Program. These costs are detailed in the declaration submitted on behalf of the Alameda Countywide Program in support of this Test Claim (Scanlin Decl. ¶ 10 & Ex. A) and are incorporated into Exhibit 3 to this Test Claim.

## **VI. FUNDING SOURCES**

As discussed in more detail above, The City of Alameda does not have fee authority to offset these costs. With the exception of the partial potential funding source set forth below, The City of Alameda is not aware of any state, federal or non-local agency funds that are or will be available to fund these new activities.

Pursuant to the American Recovery and Reinvestment Act ("ARRA"), the San Francisco Estuary Partnership ("SFEP") has been awarded \$5 million from the State Water Resources Control Board's Clean Water State Revolving Fund to purchase trash capture devices and provide them to cities and counties throughout the Bay Area, according to a formula based on population and permit requirements. Participation by municipalities, which is voluntary, will require contracting with the Association of Bay Area Governments and compliance with ARRA and Revolving Fund requirements. Therefore, the ARRA funds represent a potential funding source to offset certain costs to comply with the C.10 trash-related requirements, although these funds are not guaranteed or dedicated for any particular Permittee. A projection of the portion of the ARRA funds available to The City of Alameda is set forth in Exhibit D to the Scanlin Declaration.

## **VII. PRIOR MANDATE DETERMINATIONS**

The City of Alameda is unaware of any prior mandate determinations relating to the MRP. However, Test Claim Nos. 03-TC-04, 03-TC-19, 03-TC-20 and 03-TC-21, which resulted in the Los Angeles Decision, and Test Claim No. 07-TC-09, which resulted in the San Diego Decision, challenged waste discharge requirements for municipal regional storm water and urban runoff discharges that involved many of the same issues described in this Test Claim. The provisions of the MRP discussed above are analogous to several provisions in the Los Angeles and San Diego municipal stormwater permits that the Commission determined were unfunded mandates within the meaning of section 6 of Article XIII D.

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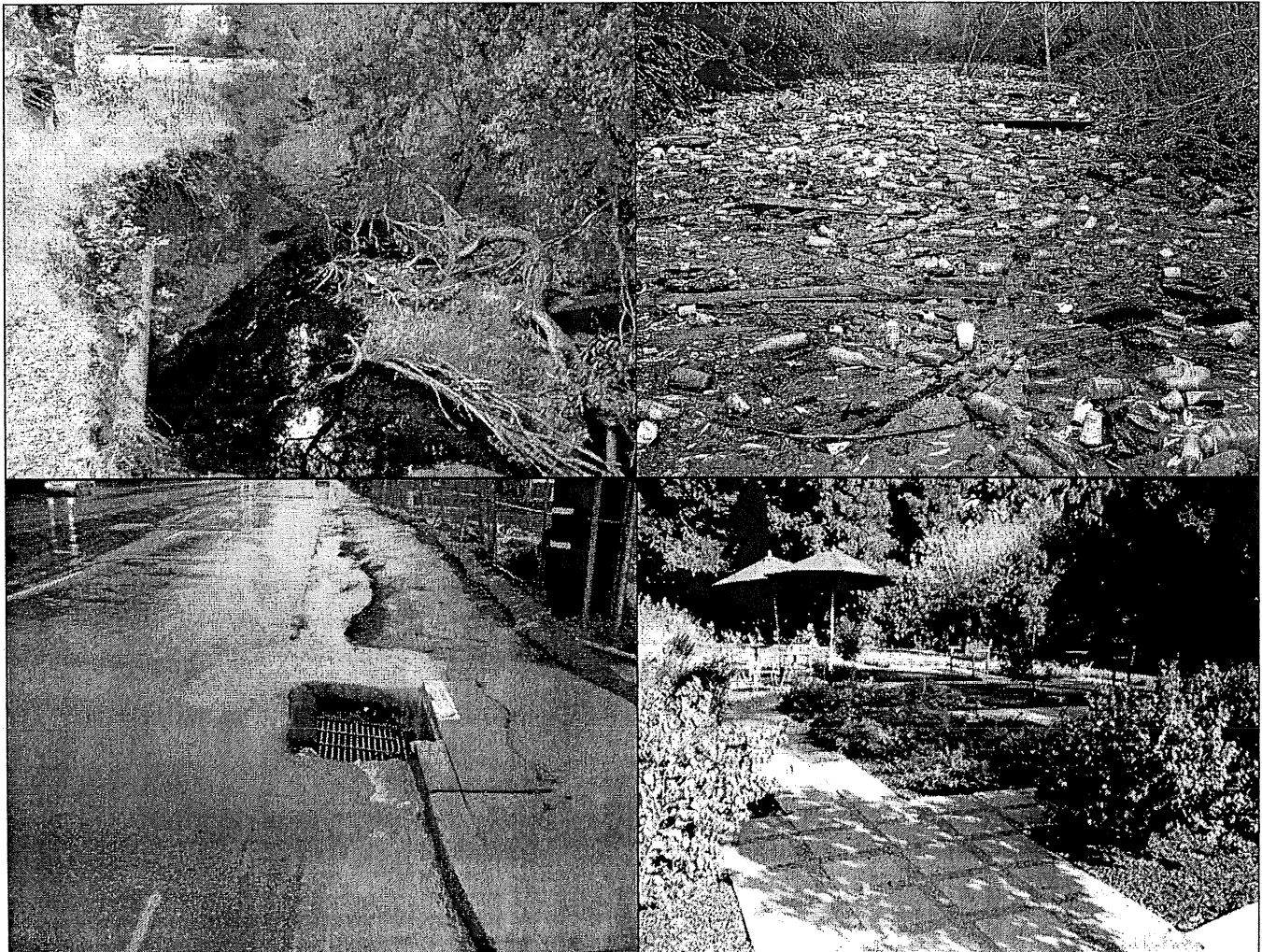
### **VIII. CONCLUSION**

Through the MRP, the California Regional Water Quality Control Board, San Francisco Bay Region has exercised its discretion to impose many new state-mandated activities and demand that The City of Alameda deliver new programs or a higher level of services than what was required under the Prior Permit. As detailed above, their development and implementation imposes substantial costs. The City of Alameda believes that the costs incurred and to be incurred satisfy all the criteria for reimbursable mandates and respectfully requests that the Commission make such findings as to each of the mandated provisions, programs and activities set forth herein.



**California Regional Water Quality Control Board  
San Francisco Bay Region  
Municipal Regional Stormwater NPDES Permit**

**Order R2-2009-0074  
NPDES Permit No. CAS612008  
October 14, 2009**



**California Regional Water Quality Control Board  
San Francisco Bay Region  
Municipal Regional Stormwater NPDES Permit**

**ORDER R2-2009-0074  
NPDES PERMIT NO. CAS612008**

**Issuing Waste Discharge Requirements and National Pollutant Discharge Elimination System (NPDES) Permit for the discharge of stormwater runoff from the municipal separate storm sewer systems (MS4s) of the following jurisdictions and entities, which are permitted under this San Francisco Bay Municipal Regional Stormwater Permit (MRP):**

**The cities of Alameda, Albany, Berkeley, Dublin, Emeryville, Fremont, Hayward, Livermore, Newark, Oakland, Piedmont, Pleasanton, San Leandro, and Union City, Alameda County, the Alameda County Flood Control and Water Conservation District, and Zone 7 of the Alameda County Flood Control and Water Conservation District, which have joined together to form the Alameda Countywide Clean Water Program (Alameda Permittees)**

**The cities of Clayton, Concord, El Cerrito, Hercules, Lafayette, Martinez, Orinda, Pinole, Pittsburg, Pleasant Hill, Richmond, San Pablo, San Ramon, and Walnut Creek, the towns of Danville and Moraga, Contra Costa County, the Contra Costa County Flood Control and Water Conservation District, which have joined together to form the Contra Costa Clean Water Program (Contra Costa Permittees)**

**The cities of Campbell, Cupertino, Los Altos, Milpitas, Monte Sereno, Mountain View, Palo Alto, San Jose, Santa Clara, Saratoga, and Sunnyvale, the towns of Los Altos Hills and Los Gatos, the Santa Clara Valley Water District, and Santa Clara County, which have joined together to form the Santa Clara Valley Urban Runoff Pollution Prevention Program (Santa Clara Permittees)**

**The cities of Belmont, Brisbane, Burlingame, Daly City, East Palo Alto, Foster City, Half Moon Bay, Menlo Park, Millbrae, Pacifica, Redwood City, San Bruno, San Carlos, San Mateo, and South San Francisco, the towns of Atherton, Colma, Hillsborough, Portola Valley, and Woodside, the San Mateo County Flood Control District, and San Mateo County, which have joined together to form the San Mateo Countywide Water Pollution Prevention Program (San Mateo Permittees)**

**The cities of Fairfield and Suisun City, which have joined together to form the Fairfield-Suisun Urban Runoff Management Program (Fairfield-Suisun Permittees)**

**The City of Vallejo and the Vallejo Sanitation and Flood Control District (Vallejo Permittees)**

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**The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter referred to as the Water Board) finds that:**

**FINDINGS**

**Incorporation of Fact Sheet**

1. The Fact Sheet for the San Francisco Bay Municipal Regional Stormwater National Pollutant Discharge Elimination System (NPDES) Permit (Appendix I) includes cited regulatory and legal references and additional explanatory information in support of the requirements of this Permit. This information, including any supplements thereto, and any response to comments on the Tentative Orders, is hereby incorporated by reference.

**Existing Permits**

2. **Alameda County**—The cities of Alameda, Albany, Berkeley, Dublin, Emeryville, Fremont, Hayward, Livermore, Newark, Oakland, Piedmont, Pleasanton, San Leandro, and Union City, Alameda County (Unincorporated area), the Alameda County Flood Control and Water Conservation District, and Zone 7 of the Alameda County Flood Control and Water Conservation District have joined together to form the Alameda Countywide Clean Water Program (hereinafter collectively referred to as the Alameda Permittees) and have submitted a permit application (Report of Waste Discharge), dated July 26, 2007, for reissuance of their waste discharge requirements under the NPDES permit to discharge stormwater runoff from storm drains and watercourses within the Alameda Permittees' jurisdictions. The Alameda Permittees are currently subject to NPDES Permit No. CAS0029831 issued by Order No. R2-2003-0021 on February 19, 2003, and amended by Order No. R2-2007-0025 on March 14, 2007, to the Alameda Permittees to discharge stormwater runoff from storm drains and watercourses within their jurisdictions.
3. **Contra Costa County**—The cities of Clayton, Concord, El Cerrito, Hercules, Lafayette, Martinez, Orinda, Pinole, Pittsburg, Pleasant Hill, Richmond, San Pablo, San Ramon, and Walnut Creek, the towns of Danville and Moraga, Contra Costa County, and the Contra Costa County Flood Control and Water Conservation District have joined together to form the Contra Costa Clean Water Program (hereinafter collectively referred to as the Contra Costa Permittees) and have submitted a permit application (Report of Waste Discharge), dated September 30, 2003, for reissuance of their waste discharge requirements under the NPDES permit to discharge stormwater runoff from storm drains and watercourses within the Contra Costa Permittees' jurisdictions. The Contra Costa Permittees are currently subject to NPDES Permit No. CAS0029912 issued by Order No. 99-058 on July 21, 1999, amended by Order No. R2-2003-0022 on February 9, 2003, amended by Order Nos. R2-2004-059 and R2-2004-0061 on July 21, 2004, and amended by Order No. R2-2006-0050 on July 12, 2006, to the Contra Costa Permittees to discharge stormwater runoff from storm drains and watercourses within their jurisdictions.
4. **San Mateo County**—The cities of Belmont, Brisbane, Burlingame, Daly City, East Palo Alto, Foster City, Half Moon Bay, Menlo Park, Millbrae, Pacifica, Redwood City, San Bruno, San Carlos, San Mateo, and South San Francisco, the towns of Atherton, Colma, Hillsborough, Portola Valley, and Woodside, the San Mateo County Flood Control District and San Mateo County have joined together to form the San Mateo Countywide Water Pollution Prevention

Program (hereinafter collectively referred to as the San Mateo Permittees) and have submitted a permit application (Report of Waste Discharge), dated January 23, 2004, for reissuance of their waste discharge requirements under the NPDES permit to discharge stormwater runoff from storm drains and watercourses within the San Mateo Permittees' jurisdictions. The San Mateo Permittees are currently subject to NPDES Permit No. CAS0029921 issued by Order No. 99-059 on July 21, 1999, amended by Order No. R2-2003-0023 on February 19, 2003, amended by Order Nos. R2-2004-0060 and R2-2004-0062 on July 21, 2004, and amended by Order R2-2007-0027 on March 14, 2007, to the San Mateo Permittees to discharge stormwater runoff from storm drains and watercourses within their jurisdictions.

5. **Santa Clara County**—The cities of Campbell, Cupertino, Los Altos, Milpitas, Monte Sereno, Mountain View, Palo Alto, San Jose, Santa Clara, Saratoga, and Sunnyvale, the towns of Los Altos Hills and Los Gatos, the Santa Clara Valley Water District, and the County of Santa Clara have joined together to form the Santa Clara Valley Urban Runoff Pollution Prevention Program (hereinafter collectively referred to as the Santa Clara Permittees) and have submitted a permit application (Report of Waste Discharge), dated February 25, 2005, for reissuance of their waste discharge requirements under the NPDES permit to discharge stormwater runoff from storm drains and watercourses within the Santa Clara Permittees' jurisdictions. The Santa Clara Permittees are currently subject to NPDES Permit No. CAS029718 issued by Order No. 01-024 on April 21, 2001, amended by Order No. 01-119 on October 17, 2001; and Order No. R2-2005-0035 on July 20, 2005, to the Santa Clara Permittees to discharge stormwater runoff from storm drains and watercourses within their jurisdictions.
6. **Fairfield-Suisun**—The cities of Fairfield and Suisun City have joined together to form the Fairfield-Suisun Urban Runoff Management Program (hereinafter referred to as the Fairfield-Suisun Permittees) and have submitted a permit application (Report of Waste Discharge), dated October 17, 2007, for reissuance of their waste discharge requirements under the NPDES permit to discharge stormwater runoff from storm drains and watercourses within the Fairfield-Suisun Permittees' jurisdictions. The Fairfield-Suisun Permittees are currently subject to NPDES Permit No. CAS0612005 issued by Order No. R2-2003-0034 on April 16, 2003, and amended by Order R2-2007-0026 on March 14, 2007, to the Fairfield-Suisun Permittees to discharge stormwater runoff from storm drains and watercourses within their jurisdictions.
7. **Vallejo**—The City of Vallejo and the Vallejo Sanitary District (hereinafter referred to as the Vallejo Permittees) are currently subject to NPDES Permit No. CAS612006 issued by the United States Environmental Protection Agency (USEPA) on April 27, 1999, and that became effective on May 30, 1999, for the discharge of stormwater runoff from storm drains and watercourses within the Vallejo Permittees' jurisdictions.
8. The Alameda, Contra Costa, San Mateo, Santa Clara, Fairfield-Suisun, and Vallejo Permittees are hereinafter referred to in this Order as the Permittees.

### **Applicable Federal, State and Regional Regulations**

9. Section 402(p) of the federal Clean Water Act (CWA), as amended by the Water Quality Act of 1987, requires NPDES permits for stormwater discharges from municipal separate storm sewer systems (MS4s), stormwater discharges associated with industrial activity (including construction activities), and designated stormwater discharges, which are considered significant contributors of pollutants to waters of the United States. On November 16, 1990, USEPA published regulations (40 CFR Part 122), which prescribe permit application requirements for MS4s pursuant to CWA 402(p). On May 17, 1996, USEPA published an Interpretive Policy

Memorandum on Reapplication Requirements for Municipal Separate Storm Sewer Systems, which provided guidance on permit application requirements for regulated MS4s.

10. The Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) is the Water Board's master water quality control planning document. It designates beneficial uses and water quality objectives for waters of the State, including surface waters and groundwater. It also includes programs of implementation to achieve water quality objectives. The Basin Plan was duly adopted by the Water Board and approved by the State Water Resources Control Board (State Board), Office of Administrative Law and the USEPA, where required.
11. The Water Board finds stormwater discharges from urban and developing areas in the San Francisco Bay Region to be significant sources of certain pollutants that cause or may be causing or threatening to cause or contribute to water quality impairment in waters of the Region. Furthermore, as delineated in the CWA section 303(d) list, the Water Board has found that there is a reasonable potential that municipal stormwater discharges cause or may cause or contribute to an excursion above water quality standards for the following pollutants: mercury, PCBs, furans, dieldrin, chlordane, DDT, and selenium in San Francisco Bay segments; pesticide associated toxicity in all urban creeks; and trash and low dissolved oxygen in Lake Merritt, in Alameda County. In accordance with CWA section 303(d), the Water Board is required to establish TMDLs for these pollutants to these waters to gradually eliminate impairment and attain water quality standards. Therefore, certain early pollutant control actions and further pollutant impact assessments by the Permittees are warranted and required pursuant to this Order.
12. The San Francisco Estuary Project, established pursuant to CWA Section 320, culminated in June 1993 with completion of its Comprehensive Conservation and Management Plan (CCMP) for the preservation, restoration, and enhancement of the San Francisco Bay-Delta Estuary. The 2007 update of the CCMP includes new and revised actions, while retaining many of the original plan's actions. The CCMP includes recommended actions in the areas of aquatic resources, wildlife, wetlands, water use, pollution prevention and reduction, dredging and waterway modification, land use, public involvement and education, and research and monitoring. Recommended actions which may, in part, be addressed through implementation of this Permit include, but are not limited to, the following:
  - (1) ACTION AR-9.1 (New 2007)  
Improve understanding of sources, types, and impacts of marine debris in the Estuary.
  - (5) ACTION AR-9.2 (New 2007)  
Expand existing marine debris prevention and cleanup programs and develop new initiatives to reduce discharge of debris to waterways.
  - (10) ACTION PO-1.2 (Revised 2007)  
Recommend institutional and financial changes needed to place more focus on pollution prevention.
  - (12) ACTION PO-1.6 (Revised 2007)  
Implement a comprehensive strategy to reduce pesticides coming into the Estuary.
  - (13) ACTION PO-1.7.1 (New 2007)  
Develop product stewardship program for new commercial products to minimize future pollutant releases.

- (14) ACTION PO-1.8 (New 2007)  
Develop and implement programs to prevent pollution of the Estuary by other harmful pollutants like trash, bacteria, sediments, and nutrients.
- (15) ACTION PO-2.1 (Revised 2007)  
Pursue a mass emissions strategy to reduce pollutant discharges into the Estuary from point and nonpoint sources and to address the accumulation of pollutants in estuarine organisms and sediments.
- (16) ACTION PO-2.4 (Revised 2007)  
Improve the management and control of urban runoff from public and private sources.
- (18) ACTION PO-3.3 (New 2007)  
Accomplish large-scale improvements to Bay-Delta area infrastructure and implement pollution prevention strategies to prevent pollution threats to public health and wildlife.
- (19) ACTION PO-4.1 (New 2007)  
Increase regulatory incentives for municipalities, through urban runoff and other programs, to invest in projects that restore or enhance stream and wetland functions.
- (20) ACTION LU-1.1 (Revised 2007)  
Local land use jurisdiction's General Plans should incorporate watershed protection goals for wetlands and stream environments and to reduce pollutants in runoff.
- (21) ACTION LU-1.1.1 (New 2007): Provide assistance to local agencies to ensure that applicable nonpoint source control elements are incorporated into local government and business practices.
- (22) ACTION LU-1.5 (LU-3.2 in 1993 CCMP; Revised 2007)  
Provide incentives and promote the use of building, planning, and maintenance guidelines for site planning and implementation of best management practices (BMPs) as related to stormwater and encourage local jurisdictions to adopt these guidelines as local ordinances.
- (23) ACTION LU-1.6 (New 2007)  
Continue and enhance training and certification for planners, public works departments, consultants, and builders on sustainable design and building practices with the goal of preventing or minimizing alteration of watershed functions (e.g., flood water conveyance, groundwater infiltration, stream channel and floodplain maintenance), and preventing construction-related erosion and post-construction pollution.
- (24) ACTION LU-2.7 (New 2007)  
Adopt and implement policies and plans that protect and restore water quality, flood water storage, and other natural functions of stream and wetland systems.
- (25) ACTION LU-3.1 (New 2007)  
Promote, encourage, and support collaborative partnerships with broad stakeholder representation, such as watershed councils, in order to develop diverse community-based approaches to long-term stewardship.
- (26) ACTION LU-4.1 (Revised 2007)  
Educate the public about how human actions impact the Estuary and its watersheds.
- (28) ACTION PI-2.5 (Revised 2007)  
Assist in the development of long-term educational programs designed to prevent pollution to the Estuary's ecosystem and provide assistance to other programs as needed.
13. Under section 13389 of the California Water Code, this action to adopt an NPDES permit is exempt from the provisions of Chapter 3 of the California Environmental Quality Act (CEQA).

### Nature of Discharges and Sources of Pollutants

14. Stormwater runoff is generated from various land uses in all the hydrologic sub basins in the Basin and discharges into watercourses, which in turn flow into Central, Lower and South San Francisco Bay.
15. The quality and quantity of runoff discharges vary considerably and are affected by hydrology, geology, land use, season, and sequence and duration of hydrologic events. Pollutants of concern in these discharges are certain heavy metals; excessive sediment production from erosion due to anthropogenic activities; petroleum hydrocarbons from sources such as used motor oil; microbial pathogens of domestic sewage origin from illicit discharges; certain pesticides associated with acute aquatic toxicity; excessive nutrient loads, which can cause or contribute to the depletion of dissolved oxygen and/or toxic concentrations of dissolved ammonia; trash, which impairs beneficial uses including, but not limited to, support for aquatic life; and other pollutants which can cause aquatic toxicity in the receiving waters.
16. Federal, State or regional entities within the Permittees' boundaries, not currently named in this Order, operate storm drain facilities and/or discharge stormwater to the storm drains and watercourses covered by this Order. The Permittees may lack jurisdiction over these entities. Consequently, the Water Board recognizes that the Permittees should not be held responsible for such facilities and/or discharges. The Water Board will consider such facilities for coverage under its NPDES permitting scheme pursuant to US EPA Phase II stormwater regulations. Under Phase II, the Water Board can permit these federal, State, and regional entities through use of the Statewide Phase II NPDES General Permit.
17. Certain pollutants present in stormwater and/or urban runoff can be derived from extraneous sources over which the Permittees have limited or no direct jurisdiction. Examples of such pollutants and their respective sources are polycyclic aromatic hydrocarbons (PAHs), which are products of internal combustion engine operation and other sources; heavy metals, such as copper from vehicle brake pad wear and zinc from vehicle tire wear; dioxins as products of combustion; polybrominated diphenyl ethers that are incorporated in many household products as flame retardants; mercury resulting from atmospheric deposition; and naturally occurring minerals from local geology. All these pollutants, and others, can be deposited on paved surfaces, rooftops, and other impervious surfaces as fine airborne particles—thus yielding stormwater runoff pollution that is unrelated to the activity associated with a given project site.
18. The Water Board will notify interested agencies and interested persons of the availability of reports, plans, and schedules, including Annual Reports, and will provide interested persons with an opportunity for a public hearing and/or an opportunity to submit their written views and recommendations. The Water Board will consider all comments and may modify the reports, plans, or schedules or may modify this Order in accordance with applicable law. All submittals required by this Order conditioned with acceptance by the Water Board will be subject to these notification, comment, and public hearing procedures.
19. This Order supersedes and rescinds Order Nos. 99-058, 99-059, 01-024, R2-2003-0021, R2-2003-0034, and supersedes NPDES Permit Nos. CAS0029831, CAS0029912, CAS0029921, CAS029718, CAS0612005, and CAS612006.

This Order serves as a NPDES permit, pursuant to CWA section 402, or amendments thereto, and shall become effective December 1, 2009, provided the Regional Administrator, USEPA, Region 9, has no objections.



**IT IS HEREBY ORDERED** that the Permittees, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted hereunder and the provisions of the Clean Water Act as amended and regulations and guidelines adopted hereunder, shall comply with the following:

#### **A. DISCHARGE PROHIBITIONS**

- A.1.** The Permittees shall, within their respective jurisdictions, effectively prohibit the discharge of non-stormwater (materials other than stormwater) into, storm drain systems and watercourses. NPDES-permitted discharges are exempt from this prohibition. Provision C.15 describes a tiered categorization of non-stormwater discharges based on potential for pollutant content that may be discharged upon adequate assurance that the discharge contains no pollutants of concern at concentrations that will impact beneficial uses or cause exceedances of water quality standards.
- A.2.** It shall be prohibited to discharge rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas.

#### **B. RECEIVING WATER LIMITATIONS**

- B.1.** The discharge shall not cause the following conditions to create a condition of nuisance or to adversely affect beneficial uses of waters of the State:
- a.** Floating, suspended, or deposited macroscopic particulate matter, or foam;
  - b.** Bottom deposits or aquatic growths;
  - c.** Alteration of temperature, turbidity, or apparent color beyond present natural background levels;
  - d.** Visible, floating, suspended, or deposited oil or other products of petroleum origin; and
  - e.** Substances present in concentrations or quantities that would cause deleterious effects on aquatic biota, wildlife, or waterfowl, or that render any of these unfit for human consumption.
- B.2.** The discharge shall not cause or contribute to a violation of any applicable water quality standard for receiving waters. If applicable water quality objectives are adopted and approved by the State Board after the date of the adoption of this Order, the Water Board may revise and modify this Order as appropriate.

## **C.1. Compliance with Discharge Prohibitions and Receiving Water Limitations**

The Permittees shall comply with Discharge Prohibitions A.1 and A.2 and Receiving Water Limitations B.1 and B.2 through the timely implementation of control measures and other actions as specified in Provisions C.2 through C.15.

If exceedance(s) of water quality standards or water quality objectives (collectively, WQSs) persist in receiving waters, the Permittees shall comply with the following procedure:

- C.1.a.** Upon a determination by either the Permittee(s) or the Water Board that discharges are causing or contributing to an exceedance of an applicable WQS, the Permittee(s) shall notify, within no more than 30 days, and thereafter, except for any exceedances of WQSs for pesticides, trash, mercury, polychlorinated biphenols, copper, polybrominated diphenyl ethers, and selenium that are addressed pursuant to Provisions C.8 through C.14 of this Order, submit a report to the Water Board that describes BMPs that are currently being implemented, and the current level of implementation, and additional BMPs that will be implemented, and/or an increased level of implementation, to prevent or reduce the discharge of pollutants that are causing or contributing to the exceedance of WQSs. The report may be submitted in conjunction with the Annual Report, unless the Water Board directs an earlier submittal, and shall constitute a request to the Water Board for amendment of this NPDES Permit. The report and application for amendment shall include an implementation schedule. The Water Board may require modifications to the report and application for amendment; and
- C.1.b.** Submit any modifications to the report required by the Water Board within 30 days of notification.

As long as the Permittees have complied with the procedures set forth above, they do not have to repeat the same procedure for continuing or recurring exceedances of the same WQSs unless directed by the Water Board to develop additional control measures and BMPs and reinstate the Permit amendment process.

## C.2. Municipal Operations

The purpose of this provision is to ensure development and implementation of appropriate BMPs by all Permittees to control and reduce non-stormwater discharges and polluted stormwater to storm drains and watercourses during operation, inspection, and routine repair and maintenance activities of municipal facilities and infrastructure.

### C.2.a. Street and Road Repair and Maintenance

- i. **Task Description** – Asphalt/Concrete Removal, Cutting, Installation and Repair - The Permittees shall develop and implement appropriate BMPs at street and road repair and/or maintenance sites to control debris and waste materials during road and parking lot installation, repaving or repair maintenance activities, such as those described in the California Stormwater Quality Association's Handbook for Municipal Operations.
- ii. **Implementation Levels**
  - (1) The Permittees shall require proper management of concrete slurry and wastewater, asphalt, pavement cutting, and other street and road maintenance materials and wastewater to avoid discharge to storm drains from such work sites. The Permittees shall coordinate with sanitary sewer agencies to determine if disposal to the sanitary sewer system is available for the wastewater generated from these activities provided that appropriate approvals and pretreatment standards are met.
  - (2) The Permittees shall require sweeping and/or vacuuming to remove debris, concrete, or sediment residues from such work sites upon completion of work. The Permittees shall require cleanup of all construction remains, spills and leaks using dry methods (e.g., absorbent materials, rags, pads, and vacuuming), as described in the Bay Area Stormwater Management Agencies Association's (BASMAA's) Blueprint for a Clean Bay.
- iii. **Reporting** – The Permittees shall report on implementation of and compliance with these BMPs in the Annual Report

### C.2.b. Sidewalk/Plaza Maintenance and Pavement Washing

- i. **Task Description** – The Permittees shall implement, and require to be implemented, BMPs for pavement washing, mobile cleaning, pressure wash operations in such locations as parking lots and garages, trash areas, gas station fueling areas, and sidewalk and plaza cleaning, which prohibit the discharge of polluted wash water and non-stormwater to storm drains. The Permittees shall implement the BMPs included in BASMAA's Mobile Surface Cleaner Program. The Permittees shall coordinate with sanitary sewer agencies to determine if disposal to the sanitary sewer is available for the wastewater generated from these activities provided that appropriate approvals and pretreatment standards are met.

- ii. **Reporting** – The Permittees shall report on implementation of and compliance with these BMPs in their Annual Report.

**C.2.c. Bridge and Structure Maintenance and Graffiti Removal**

**i. Task Description**

- (1) The Permittees shall implement appropriate BMPs to prevent polluted stormwater and non-stormwater discharges from bridges and structural maintenance activities directly over water or into storm drains.
- (2) The Permittees shall implement BMPs for graffiti removal that prevent non-stormwater and wash water discharges into storm drains.

**ii. Implementation Levels**

- (1) The Permittees shall prevent all debris, including structural materials and coating debris, such as paint chips, or other debris and pollutants generated in bridge and structure maintenance or graffiti removal from entering storm drains or water courses.
- (2) The Permittees shall protect nearby storm drain inlets before removing graffiti from walls, signs, sidewalks or other structures. The Permittees shall prevent any discharge of debris, cleaning compound waste, paint waste or wash water due to graffiti removal from entering storm drains or watercourses.
- (3) The Permittees shall determine the proper disposal method for wastes generated from these activities. The Permittees shall train their employees and/or specify in contracts about these proper capture and disposal methods for the wastes generated.

- iii. **Reporting** – The Permittees shall report on implementation of and compliance with these BMPs in their Annual Report.

**C.2.d. Stormwater Pump Stations**

The objective of this sub-provision is to prevent the discharge of water with low dissolved oxygen (DO) from pump stations, and to explore the use of pump stations for trash capture and removal from waters to protect beneficial uses of receiving waters.

- i. **Task Description** – Operation and Maintenance of Stormwater Pump Stations – The Permittees shall develop and implement measures to operate, inspect, and maintain these facilities to eliminate non-stormwater discharges containing pollutants, and to reduce pollutant loads in the stormwater discharges to comply with WQSs.
- ii. **Implementation Levels** – The Permittees shall comply with the following implementation measures to reduce polluted water discharges from Permittee-owned or operated pump stations:

- (1) Complete an inventory of pump stations within each Permittee's jurisdiction, including locations, and key characteristics<sup>1</sup> by March 1, 2010.
  - (2) Inspect and collect DO data from all pump stations twice a year during the dry season after July 1, starting in 2010. DO monitoring is exempted where all discharge from a pump station remains in the stormwater collection system or infiltrates into a dry creek immediately downstream.
  - (3) If DO levels are at or below 3 milligrams per liter (3 mg/L), apply corrective actions, such as continuous pumping at a low flow rate, aeration, or other appropriate methods to maintain DO concentrations of the discharge above 3 mg/L. Verify corrective actions are effective by increasing DO monitoring interval to weekly until two weekly samples are above 3 mg/L.
  - (4) Starting in fall 2010, inspect pump stations a minimum of two times during the wet season in the first business day after ¼-inch and larger storm events after a minimum of a two week antecedent period with no precipitation. Post-storm inspections shall collect and report presence and quantity estimates of trash, including presence of odor, color, turbidity, and floating hydrocarbons. Remove debris and trash and replace any oil absorbent booms, as needed.
- iii. **Reporting** – The Permittees shall report information resulting from C.2.d.ii.(2)-(4), including DO monitoring data and subsequent corrective actions taken to verify compliance with the 3 mg/L implementation level, in their Annual Report, and maintain records of inspection and maintenance activities and volume or mass of waste materials removed from pump stations.

#### C.2.e. Rural Public Works Construction and Maintenance

- i. **Task Description** – Rural Road and Public Works Construction and Maintenance - For the purpose of this provision, rural means any watershed or portion thereof that is developed with large lot home-sites, such as one acre or larger, or with primarily agricultural, grazing or open space uses. The Permittees shall implement and require contractors to implement BMPs for erosion and sediment control during and after construction for maintenance activities on rural roads, particularly in or adjacent to stream channels or wetlands. The Permittees shall notify the Water Board, the California Department of Fish and Game and the U.S. Army Corps of Engineers, where applicable, and obtain appropriate agency permits for rural public works activities before work in or near creeks and wetlands.

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<sup>1</sup> Characteristics include name of pump station, latitude and longitude in WGS 84, number of pumps, drainage area in acres, dominant land use(s), first receiving water body, maximum pumping capacity of station in gallons per minute (gpm), flow measurement capability (Y or N), flow measurement method, average wet season discharge rate in gpm, dry season discharge (Y, N, or unknown), nearest municipal wastewater treatment plant, wet well storage capacity in gallons, trash control (Y or N), trash control measure, and date built or last updated.

**ii. Implementation Level**

- (1) The Permittees shall develop, where they do not already exist, and implement BMPs for erosion and sediment control measures during construction and maintenance activities on rural roads, including developing and implementing appropriate training and technical assistance resources for rural public works activities, by April 1, 2010.
- (2) The Permittees shall develop and implement appropriate BMPs for the following activities, which minimize impacts on streams and wetlands in the course of rural road and public works maintenance and construction activities:
  - (a) Road design, construction, maintenance, and repairs in rural areas that prevent and control road-related erosion and sediment transport;
  - (b) Identification and prioritization of rural road maintenance on the basis of soil erosion potential, slope steepness, and stream habitat resources;
  - (c) Construction of roads and culverts that do not impact creek functions. New or replaced culverts shall not create a migratory fish passage barrier, where migratory fish are present, or lead to stream instability;
  - (d) Development and implementation of an inspection program to maintain rural roads' structural integrity and prevent impacts on water quality;
  - (e) Maintenance of rural roads adjacent to streams and riparian habitat to reduce erosion, replace damaging shotgun culverts and excessive erosion;
  - (f) Re-grading of unpaved rural roads to slope outward where consistent with road engineering safety standards, and installation of water bars as appropriate; and
  - (g) Replacement of existing culverts or design of new culverts or bridge crossings shall use measures to reduce erosion, provide fish passage and maintain natural stream geomorphology in a stable manner.
- (3) The Permittees shall develop or incorporate existing training and guidance on permitting requirements for rural public works activities so as to stress the importance of proper planning and construction to avoid water quality impacts.
- (4) The Permittees shall provide training incorporating these BMPs to rural public works maintenance staff at least twice within this Permit term.

**iii. Reporting** – The Permittees shall report on the implementation of and compliance with BMPs for the rural public works construction and maintenance activities in their Annual Report, including reporting on increased maintenance in priority areas.

**C.2.f. Corporation Yard BMP Implementation**

**i. Task Description – Corporation Yard Maintenance**

- (1) The Permittees shall prepare, implement, and maintain a site specific Stormwater Pollution Prevention Plan (SWPPP) for corporation yards, including municipal vehicle maintenance, heavy equipment and maintenance vehicle parking areas, and material storage facilities to comply with water quality standards. Each SWPPP shall incorporate all applicable BMPs that are described in the California Stormwater Quality Association's Handbook for Municipal Operations and the Caltrans Storm Water Quality Handbook Maintenance Staff Guide, May 2003, and its addenda, as appropriate.
- (2) The requirements in this provision shall apply only to facilities that are not already covered under the State Board's Industrial Stormwater NPDES General Permit.
- (3) The site specific SWPPPs for corporation yards shall be completed by July 1, 2010.

**ii. Implementation Level**

- (1) Implement BMPs to minimize pollutant discharges in stormwater and prohibit non-stormwater discharges, such as wash waters and street sweeper, vactor, and other related equipment cleaning wash water. Pollution control actions shall include, but not be limited to, good housekeeping practices, material and waste storage control, and vehicle leak and spill control.
- (2) Routinely inspect corporation yards to ensure that no non-stormwater discharges are entering the storm drain system and, during storms, pollutant discharges are prevented to the maximum extent practicable. At a minimum, an inspection shall occur before the start of the rainy season.
- (3) Plumb all vehicle and equipment wash areas to the sanitary sewer after coordination with the local sanitary sewer agency and equip with a pretreatment device (if necessary) in accordance with the requirements of the local sanitary sewer agency.
- (4) Use dry cleanup methods when cleaning debris and spills from corporation yards. If wet cleaning methods must be used (e.g., pressure washing), the Permittee shall ensure that wash water is collected and disposed in the sanitary sewer after coordination with the local sanitary sewer agency and in accordance with the requirements of the local sanitary sewer agency. Any private companies hired by the Permittee to perform cleaning activities on Permittee-owned property shall follow the same requirements. In areas where sanitary sewer connection is not available, the Permittees shall collect and haul the wash water to a municipal

wastewater treatment plant, or implement appropriate BMPs and dispose of the wastewater to land in a manner that does not adversely impact surface water or groundwater.

- (5) Outdoor storage areas containing waste pollutants shall be covered and/or bermed to prevent discharges of polluted stormwater runoff or run-on to storm drain inlets.

**iii. Reporting** – The Permittees shall report on implementation of SWPPPs, the results of inspections, and any follow-up actions in their Annual Report.



### C.3. New Development and Redevelopment

The goal of Provision C.3 is for the Permittees to use their planning authorities to include appropriate source control, site design, and stormwater treatment measures in new development and redevelopment projects to address both soluble and insoluble stormwater runoff pollutant discharges and prevent increases in runoff flows from new development and redevelopment projects. This goal is to be accomplished primarily through the implementation of low impact development (LID) techniques.

#### C.3.a. New Development and Redevelopment Performance Standard Implementation

**i. Task Description** – At a minimum each Permittee shall:

- (1) Have adequate legal authority to implement all requirements of Provision C.3;
- (2) Have adequate development review and permitting procedures to impose conditions of approval or other enforceable mechanisms to implement the requirements of Provision C.3. For projects discharging directly to CWA section 303(d)-listed waterbodies, conditions of approval must require that post-development runoff not exceed pre-development levels for such pollutants that are listed;
- (3) Evaluate potential water quality effects and identify appropriate mitigation measures when conducting environmental reviews, such as under CEQA;
- (4) Provide training adequate to implement the requirements of Provision C.3 for staff, including interdepartmental training;
- (5) Provide outreach adequate to implement the requirements of Provision C.3, including providing education materials to municipal staff, developers, contractors, construction site operators, and owner/builders, early in the planning process and as appropriate;
- (6) For all new development and redevelopment projects that are subject to the Permittee's planning, building, development, or other comparable review, but not regulated by Provision C.3, encourage the inclusion of adequate site design measures that may include minimizing land disturbance and impervious surfaces (especially parking lots); clustering of structures and pavement; directing roof runoff to vegetated areas; use of micro-detention, including distributed landscape-based detention; preservation of open space; protection and/or restoration of riparian areas and wetlands as project amenities;
- (7) For all new development and redevelopment projects that are subject to the Permittee's planning, building, development, or other comparable review, but not regulated by Provision C.3, encourage the inclusion of adequate source control measures to limit pollutant generation, discharge, and runoff. These source control measures should include:
  - Storm drain stenciling.

- Landscaping that minimizes irrigation and runoff, promotes surface infiltration where possible, minimizes the use of pesticides and fertilizers, and incorporates appropriate sustainable landscaping practices and programs such as Bay-Friendly Landscaping.
  - Appropriate covers, drains, and storage precautions for outdoor material storage areas, loading docks, repair/maintenance bays, and fueling areas.
  - Covered trash, food waste, and compactor enclosures.
  - Plumbing of the following discharges to the sanitary sewer, subject to the local sanitary sewer agency's authority and standards:
    - Discharges from indoor floor mat/equipment/hood filter wash racks or covered outdoor wash racks for restaurants.
    - Dumpster drips from covered trash and food compactor enclosures.
    - Discharges from outdoor covered wash areas for vehicles, equipment, and accessories.
    - Swimming pool water, if discharge to onsite vegetated areas is not a feasible option.
    - Fire sprinkler test water, if discharge to onsite vegetated areas is not a feasible option.
- (8) Revise, as necessary, General Plans to integrate water quality and watershed protection with water supply, flood control, habitat protection, groundwater recharge, and other sustainable development principles and policies (e.g., referencing the Bay-Friendly Landscape Guidelines).
- ii. **Implementation Level** – Most of the elements of this task should already be fully implemented because they are required in the Permittees' existing stormwater permits.
- Due Dates for Full Implementation** – Immediate for C.3.a.i.(1)-(5), May 1, 2010 for C.3.a.i.(6)-(7), and December 1, 2010 for C.3.a.i.(8). For Vallejo Permittees: December 1, 2010 for C.3.a.i.(1)-(8)
- iii. **Reporting** – Provide a brief summary of the method(s) of implementation of Provisions C.3.a.i.(1)–(8) in the 2011 Annual Report.

### C.3.b. Regulated Projects

- i. **Task Description** – The Permittees shall require all projects fitting the category descriptions listed in Provision C.3.b.ii below (hereinafter called Regulated Projects) to implement LID source control, site design, and stormwater treatment onsite or at a joint stormwater treatment facility<sup>2</sup> in accordance with Provisions C.3.c and C.3.d, unless the Provision C.3.e alternate compliance options are evoked. For adjacent Regulated Projects that will discharge runoff to a joint stormwater treatment facility, the treatment facility must be completed by

<sup>2</sup> **Joint stormwater treatment facility** – Stormwater treatment facility built to treat the combined runoff from two or more Regulated Projects located adjacent to each other,

the end of construction of the first Regulated Project that will be discharging runoff to the joint stormwater treatment facility.

Regulated Projects, as they are defined in this Provision, do not include detached single-family home projects that are not part of a larger plan of development.

ii. **Regulated Projects are defined in the following categories:**

(1) **Special Land Use Categories**

(a) **New Development or redevelopment projects** that fall into one of the categories listed below and that create and/or replace 10,000 square feet or more of impervious surface (collectively over the entire project site). This category includes development projects of the following four types on public or private land that fall under the planning and building authority of a Permittee:

- (i) Auto service facilities, described by the following Standard Industrial Classification (SIC) Codes: 5013, 5014, 5541, 7532-7534, and 7536-7539;
- (ii) Retail gasoline outlets;
- (iii) Restaurants (SIC Code 5812); or
- (iv) Uncovered parking lots that are stand-alone or part of any other development project. This category includes the top uncovered portion of parking structures unless drainage from the uncovered portion is connected to the sanitary sewer along with the covered portions of the parking structure.

(b) For redevelopment projects in the categories specified in Provision C.3.b.ii.(1)(a)(i)-(iv), specific exclusions are:

- (i) Interior remodels;
- (ii) Routine maintenance or repair such as:
  - roof or exterior wall surface replacement,
  - pavement resurfacing within the existing footprint.

(c) Where a redevelopment project in the categories specified in Provision C.3.b.ii.(1)(a)(i)-(iv) results in an alteration of **more than 50 percent** of the impervious surface of a previously existing development that was not subject to Provision C.3, the entire project, consisting of all existing, new, and/or replaced impervious surfaces, must be included in the treatment system design (i.e., stormwater treatment systems must be designed and sized to treat stormwater runoff from the entire redevelopment project).

(d) Where a redevelopment project in the categories specified in Provision C.3.b.ii.(1)(a)(i)-(iv) results in an alteration of **less than 50 percent** of the impervious surface of a previously existing development that was not subject to Provision C.3, only the new and/or replaced impervious surface of the project must be included in the treatment system design (i.e., stormwater treatment systems must be designed and sized to treat stormwater runoff from the new and/or replaced impervious surface of the project).

- (e) For any private development project in the categories specified in Provisions C.3.b.ii.(1)(a)(i)-(iv) for which a planning application has been deemed complete by a Permittee on or before the Permit effective date, the lower 5000 square feet impervious surface threshold (for classification as a Regulated Project) shall not apply so long as the project applicant is diligently pursuing the project. Diligent pursuance may be demonstrated by the project applicant's submittal of supplemental information to the original application, plans, or other documents required for any necessary approvals of the project by the Permittee. If during the time period between the Permit effective date and the required implementation date of December 1, 2011, for the 5000 square feet threshold, the project applicant has not taken any action to obtain the necessary approvals from the Permittee, the project will then be subject to the lower 5000 square feet impervious surface threshold specified in Provision C.3.b.ii.(1).
- (f) For any private development project in the categories specified in Provisions C.3.b.ii.(1)(a)(i)-(iv) with an application deemed complete after the Permit effective date, the lower 5000 square feet impervious surface threshold (for classification as a Regulated Project) shall not apply if the project applicant has received final discretionary approval for the project before the required implementation date of December 1, 2011, for the 5000 square feet threshold.
- (g) For public projects for which funding has been committed and construction is scheduled to begin by December 1, 2012, the lower 5000 square feet of impervious surface threshold (for classification as a Regulated Project) shall not apply.

**Effective Date** – Immediate, except December 1, 2010, for Vallejo Permittees.

Beginning December 1, 2011, all references to 10,000 square feet in Provision C.3.b.ii.(1) change to 5,000 square feet.

(2) **Other Development Projects**

New development projects that create 10,000 square feet or more of impervious surface (collectively over the entire project site) including commercial, industrial, residential housing subdivisions (i.e., detached single-family home subdivisions, multi-family attached subdivisions (town homes), condominiums, and apartments), mixed-use, and public projects. This category includes development projects on public or private land that fall under the planning and building authority of a Permittee. Detached single-family home projects that are not part of a larger plan of development are specifically excluded.

**Effective Date** – Immediate, except December 1, 2010, for Vallejo Permittees.

(3) **Other Redevelopment Projects**

Redevelopment projects that create and/or replace 10,000 square feet or more of impervious surface (collectively over the entire project site) including commercial, industrial, residential housing subdivisions (i.e., detached single-family home subdivisions, multi-family attached subdivisions (town homes), condominiums, and apartments), mixed-use, and public projects. Redevelopment is any land-disturbing activity that results in the creation, addition, or replacement of exterior impervious surface area on a site on which some past development has occurred. This category includes redevelopment projects on public or private land that fall under the planning and building authority of a Permittee.

Specific exclusions to this category are:

- Interior remodels.
  - Routine maintenance or repair such as:
    - roof or exterior wall surface replacement, or
    - pavement resurfacing within the existing footprint.
- (a) Where a redevelopment project results in an alteration of **more than 50 percent** of the impervious surface of a previously existing development that was not subject to Provision C.3, the entire project, consisting of all existing, new, and/or replaced impervious surfaces, must be included in the treatment system design (i.e., stormwater treatment systems must be designed and sized to treat stormwater runoff from the entire redevelopment project).
- (b) Where a redevelopment results in an alteration of **less than 50 percent** of the impervious surface of a previously existing development that was not subject to Provision C.3, only the new and/or replaced impervious surface of the project must be included in the treatment system design (i.e., stormwater treatment systems must be designed and sized to treat stormwater runoff from the new and/or replaced impervious surface of the project).

**Effective Date** – Immediate, except December 1, 2010, for Vallejo Permittees.

(4) **Road Projects**

Any of the following types of road projects that create 10,000 square feet or more of newly constructed contiguous impervious surface and that fall under the building and planning authority of a Permittee:

- (a) Construction of new streets or roads, including sidewalks and bicycle lanes built as part of the new streets or roads.
- (b) Widening of existing streets or roads with additional traffic lanes.
- (i) Where the addition of traffic lanes results in an alteration of **more than 50 percent** of the impervious surface of an existing street or road that was not subject to Provision C.3, **the entire project, consisting of all existing, new, and/or replaced impervious surfaces, must be included in the treatment system design** (i.e.,

stormwater treatment systems must be designed and sized to treat stormwater runoff from the entire street or road that had additional traffic lanes added).

- (ii) Where the addition of traffic lanes results in an alteration of **less than 50 percent** of the impervious surface of an existing street or road that was not subject to Provision C.3, **only the new and/or replaced impervious surface of the project must be included in the treatment system design** (i.e., stormwater treatment systems must be designed and sized to treat stormwater runoff from only the new traffic lanes). However, if the stormwater runoff from the existing traffic lanes and the added traffic lanes cannot be separated, any onsite treatment system must be designed and sized to treat stormwater runoff from the entire street or road. If an offsite treatment system is installed or in-lieu fees paid in accordance with Provision C.3.e, the offsite treatment system or in-lieu fees must address only the stormwater runoff from the added traffic lanes.
- (c) Construction of impervious trails that are greater than 10 feet wide or are creek-side (within 50 feet of the top of bank).
- (d) Specific exclusions to Provisions C.3.b.ii.(4)(a)-(c) are:
- Sidewalks built as part of new streets or roads and built to direct stormwater runoff to adjacent vegetated areas.
  - Bicycle lanes that are built as part of new streets or roads but are not hydraulically connected to the new streets or roads and that direct stormwater runoff to adjacent vegetated areas.
  - Impervious trails built to direct stormwater runoff to adjacent vegetated areas, or other non-erodible permeable areas, preferably away from creeks or towards the outboard side of levees.
  - Sidewalks, bicycle lanes, or trails constructed with permeable surfaces.<sup>3</sup>
  - Caltrans highway projects and associated facilities.
- (e) For any private road or trail project described by Provisions C.3.b.ii.(4)(b) or (c) for which a planning application has been deemed complete by a Permittee on or before the Permit effective date, the requirements of Provisions C.3.b.ii.(4)(b) or (c) to classify the project as a Regulated Project shall not apply so long as the project applicant is diligently pursuing the project. Diligent pursuance may be demonstrated by the project applicant's submittal of supplemental information to the original application, plans, or other documents required for any necessary approvals of the project by the Permittee. If during the time period between the Permit effective date and the required implementation date of December 1, 2011, for Provisions C.3.b.ii.(4)(b) and (c), the project applicant has not taken

<sup>3</sup> **Permeable surfaces** include pervious concrete, porous asphalt, unit pavers, and granular materials.

any action to obtain the necessary approvals from the Permittee, the project will then be classified as a Regulated Project under Provisions C.3.b.ii.(4)(b) or (c).

- (f) For any private road or trail project with an application deemed complete after the Permit effective date, the requirements of Provisions C.3.b.i.(4)(b) or (c) to classify the project as a Regulated Project shall not apply if the project applicant has received final discretionary approval for the project before the required implementation date of December 1, 2011, for Provisions C.3.b.ii.(4)(b) and (c).
- (g) For any public road or trail project for which funding has been committed and construction is scheduled to begin by December 1, 2012, the requirements of Provisions C.3.b.i.(4)(b) or (c) to classify the project as a Regulated Project shall not apply.

**Effective Date** – Immediate for C.3.b.ii.(4)(a) and (d)-(g), and December 1, 2011, for C.3.b.ii.(4)(b) and (c). For Vallejo Permittees: Immediate for C.3.b.ii.(4)(d)-(g), and December 1, 2011 for C.3.b.ii.(4)(a)-(c).

### iii. Green Street Pilot Projects

The Permittees shall cumulatively complete ten pilot green street projects that incorporate LID techniques for site design and treatment in accordance with Provision C.3.c and that provide stormwater treatment sized in accordance with Provision C.3.d. It is also desirable that they meet or exceed the Bay-Friendly Landscape Scorecard minimum requirements (see [www.BayFriendly.org](http://www.BayFriendly.org)).

- (1) Parking lot projects that provide LID treatment in accordance with Provisions C.3.c and Provision C.3.d. for stormwater runoff from the parking lot and street may be considered pilot green street projects.
- (2) A Regulated Project (as defined in Provision C.3.b.ii) may not be counted as one of the ten pilot green street projects.
- (3) At least two pilot green street projects must be located in each of the following counties: Alameda, Contra Costa, San Mateo, and Santa Clara.
- (4) The Permittees shall construct the ten pilot green street projects in such a manner that they, as a whole:
  - (a) Are representative of the various types of streets: arterial, collector, and local; and
  - (b) Contain the following key elements:
    - (i) Stormwater storage for landscaping reuse or stormwater treatment and/or infiltration for groundwater replenishment through the use of natural feature systems;
    - (ii) Creation of attractive streetscapes that enhance neighborhood livability by enhancing the pedestrian environment and introducing park-like elements into neighborhoods;

- (iii) Service as an urban greenway segment that connects neighborhoods, parks, recreation facilities, schools, mainstreets, and wildlife habitats;
  - (iv) Parking management that includes maximum parking space requirements as opposed to minimum parking space requirements, parking requirement credits for subsidized transit or shuttle service, parking structures, shared parking, car sharing, or on-street diagonal parking;
  - (v) Meets broader community goals by providing pedestrian and, where appropriate, bicycle access; and
  - (vi) Located in a Priority Development Area as designated under the Association of Bay Area Government's and Metropolitan Transportation Commission's FOCUS<sup>4</sup> program.
- (5) The Permittees shall conduct appropriate monitoring of these projects to document the water quality benefits achieved. Appropriate monitoring may include modeling using the design specifications and specific site conditions.

**Due Date** – All pilot green street projects shall be completed by December 1, 2014.

- iv. **Implementation Level** – All elements of Provision C.3.b.i.-iii shall be fully implemented by the effective/due dates set forth in their respective sub-provision, and a database or equivalent tabular format shall be developed and maintained that contains all the information listed under Reporting (Provision C.3.b.v.).

**Due Dates for Full Implementation** – See specific Effective Dates listed under Provisions C.3.b.ii& iii. The database or equivalent tabular format required by Provision C.3.b.iv shall be developed by December 1, 2010. (For Vallejo Permittees: December 1, 2011)

v. **Reporting**

(1) **Annual Reporting – C.3.b.ii. Regulated Projects**

For each Regulated Project approved during the fiscal year reporting period, the following information shall be reported electronically in the fiscal year Annual Report, in tabular form (as set forth in the attached Provision C.3.b. Sample Reporting Table):

- (a) Project Name, Number, Location (cross streets), and Street Address;
- (b) Name of Developer, Phase No. (if project is being constructed in phases, each phase should have a separate entry), Project Type (e.g., commercial, industrial, multiunit residential, mixed-use, public), and description;
- (c) Project watershed;
- (d) Total project site area and total area of land disturbed;

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<sup>4</sup> FOCUS is a regional incentive-based development and conservation strategy for the Bay Area.



- (e) Total new impervious surface area and/or total replaced impervious surface area;
  - (f) If redevelopment or road widening project, total pre-project impervious surface area and total post-project impervious surface area;
  - (g) Status of project (e.g., application date, application deemed complete date, project approval date);
  - (h) Source control measures;
  - (i) Site design measures;
  - (j) All post-construction stormwater treatment systems installed onsite, at a joint stormwater treatment facility, and/or at an offsite location;
  - (k) Operation and maintenance responsibility mechanism for the life of the project.
  - (l) Hydraulic Sizing Criteria used;
  - (m) Alternative compliance measures for Regulated Project (if applicable)
    - (i) If alternative compliance will be provided at an offsite location in accordance with Provision C.3.e.i.(1), include information required in Provision C.3.b.v.(a) – (l) for the offsite project; and
    - (ii) If alternative compliance will be provided by paying in-lieu fees in accordance with Provision C.3.e.i.(2), provide information required in Provision C.3.b.v.(a) – (l) for the Regional Project. Additionally, provide a summary of the Regional Project's goals, duration, estimated completion date, total estimated cost of the Regional Project, and estimated monetary contribution from the Regulated Project to the Regional Project; and
  - (n) Hydromodification (HM) Controls (see Provision C.3.g.) – If not required, state why not. If required, state control method used.
- (2) **Pilot Green Streets Project Reporting - Provision C.3.b.iii.**
- (a) On an annual basis, the Permittees shall report on the status of the pilot green street projects.
  - (b) For each completed project, the Permittees shall report the capital costs, operation and maintenance costs, legal and procedural arrangements in place to address operation and maintenance and its associated costs, and the sustainable landscape measures incorporated in the project including, if relevant, the score from the Bay-Friendly Landscape Scorecard.
  - (c) The 2013 Annual Report shall contain a summary of all green street projects completed by January 1, 2013. The summary shall include for each completed project the following information:
    - (i) Location of project
    - (ii) Size of project, including total impervious surface treated
    - (iii) Map(s) of project showing areas where stormwater runoff will be treated by LID measures

- (iv) Specific type(s) of LID treatment measures included
- (v) Total and specific costs of project
- (vi) Specific funding sources for project and breakdown of percentage paid by each funding source
- (vii) Lessons learned, including recommendations to facilitate funding and building of future projects
- (viii) Identification of responsible party and funding source for operation and maintenance.

### C.3.c. Low Impact Development (LID)

The goal of LID is to reduce runoff and mimic a site's predevelopment hydrology by minimizing disturbed areas and impervious cover and then infiltrating, storing, detaining, evapotranspiring, and/or biotreating stormwater runoff close to its source. LID employs principles such as preserving and recreating natural landscape features and minimizing imperviousness to create functional and appealing site drainage that treats stormwater as a resource, rather than a waste product. Practices used to adhere to these LID principles include measures such as rain barrels and cisterns, green roofs, permeable pavement, preserving undeveloped open space, and biotreatment through rain gardens, bioretention units, bioswales, and planter/tree boxes.

#### Task Description

i. The Permittees shall, at a minimum, implement the following LID requirements:

##### (1) Source Control Requirements

Require all Regulated Projects to implement source control measures onsite that at a minimum, shall include the following:

- (a) Minimization of stormwater pollutants of concern in urban runoff through measures that may include plumbing of the following discharges to the sanitary sewer, subject to the local sanitary sewer agency's authority and standards:
  - Discharges from indoor floor mat/equipment/hood filter wash racks or covered outdoor wash racks for restaurants;
  - Dumpster drips from covered trash, food waste and compactor enclosures;
  - Discharges from covered outdoor wash areas for vehicles, equipment, and accessories;
  - Swimming pool water, if discharge to onsite vegetated areas is not a feasible option; and
  - Fire sprinkler test water, if discharge to onsite vegetated areas is not a feasible option;
- (b) Properly designed covers, drains, and storage precautions for outdoor material storage areas, loading docks, repair/maintenance bays, and fueling areas;
- (c) Properly designed trash storage areas;

- (d) Landscaping that minimizes irrigation and runoff, promotes surface infiltration, minimizes the use of pesticides and fertilizers, and incorporates other appropriate sustainable landscaping practices and programs such as Bay-Friendly Landscaping;
- (e) Efficient irrigation systems; and
- (f) Storm drain system stenciling or signage.

(2) **Site Design and Stormwater Treatment Requirements**

- (a) Require each Regulated Project to implement at least the following design strategies onsite:
  - (i) Limit disturbance of natural water bodies and drainage systems; minimize compaction of highly permeable soils; protect slopes and channels; and minimize impacts from stormwater and urban runoff on the biological integrity of natural drainage systems and water bodies;
  - (ii) Conserve natural areas, including existing trees, other vegetation, and soils;
  - (iii) Minimize impervious surfaces;
  - (iv) Minimize disturbances to natural drainages; and
  - (v) Minimize stormwater runoff by implementing one or more of the following site design measures:
    - Direct roof runoff into cisterns or rain barrels for reuse.
    - Direct roof runoff onto vegetated areas.
    - Direct runoff from sidewalks, walkways, and/or patios onto vegetated areas.
    - Direct runoff from driveways and/or uncovered parking lots onto vegetated areas.
    - Construct sidewalks, walkways, and/or patios with permeable surfaces.<sup>3</sup>
    - Construct driveways, bike lanes, and/or uncovered parking lots with permeable surfaces.<sup>3</sup>
- (b) Require each Regulated Project to treat 100% of the amount of runoff identified in Provision C.3.d for the Regulated Project's drainage area with LID treatment measures onsite or with LID treatment measures at a joint stormwater treatment facility.
  - (i) LID treatment measures are harvesting and re-use, infiltration, evapotranspiration, or biotreatment.
  - (ii) A properly engineered and maintained biotreatment system may be considered only if it is infeasible to implement harvesting and re-use, infiltration, or evapotranspiration at a project site.
  - (iii) Infeasibility to implement harvesting and re-use, infiltration, or evapotranspiration at a project site may result from conditions including the following:

- Locations where seasonal high groundwater would be within 10 feet of the base of the LID treatment measure.
  - Locations within 100 feet of a groundwater well used for drinking water.
  - Development sites where pollutant mobilization in the soil or groundwater is a documented concern.
  - Locations with potential geotechnical hazards.
  - Smart growth and infill or redevelopment sites where the density and/or nature of the project would create significant difficulty for compliance with the onsite volume retention requirement.
  - Locations with tight clay soils that significantly limit the infiltration of stormwater.
- (iv) By May 1, 2011, the Permittees, collaboratively or individually, shall submit a report on the criteria and procedures the Permittees shall employ to determine when harvesting and re-use, infiltration, or evapotranspiration is feasible and infeasible at a Regulated Project site. This report shall, at a minimum, contain the information required in Provision C.3.c.iii.(1).
- (v) By December 1, 2013, the Permittees, collaboratively or individually, shall submit a report on their experience with determining infeasibility of harvesting and re-use, infiltration, or evapotranspiration at Regulated Project sites. This report shall, at a minimum, contain the information required in Provision C.3.c.iii.(2).
- (vi) Biotreatment systems shall be designed to have a surface area no smaller than what is required to accommodate a 5 inches/hour stormwater runoff surface loading rate. The planting and soil media for biotreatment systems shall be designed to sustain plant growth and maximize stormwater runoff retention and pollutant removal. By December 1, 2010, the Permittees, working collaboratively or individually, shall submit for Water Board approval, a proposed set of model biotreatment soil media specifications and soil infiltration testing methods to verify a long-term infiltration rate of 5 to 10 inches/hour. This submittal to the Water Board shall, at a minimum, contain the information required in Provision C.3.c.iii.(3). Once the Water Board approves biotreatment soil media specifications and soil infiltration testing methods, the Permittees shall ensure that biotreatment systems installed to meet the requirements of Provision C.3.c and d comply with the Water Board-approved minimum specifications and soil infiltration testing methods.
- (vii) Green roofs may be considered biotreatment systems that treat roof runoff only if they meet certain minimum specifications. By May 1, 2011, the Permittees shall submit for Water Board approval, proposed minimum specifications for green roofs.

This submittal to the Water Board shall, at a minimum, contain the information required in Provision C.3.c.iii.(4). Once the Water Board approves green roof minimum specifications, the Permittees shall ensure that green roofs installed to meet the requirements of Provision C.3.c and d comply with the Water Board-approved minimum specifications.

- (c) Require any Regulated Project that does not comply with Provision C.3.c.i.(2)(b) above to meet the requirements established in Provision C.3.e for alternative compliance.

**ii. Implementation Level** – All elements of the tasks described in Provision C.3.c.i shall be fully implemented.

**Due Date for Full Implementation** – December 1, 2011

- (1) For any private development project for which a planning application has been deemed complete by a Permittee on or before the Permit effective date, Provision C.3.c.i shall not apply so long as the project applicant is diligently pursuing the project. Diligent pursuance may be demonstrated by the project applicant's submittal of supplemental information to the original application, plans, or other documents required for any necessary approvals of the project by the Permittee. If during the time period between the Permit effective date and the required implementation date of December 1, 2011, the project applicant has not taken any action to obtain the necessary approvals from the Permittee, the project will then be subject to the requirements of Provision C.3.c.i.
- (2) For any private development project with an application deemed complete after the Permit effective date, the requirements of Provision C.3.c.i shall not apply if the project applicant has received final discretionary approval for the project before the required implementation date of December 1, 2011.
- (3) For public projects for which funding has been committed and construction is scheduled to begin by December 1, 2012, the requirements of Provision C.3.c.i shall not apply.

**iii. Reporting**

- (1) Feasibility/Infeasibility Criteria Report - By May 1, 2011, the Permittees, collaboratively or individually, shall submit a report to the Water Board containing the following information:
  - Literature review and discussion of documented cases/sites, particularly in the Bay Area and California, where infiltration, harvesting and reuse, or evapotranspiration have been demonstrated to be feasible and/or infeasible.
  - Discussion of proposed feasibility and infeasibility criteria and procedures the Permittees shall employ to make a determination of when biotreatment will be allowed at a Regulated Project site.

- (2) Status Report on Application of Feasibility/Infeasibility Criteria – By December 1, 2013, the Permittees shall submit a report to the Water Board containing the following information:
  - Discussion of the most common feasibility and infeasibility criteria employed since implementation of Provision C.3.c requirements, including site-specific examples;
  - Discussion of barriers, including institutional and technical site specific constraints, to implementation of harvesting and reuse, infiltration, or evapotranspiration, and proposed strategies for removing these identified barriers;
  - If applicable, discussion of proposed changes to feasibility and infeasibility criteria and rationale for the changes; and
  - Guidance for the Permittees to make a consistent and appropriate determination of the feasibility of harvesting and reuse, infiltration, or evapotranspiration for each Regulated Project.
- (3) Model Biotreatment Soil Media Specifications - By December 1, 2010, the Permittees, collaboratively or individually, shall submit a report to the Water Board containing the following information:
  - Proposed soil media specifications for biotreatment systems;
  - Proposed soil testing methods to verify a long-term infiltration rate of 5-10 inches/hour;
  - Relevant literature and field data showing the feasibility of the minimum design specifications;
  - Relevant literature, field, and analytical data showing adequate pollutant removal and compliance with the Provision C.3.d hydraulic sizing criteria; and
  - Guidance for the Permittees to apply the minimum specifications in a consistent and appropriate manner.
- (4) Green Roof Minimum Specifications - By May 1, 2011, the Permittees, collaboratively or individually, shall submit a report to the Water Board containing the following information:
  - Proposed minimum design specifications for green roofs;
  - Relevant literature and field data showing the feasibility of the minimum design specifications;
  - Relevant literature, field, and analytical data showing adequate pollutant removal and compliance with the Provision C.3.d hydraulic sizing criteria;
  - Discussion of data and lessons learned from already installed green roofs;
  - Discussion of barriers, including institutional and technical site specific constraints, to installation of green roofs and proposed strategies for removing these identified barriers; and

- Guidance for the Permittees to apply the minimum specifications in a consistent and appropriate manner.
- (5) Report the method(s) of implementation of Provisions C.3.c.i above in the 2012 Annual Report. For specific tasks listed above that are reported using the reporting tables required for Provision C.3.b.v, a reference to those tables will suffice.

**C.3.d. Numeric Sizing Criteria for Stormwater Treatment Systems**

- i. Task Description** – The Permittees shall require that stormwater treatment systems constructed for Regulated Projects meet at least one of the following hydraulic sizing design criteria:
- (1) **Volume Hydraulic Design Basis** – Treatment systems whose primary mode of action depends on volume capacity shall be designed to treat stormwater runoff equal to:
- (a) The maximized stormwater capture volume for the area, on the basis of historical rainfall records, determined using the formula and volume capture coefficients set forth in Urban Runoff Quality Management, WEF Manual of Practice No. 23/ASCE Manual of Practice No. 87, (1998), pages 175–178 (e.g., approximately the 85th percentile 24-hour storm runoff event); or
  - (b) The volume of annual runoff required to achieve 80 percent or more capture, determined in accordance with the methodology set forth in Section 5 of the California Stormwater Quality Association’s Stormwater Best Management Practice Handbook, New Development and Redevelopment (2003), using local rainfall data.
- (2) **Flow Hydraulic Design Basis** – Treatment systems whose primary mode of action depends on flow capacity shall be sized to treat:
- (a) 10 percent of the 50-year peak flowrate;
  - (b) The flow of runoff produced by a rain event equal to at least two times the 85th percentile hourly rainfall intensity for the applicable area, based on historical records of hourly rainfall depths; or
  - (c) The flow of runoff resulting from a rain event equal to at least 0.2 inches per hour intensity.
- (3) **Combination Flow and Volume Design Basis** – Treatment systems that use a combination of flow and volume capacity shall be sized to treat at least 80 percent of the total runoff over the life of the project, using local rainfall data.
- ii. Implementation Level** – The Permittees shall immediately require the controls in this task.
- Due Date for Full Implementation** – Immediate, except December 1, 2010, for Vallejo Permittees.
- iii. Reporting** – Permittees shall use the reporting tables required in Provision C.3.b.v.

**iv. Limitations on Use of Infiltration Devices in Stormwater Treatment Systems**

- (1) For Regulated Projects, each Permittee shall review planned land use and proposed treatment design to verify that installed stormwater treatment systems with no under-drain, and that function primarily as infiltration devices, should not cause or contribute to the degradation of groundwater quality at project sites. An infiltration device is any structure that is deeper than wide and designed to infiltrate stormwater into the subsurface and, as designed, bypass the natural groundwater protection afforded by surface soil. Infiltration devices include dry wells, injection wells, and infiltration trenches (includes french drains).
- (2) For any Regulated Project that includes plans to install stormwater treatment systems which function primarily as infiltration devices, the Permittee shall require that:
  - (a) Appropriate pollution prevention and source control measures are implemented to protect groundwater at the project site, including the inclusion of a minimum of two feet of suitable soil to achieve a maximum 5 inches/hour infiltration rate for the infiltration system;
  - (b) Adequate maintenance is provided to maximize pollutant removal capabilities;
  - (c) The vertical distance from the base of any infiltration device to the seasonal high groundwater mark is at least 10 feet. (Note that some locations within the Permittees' jurisdictions are characterized by highly porous soils and/or high groundwater tables. In these areas, a greater vertical distance from the base of the infiltration device to the seasonal high groundwater mark may be appropriate, and treatment system approvals should be subject to a higher level of analysis that considers the potential for pollutants (such as from onsite chemical use), the level of pretreatment to be achieved, and other similar factors in the overall analysis of groundwater safety);
  - (d) Unless stormwater is first treated by a method other than infiltration, infiltration devices are not approved as treatment measures for runoff from areas of industrial or light industrial activity; areas subject to high vehicular traffic (i.e., 25,000 or greater average daily traffic on a main roadway or 15,000 or more average daily traffic on any intersecting roadway); automotive repair shops; car washes; fleet storage areas (e.g., bus, truck); nurseries; and other land uses that pose a high threat to water quality;
  - (e) Infiltration devices are not placed in the vicinity of known contamination sites unless it has been demonstrated that increased infiltration will not increase leaching of contaminants from soil, alter groundwater flow conditions affecting contaminant migration in groundwater, or adversely affect remedial activities; and
  - (f) Infiltration devices are located a minimum of 100 feet horizontally away from any known water supply wells, septic systems, and



underground storage tanks with hazardous materials. (Note that some locations within the Permittees' jurisdictions are characterized by highly porous soils and/or high groundwater tables. In these areas, a greater horizontal distance from the infiltration device to known water supply wells, septic systems, or underground storage tanks with hazardous materials may be appropriate, and treatment system approvals should be subject to a higher level of analysis that considers the potential for pollutants (such as from onsite chemical use), the level of pretreatment to be achieved, and other similar factors in the overall analysis of groundwater safety).

**C.3.e. Alternative or In-Lieu Compliance with Provision C.3.c.**

i. The Permittees may allow a Regulated Project to provide alternative compliance with Provision C.3.c in accordance with one of the two options listed below:

**(1) Option 1: LID Treatment at an Offsite Location**

Treat a portion of the amount of runoff identified in Provision C.3.d for the Regulated Project's drainage area with LID treatment measures onsite or with LID treatment measures at a joint stormwater treatment facility **and** treat the remaining portion of the Provision C.3.d runoff with LID treatment measures at an offsite project in the same watershed. The offsite LID treatment measures must provide hydraulically-sized treatment (in accordance with Provision C.3.d) of an equivalent quantity of both stormwater runoff and pollutant loading and achieve a net environmental benefit.

**(2) Option 2: Payment of In-Lieu Fees**

Treat a portion of the amount of runoff identified in Provision C.3.d for the Regulated Project's drainage area with LID treatment measures onsite or with LID treatment measures at a joint stormwater treatment facility **and** pay equivalent in-lieu fees<sup>5</sup> to treat the remaining portion of the Provision C.3.d runoff with LID treatment measures at a Regional Project.<sup>6</sup> The Regional Project must achieve a net environmental benefit.

**(3)** For the alternative compliance options described in Provision C.3.e.i.(1) and (2) above, offsite projects must be constructed by the end of construction of the Regulated Project. If more time is needed to construct the offsite project, for each additional year, up to three years, after the construction of the Regulated Project, the offsite project must provide an additional 10% of the calculated equivalent quantity of both stormwater runoff and pollutant loading. Regional Projects must be completed within three years after the end of construction of the Regulated Project. However, the timeline for completion of the Regional Project may be

<sup>5</sup> **In-lieu fees** – Monetary amount necessary to provide both hydraulically-sized treatment (in accordance with Provision C.3.d) with LID treatment measures of an equivalent quantity of stormwater runoff and pollutant loading, and a proportional share of the operation and maintenance costs of the Regional Project.

<sup>6</sup> **Regional Project** – A regional or municipal stormwater treatment facility that discharges into the same watershed that the Regulated Project does.

extended, up to five years after the completion of the Regulated Project, with prior Executive Officer approval. Executive Officer approval will be granted contingent upon a demonstration of good faith efforts to implement the Regional Project, such as having funds encumbered and applying for the appropriate regulatory permits.

**ii. Special Projects**

- (1) When considered at the watershed scale, certain types of smart growth, high density, and transit-oriented development can either reduce existing impervious surfaces, or create less “accessory” impervious areas and automobile-related pollutant impacts. Incentive LID treatment reduction credits approved by the Water Board may be applied to these types of Special Projects.
- (2) By December 1, 2010, the Permittees shall submit a proposal to the Water Board containing the following information:
  - Identification of the types of projects proposed for consideration of LID treatment reduction credits and an estimate of the number and cumulative area of potential projects during the remaining term of this Permit for each type of project;
  - Identification of institutional barriers and/or technical site-specific constraints to providing 100% LID treatment onsite that justify the allowance for non-LID treatment measures onsite;
  - Specific criteria for each type of Special Project proposed, including size, location, minimum densities, minimum floor area ratios, or other appropriate limitations;
  - Identification of specific water quality and environmental benefits provided by these types of projects that justify the allowance for non-LID treatment measures onsite;
  - Proposed LID treatment reduction credit for each type of Special Project and justification for the proposed credits. The justification shall include identification and an estimate of the specific water quality benefit provided by each type of Special Project proposed for LID treatment reduction credit; and
  - Proposed total treatment reduction credit for Special Projects that may be characterized by more than one category and justification for the proposed total credit.

**iii. Effective Date – December 1, 2011.**

**iv. Implementation Level**

- (1) For any private development project for which a planning application has been deemed complete by a Permittee on or before the Permit effective date, Provisions C.3.e.i-ii shall not apply so long as the project applicant is diligently pursuing the project. Diligent pursuance may be demonstrated by the project applicant’s submittal of supplemental information to the original application, plans, or other documents required for any necessary

approvals of the project by the Permittee. If during the time period between the Permit effective date and the required implementation date of December 1, 2011, the project applicant has not taken any action to obtain the necessary approvals from the Permittee, the project will then be subject to the requirements of Provision C.3.e.i-ii.

- (2) For public projects for which funding has been committed and construction is scheduled to begin by December 1, 2012, the requirements of Provisions C.3.e.i-ii shall not apply.
  - (3) Provisions C.3.e.i-ii supersede any Alternative Compliance Policies previously approved by the Executive Officer
  - (4) For all offsite projects and Regional Projects installed in accordance with Provision C.3.e.i-ii, the Permittees shall meet the Operation & Maintenance (O&M) requirements of Provision C.3.h.
- v. **Reporting** –The Permittees shall submit the ordinance/legal authority and procedural changes made, if any, to implement Provision C.3.e with their 2012 Annual Report. Annual reporting thereafter shall be done in conjunction with reporting requirements under Provision C.3.b.v.

Any Permittee choosing to require 100% LID treatment onsite for all Regulated Projects and not allow alternative compliance under Provision C.3.e, shall include a statement to that effect in the 2012 Annual Report and all subsequent Annual Reports.

#### **C.3.f. Alternative Certification of Stormwater Treatment Systems**

- i. **Task Description** – In lieu of reviewing a Regulated Project's adherence to Provision C.3.d, a Permittee may elect to have a third party conduct detailed review and certify the Regulated Project's adherence to Provision C.3.d. The third party reviewer must be a Civil Engineer or a Licensed Architect or Landscape Architect registered in the State of California, or staff of another Permittee subject to the requirements of this Permit.
- ii. **Implementation Level** – Any Permittee accepting third-party reviews must make a reasonable effort to ensure that the third party has no conflict of interest with regard to the Regulated Project in question. That is, any consultant or contractor (or his/her employees) hired to design and/or construct a stormwater treatment system for a Regulated Project shall not also be the certifying third party. The Permittee must verify that the third party certifying any Regulated Project has current training on stormwater treatment system design (within three years of the certification signature date) for water quality and understands the groundwater protection principles applicable to Regulated Project sites.

Training conducted by an organization with stormwater treatment system design expertise (such as a college or university, the American Society of Civil Engineers, American Society of Landscape Architects, American Public Works Association, California Water Environment Association (CWEA), BASMAA, National Association of Flood & Stormwater Management Agencies, California

Stormwater Quality Association (CASQA), or the equivalent, may be considered qualifying training.

- iii. **Reporting** – Projects reviewed by third parties shall be noted in reporting tables for Provision C.3.b.

### C.3.g. Hydromodification Management

- i. **Hydromodification Management (HM) Projects** are Regulated Projects that create and/or replace one acre or more of impervious surface and are not specifically excluded within the requirements of Attachments B–F. A project that does not increase impervious surface area over the pre-project condition is not an HM Project. All HM Projects shall meet the Hydromodification Management Standard of Provision C.3.g.ii.

- ii. **HM Standard**

Stormwater discharges from HM Projects shall not cause an increase in the erosion potential of the receiving stream over the pre-project (existing) condition. Increases in runoff flow and volume shall be managed so that post-project runoff shall not exceed estimated pre-project rates and durations, where such increased flow and/or volume is likely to cause increased potential for erosion of creek beds and banks, silt pollutant generation, or other adverse impacts on beneficial uses due to increased erosive force. The demonstration that post-project stormwater runoff does not exceed estimated pre-project runoff rates and durations shall include the following:

- (1) **Range of Flows to Control:** For Alameda, Contra Costa, San Mateo, and Santa Clara Permittees, HM controls shall be designed such that post-project stormwater discharge rates and durations match pre-project discharge rates and durations from 10 % of the pre-project 2-year peak flow<sup>7</sup> up to the pre-project 10-year peak flow. For Fairfield-Suisun Permittees, HM controls shall be designed such that post-project stormwater discharge rates and durations shall match from 20 percent of the 2-year peak flow up to the pre-project 10-year peak flow. Contra Costa Permittees, when using pre-sized and pre-designed Integrated Management Practices (IMPs) per Attachment C of this Order, are not required to meet the low-flow criterion of 10% of the 2-year peak flow. These IMPs are designed to control 20% of the 2-year peak flow. After the Contra Costa Permittees conduct the required monitoring specified in Attachment C, the design of these IMPs will be reviewed.
- (2) **Goodness of Fit Criteria:** The post-project flow duration curve shall not deviate above the pre-project flow duration curve by more than 10 percent

<sup>7</sup> Where referred to in this Order, the 2-year peak flow is determined using a flood frequency analysis based on USGS Bulletin 17 B to obtain the peak flow statistically expected to occur at a 2-year recurrence interval. In this analysis, the appropriate record of hourly rainfall data (e.g., 35-50 years of data) is run through a continuous simulation hydrologic model, the annual peak flows are identified, rank ordered, and the 2-year peak flow is estimated. Such models include USEPA's Hydrologic Simulation Program—Fortran (HSPP), U.S. Army Corps of Engineers' Hydrologic Engineering Center-Hydrologic Modeling System (HEC-HMS), and USEPA's Storm Water Management Model (SWMM).

over more than 10 percent of the length of the curve corresponding to the range of flows to control.

- (3) **Precipitation Data:** Precipitation data used in the modeling of HM controls shall, at a minimum, be 30 years of hourly rainfall data representative of the area being modeled. Where a longer rainfall record is available, the longer record shall be used.
- (4) **Calculating Post-Project Runoff:** Retention and detention basins shall be considered impervious surfaces for purposes of calculating post-project runoff. Pre- and post-project runoff shall be calculated and compared for the entire site, without separating or excluding areas that may be considered self-retaining.
- (5) **Existing HM Control Requirements:** The Water Board has adopted HM control requirements for all Permittees (except for the Vallejo Permittees), and these adopted requirements are attached to this Order as listed below. The Permittees shall comply with all requirements in their own Permittee-specific Attachment, unless otherwise specified by this Order. In all cases, the HM Standard shall be achieved.
  - Attachment B for Alameda Permittees
  - Attachment C for Contra Costa Permittees
  - Attachment D for Fairfield-Suisun Permittees
  - Attachment E for San Mateo Permittees
  - Attachment F for Santa Clara Permittees

### iii. Types of HM Controls

Projects shall meet the HM Standard using any of the following HM controls or a combination thereof.

- (1) **Onsite HM controls** are flow duration control structures and hydrologic source controls that collectively result in the HM Standard being met at the point(s) where stormwater runoff discharges from the project site.
- (2) **Regional HM controls** are flow duration control structures that collect stormwater runoff discharge from multiple projects (each of which shall incorporate hydrologic source control measures as well) and are designed such that the HM Standard is met for all the projects at the point where the regional HM control discharges.
- (3) **In-stream measures** shall be an option only where the stream, which receives runoff from the project, is already impacted by erosive flows and shows evidence of excessive sediment, erosion, deposition, or is a hardened channel.

In-stream measures involve modifying the receiving stream channel slope and geometry so that the stream can convey the new flow regime without increasing the potential for erosion and aggradation. In-stream measures are intended to improve long-term channel stability and prevent erosion by reducing the erosive forces imposed on the channel boundary.

In-stream measures, or a combination of in-stream and onsite controls, shall be designed to achieve the HM Standard from the point where the project(s) discharge(s) to the stream to the mouth of the stream or to achieve an equivalent degree of flow control mitigation (based on amount of impervious surface mitigated) as part of an in-stream project located in the same watershed. Designing in-stream controls requires a hydrologic and geomorphic evaluation (including a longitudinal profile) of the stream system downstream and upstream of the project. As with all in-stream activities, other regulatory permits must be obtained by the project proponent.<sup>8</sup>

**iv. Reporting**

For each HM Project approved during the reporting period, the following information shall be reported electronically in tabular form. This information shall be added to the required reporting information specified in Provision C.3.b.v.

- (1) Device(s) or method(s) used to meet the HM Standard, such as detention basin(s), bioretention unit(s), regional detention basin, or in-stream control;
- (2) Method used by the project proponent to design and size the device or method used to meet the HM Standard; and
- (3) Other information as required in the Permittee's existing HM requirements, as shown in Attachments B–F.

**v. Vallejo Permittees** shall complete the following tasks in lieu of complying with Provisions C.3.g.i-iv.

- (1) Develop a Hydrograph Modification Management Plan (HMP) for meeting the requirements of Provisions C.3.g.i-iv. The Vallejo Permittees' HMP shall be subject to approval by the Water Board.
- (2) Vallejo Permittees shall include the following in their HMP:
  - (a) A map of the City of Vallejo, delineating areas where the HM Standard applies. The HM Standard shall apply in all areas except where a project:
    - discharges stormwater runoff into creeks or storm drains that are concrete-lined or significantly hardened (e.g., with rip-rap, sackrete) downstream to their outfall in San Francisco Bay;
    - discharges to an underground storm drain discharging to the Bay; or
    - is located in a highly developed watershed.<sup>9</sup>

<sup>8</sup> In-stream control projects require a Stream Alteration Agreement from the California Department of Fish & Game, a CWA section 404 permit from the U.S. Army Corps of Engineers, and a section 401 certification from the Water Board. Early discussions with these agencies on the acceptability of an in-stream modification are necessary to avoid project delays or redesign.

<sup>9</sup> Within the context of Provision C.3.g., "highly developed watersheds" refers to catchments or subcatchments that are 65% impervious or more.

- However, plans to restore a creek reach may reintroduce the applicability of HM controls, and would need to be addressed in the HMP;
- (b) A thorough technical description of the methods project proponents may use to meet the HM Standard. Vallejo Permittees shall use the same methodologies, or similar methodologies, to those already in use in the Bay Area to meet the HM Standard. Contra Costa sizing charts may be used on projects up to ten acres after any necessary modifications are made to the sizes to control runoff rates and durations from ten percent of the pre-project 2-year peak flow to the pre-project 10-year peak flow, and adjustments are made for local rainfall and soil types;
- (c) A description of any land use planning measures the City of Vallejo will take (e.g., stream buffers and stream restoration activities, including restoration-in-advance of floodplains, revegetation, and use of less-impacting facilities at points of discharge) to allow expected changes in stream channel cross sections, stream vegetation, and discharge rates, velocities, and/or durations without adverse impacts on stream beneficial uses;
- (d) A description of how the Vallejo Permittees will incorporate these requirements into their local approval processes, and a schedule for doing so; and
- (e) Guidance for City of Vallejo project proponents explaining how to meet the HM Standard.
- (3) Vallejo Permittees shall complete the HMP according to the schedule below. All required documents shall be submitted acceptable to the Executive Officer, except the HMP, which shall be submitted to the Water Board for approval. Vallejo Permittees shall report on the status of HMP development and implementation in each Annual Report and shall also provide a summary of projects incorporating measures to address Provision C.3.g and the measures used.
- By April 1, 2011, submit a detailed workplan and schedule for completion of the information required in Provision C.3.g.v.(2).
  - By December 1, 2011, submit the map required in Provision C.3.g.v.(2)(a).
  - By April 1, 2012, submit a draft HMP.
  - By December 1, 2012, provide responses to Water Board comments on the draft HMP so that the final HMP is submitted for Water Board approval by July 1, 2013.
  - Upon adoption by the Water Board, implement the HMP, which shall include the requirements of this measure. Before approval of the HMP by the Water Board, Vallejo Permittees shall encourage early implementation of measures likely to be included in the HMP.

**C.3.h. Operation and Maintenance of Stormwater Treatment Systems**

- i. **Task Description** – Each Permittee shall implement an Operation and Maintenance (O&M) Verification Program.
- ii. **Implementation Level** – At a minimum, the O&M Verification Program shall include the following elements:
  - (1) Conditions of approval or other legally enforceable agreements or mechanisms for all Regulated Projects that, at a minimum, require at least one of the following from all project proponents and their successors in control of the Project or successors in fee title:
    - (a) The project proponent's signed statement accepting responsibility for the O&M of the installed onsite, joint, and/or offsite stormwater treatment system(s) and HM control(s) (if any) until such responsibility is legally transferred to another entity;
    - (b) Written conditions in the sales or lease agreements or deed for the project that requires the buyer or lessee to assume responsibility for the O&M of the onsite, joint, and/or offsite installed stormwater treatment system(s) and HM control(s) (if any) until such responsibility is legally transferred to another entity;
    - (c) Written text in project deeds, or conditions, covenants and restrictions (CCRs) for multi-unit residential projects that require the homeowners association or, if there is no association, each individual owner to assume responsibility for the O&M of the installed onsite, joint, and/or offsite stormwater treatment system(s) and HM control(s) (if any) until such responsibility is legally transferred to another entity; or
    - (d) Any other legally enforceable agreement or mechanism, such as recordation in the property deed, that assigns the O&M responsibility for the installed onsite, joint, and/or offsite treatment system(s) and HM control(s) (if any) to the project owner(s) or the Permittee.
  - (2) Coordination with the appropriate mosquito and vector control agency with jurisdiction to establish a protocol for notification of installed stormwater treatment systems and HM controls.
  - (3) Conditions of approval or other legally enforceable agreements or mechanisms for all Regulated Projects that require the granting of site access to all representatives of the Permittee, local mosquito and vector control agency staff, and Water Board staff, for the sole purpose of performing O&M inspections of the installed stormwater treatment system(s) and HM control(s) (if any).
  - (4) A written plan and implementation of the plan that describes O&M (including inspection) of all Regional Projects and regional HM controls that are Permittee-owned and/or operated.
  - (5) A database or equivalent tabular format of all Regulated Projects (public and private) that have installed onsite, joint, and/or offsite stormwater



treatment systems. This database or equivalent tabular format shall include the following information for each Regulated Project:

- (a) Name and address of the Regulated Project;
  - (b) Specific description of the location (or a map showing the location) of the installed stormwater treatment system(s) and HM control(s) (if any);
  - (c) Date(s) that the treatment system(s) and HM controls (if any) is/are installed;
  - (d) Description of the type and size of the treatment system(s) and HM control(s) (if any) installed;
  - (e) Responsible operator(s) of each treatment system and HM control (if any);
  - (f) Dates and findings of inspections (routine and follow-up) of the treatment system(s) and HM control(s) (if any) by the Permittee; and
  - (g) Any problems and corrective or enforcement actions taken.
- (6) A prioritized plan for inspecting all installed stormwater treatment systems and HM controls. At a minimum, this prioritized plan must specify the following for each fiscal year:
- (a) Inspection by the Permittee of all newly installed stormwater treatment systems and HM controls within 45 days of installation to ensure approved plans have been followed;
  - (b) Inspection by the Permittee of at least 20 percent of the total number (at the end of the preceding fiscal year) of installed stormwater treatment systems and HM controls;
  - (c) Inspection by the Permittee of at least 20 percent of the total number (at the end of the preceding fiscal year) of installed vault-based systems; and
  - (d) Inspection by the Permittee of all installed stormwater treatment systems subject to Provision C.3, at least once every five years.

**iii. Maintenance Approvals:** The Permittees shall ensure that onsite, joint, and offsite stormwater treatment systems and HM controls installed by Regulated Projects are properly operated and maintained for the life of the projects. In cases where the responsible party for a stormwater treatment system or HM control has worked diligently and in good faith with the appropriate State and federal agencies to obtain approvals necessary to complete maintenance activities for the treatment system or HM control, but these approvals are not granted, the Permittees shall be deemed to be in compliance with this Provision. Permittees shall ensure that constructed wetlands installed by Regulated Projects and used for urban runoff treatment shall abide by the Water Board's Resolution No. 94-102: Policy on the Use of Constructed Wetlands for Urban Runoff Pollution Control and the O&M requirements contained therein.

**Due Date for Full Implementation:** Immediate for Provisions C.3.h.i, C.3.h.ii.(1), and C.3.h.iii, and December 1, 2010, for Provisions C.3.h.ii.(2)-(6). For Vallejo Permittees: December 1, 2010, for Provisions C.3.h.i-iii.

**iv. Reporting: Beginning with the 2010 Annual Report**

- (1) For each Regulated Project inspected during the reporting period (fiscal year) the following information shall be reported to the Water Board electronically in tabular form as part of the Annual Report (as set forth in the Provision C.3.h. Sample Reporting Table attached):
  - Name of facility/site inspected.
  - Location (street address) of facility/site inspected.
  - Name of responsible operator for installed stormwater treatment systems and HM controls.
  - For each inspection:
    - Date of inspection.
    - Type of inspection (e.g., initial, annual, follow-up, spot).
    - Type(s) of stormwater treatment systems inspected (e.g., swale, bioretention unit, tree well, etc.) and an indication of whether the treatment system is an onsite, joint, or offsite system.
    - Type of HM controls inspected.
    - Inspection findings or results (e.g., proper installation, proper operation and maintenance, system not operating properly because of plugging, bypass of stormwater because of improper installation, maintenance required immediately, etc.).
    - Enforcement action(s) taken, if any (e.g., verbal warning, notice of violation, administrative citation, administrative order).
- (2) On an annual basis, before the wet season, provide a list of newly installed (installed within the reporting period) stormwater treatment systems and HM controls to the local mosquito and vector control agency and the Water Board. This list shall include the facility locations and a description of the stormwater treatment measures and HM controls installed.
- (3) Each Permittee shall report the following information in the Annual Report each year:
  - (a) A discussion of the inspection findings for the year and any common problems encountered with various types of treatment systems and/or HM controls. This discussion should include a general comparison to the inspection findings from the previous year.
  - (b) A discussion of the effectiveness of the Permittee's O&M Program and any proposed changes to improve the O&M Program (e.g., changes in prioritization plan or frequency of O&M inspections, other changes to improve effectiveness of program).

**C.3.i. Required Site Design Measures for Small Projects and Detached Single-Family Home Projects**

- i. **Task Description** – The Permittees shall require all development projects, which create and/or replace  $\geq 2500 \text{ ft}^2$  to  $< 10,000 \text{ ft}^2$  of impervious surface, and

detached single-family home projects,<sup>10</sup> which create and/or replace 2,500 square feet or more of impervious surface, to install one or more of the following site design measures:

- Direct roof runoff into cisterns or rain barrels for reuse.
- Direct roof runoff onto vegetated areas.
- Direct runoff from sidewalks, walkways, and/or patios onto vegetated areas.
- Direct runoff from driveways and/or uncovered parking lots onto vegetated areas.
- Construct sidewalks, walkways, and/or patios with permeable surfaces.<sup>3</sup>
- Construct bike lanes, driveways, and/or uncovered parking lots with permeable surfaces.<sup>3</sup>

This provision applies to all development projects that require approvals and/or permits issued under the Permittee's planning, building, or other comparable authority.

- ii. **Implementation Level** – All elements of this task shall be fully implemented by December 1, 2012.
- iii. **Reporting** – On an annual basis, discuss the implementation of the requirements of Provision C.3.i, including ordinance revisions, permit conditions, development of standard specifications and/or guidance materials, and staff training.
- iv. **Task Description** – The Permittees shall develop standard specifications for lot-scale site design and treatment measures (e.g., for roof runoff and paved areas) as a resource for single-family homes and small development projects.
- v. **Implementation Level** – This task may be fulfilled by the Permittees cooperating on a countywide or regional basis.  
**Due Date for Full Implementation** – December 1, 2012.
- vi. **Reporting** – A report containing the standard specifications for lot-scale treatment BMPs shall be submitted by December 1, 2012.

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<sup>10</sup> **Detached single-family home project** – The building of one single new house or the addition and/or replacement of impervious surface to one single existing house, which is not part of a larger plan of development.

#### **C.4. Industrial and Commercial Site Controls**

Each Permittee shall implement an industrial and commercial site control program at all sites which could reasonably be considered to cause or contribute to pollution of stormwater runoff, with inspections and effective follow-up and enforcement to abate actual or potential pollution sources consistent with each Permittee's respective Enforcement Response Plan (ERP), to prevent discharge of pollutants and impacts on beneficial uses of receiving waters. Inspections shall confirm implementation of appropriate and effective BMPs and other pollutant controls by industrial and commercial site operators.

##### **C.4.a. Legal Authority for Effective Site Management**

- i. Task Description – Permittees shall have sufficient legal enforcement authority to obtain effective stormwater pollutant control on industrial sites. Permittees shall have the ability to inspect and require effective stormwater pollutant control and to escalate progressively stricter enforcement to achieve expedient compliance and pollutant abatement at commercial and industrial sites within their jurisdiction.

##### **ii. Implementation Level**

- (1) Permittees shall have the legal authority to oversee, inspect, and require expedient compliance and pollution abatement at all industrial and commercial sites which may be reasonably considered to cause or contribute to pollution of stormwater runoff. Permittees shall have the legal authority to require implementation of appropriate BMPs at industrial and commercial to address pollutant sources associated with outdoor process and manufacturing areas, outdoor material storage areas, outdoor waste storage and disposal areas, outdoor vehicle and equipment storage and maintenance areas, outdoor parking areas and access roads, outdoor wash areas, outdoor drainage from indoor areas, rooftop equipment, and contaminated and erodible surface areas, and other sources determined by the Permittees or Water Board Executive Officer to have a reasonable potential to contribute to pollution of stormwater runoff.
- (2) Permittees shall notify the discharger of any actual or potential pollutant sources and violations and require problem correction within a reasonably short and expedient time frame commensurate with the threat to water quality. Permittees shall require timely correction of problems involving rapid temporary repair, and may allow longer time periods for implementation of more permanent solutions, if these require significant capital expenditure or construction. Violations shall be corrected prior to the next rain event or within 10 business days after the violations are noted. If more than 10 business days are required for correction, a rationale shall be given in the tabulated sheets.

**C.4.b. Industrial and Commercial Business Inspection Plan (Inspection Plan)**

- i. Task Description – Permittees shall develop and implement an inspection plan that will serve as a prioritized inspection workplan. This inspection plan will allow inspection staff to categorize the commercial and industrial sites within the Permittee’s jurisdiction by pollutant threat and inspection frequency, change inspection frequency based on site performance, and add and remove sites as businesses open and close.

The Inspection Plan shall contain the following information:

- (1) Total number and a list of industrial and commercial facilities requiring inspection, within each Permittee’s jurisdiction, to be determined on the basis of a prioritization criteria designed to assign a more frequent inspection schedule to the highest priority facilities per Section C.4.b.ii. below.
  - (2) A description of the process for prioritizing inspections and frequency of inspections. If any geographical areas are to be targeted for inspections due to high potential for stormwater pollution, these areas should be indicated in the Inspection Plan. A mechanism to include newly opened businesses that warrant inspection shall be included.
- ii. Implementation Level – Each Permittee shall annually update and maintain a list of industrial and commercial facilities in the Inspection Plan to inspect that could reasonably be considered to cause or contribute to pollution of stormwater runoff. The following are some of the functional aspects of businesses and types of businesses that shall be included in the Inspection Plans:
- (1) Sites that include the following types of functions that may produce pollutants when exposed to stormwater include, but are not limited to:
    - (a) Outdoor process and manufacturing areas
    - (b) Outdoor material storage areas
    - (c) Outdoor waste storage and disposal areas
    - (d) Outdoor vehicle and equipment storage and maintenance areas
    - (e) Outdoor wash areas
    - (f) Outdoor drainage from indoor areas
    - (g) Rooftop equipment
    - (h) Other sources determined by the Permittee or Water Board to have a reasonable potential to contribute to pollution of stormwater runoff
  - (2) The following types of Industrial and Commercial businesses that have a reasonable likelihood to be sources of pollutants to stormwater and non-stormwater discharges:
    - (a) Industrial facilities, as defined at 40 CFR 122.26(b)(14), including those subject to the State General NPDES Permit for Stormwater Discharges Associated with Industrial Activity (hereinafter the Industrial General Permit);

- (b) Vehicle Salvage yards;
- (c) Metal and other recycled materials collection facilities, waste transfer facilities;
- (d) Vehicle mechanical repair, maintenance, fueling, or cleaning;
- (e) Building trades central facilities or yards, corporation yards;
- (f) Nurseries and greenhouses;
- (g) Building material retailers and storage;
- (h) Plastic manufacturers; and
- (i) Other facilities designated by the Permittee or Water Board to have a reasonable potential to contribute to pollution of stormwater runoff.

(3) **Prioritization of Facilities**

Facilities of the types described in Provision 4.b.ii.(2) above and identified by the Permittees as having the reasonable potential to contribute to pollution of stormwater runoff shall be prioritized on the basis of the potential for water quality impact using criteria such as pollutant sources on site, pollutants of concern, proximity to a waterbody, violation history of the facility, and other relevant factors.

(4) **Types/Contents of Inspections**

Each Permittee shall conduct inspections to determine compliance with its ordinances and this Permit. Inspections shall include but not be limited to the following:

- (a) Prevention of stormwater runoff pollution or illicit discharge by implementing appropriate BMPs;
- (b) Visual observations for evidence of unauthorized discharges, illicit connections, and potential discharge of pollutants to stormwater;
- (c) Noncompliance with Permittee ordinances and other local requirements; and
- (d) Verification of coverage under the Industrial General Permit, if applicable.

(5) **Inspection Frequency** – Permittees shall establish appropriate inspection frequencies for facilities based on Provision 4.b.ii (3) priority, potential for contributing pollution to stormwater runoff, and commensurate with the threat to water quality.

(6) **Record Keeping** – For each facility identified in Provision 4.b.ii, the Permittee shall maintain a database or equivalent of the following information at a minimum:

- (a) Name and address of the business and local business operator;
- (b) A brief description of business activity including SIC code;
- (c) Inspection priority and inspection frequency; and
- (d) If coverage under the Industrial General Permit is required.

iii. **Reporting** – The Permittees shall include the following in the Annual Report:

- (1) The list of facilities identified in Provision 4.b.ii in the 2010 Annual Report and revisions or updates in subsequent annual reports; and
- (2) The list of facilities scheduled for inspection during the current fiscal year.

**C.4.c. Enforcement Response Plan (ERP)**

- i. Task Description – Permittees shall develop and implement an ERP that will serve as a reference document for inspection staff to take consistent actions to achieve timely and effective compliance from all commercial and industrial site operators.
- ii. Implementation Level – The ERP shall contain the following:
  - (1) **Required enforcement actions** – including timeframes for corrections of problems – for various field violation scenarios. The ERP will provide guidance on appropriate use of the various enforcement tools, such as verbal and written notices of violation, citations, cleanup requirements, administrative and criminal penalties.
  - (2) **Timely Correction of Violations** – All violations must be corrected in a timely manner with the goal of correcting them before the next rain event but no longer than 10 business days after the violations are discovered. If more than 10 business days are required for compliance, a rationale shall be recorded in the electronic database or equivalent tabular system.  
A description of the Permittee’s procedures for follow-up inspections and enforcement actions or referral to another agency, including appropriate time periods for each level of corrective action.
  - (3) **Referral and Coordination with Water Board** – Each Permittee shall enforce its stormwater ordinances as necessary to achieve compliance at sites with observed violations. For cases in which Permittee enforcement tools are inadequate to remedy the noncompliance, the Permittee shall refer the case to the Water Board, district attorney or other relevant agencies for additional enforcement.
  - (4) **Recordkeeping** – Permittees shall maintain adequate records to demonstrate compliance and appropriate follow-up enforcement responses for facilities inspected.  
Permittees shall maintain an electronic database or equivalent tabular system that contains the following information regarding industrial commercial site inspections:
    - (a) Name of Facility/Site Inspected
    - (b) Inspection Date
    - (c) Industrial General Permit coverage required (Yes or No)
    - (d) Compliance Status
    - (e) Type of Enforcement (if applicable)
    - (f) Type of Activity or Pollutant Source

Examples: Outdoor process/manufacturing areas, Outdoor material storage areas, Outdoor waste storage/disposal areas, outdoor vehicle and equipment storage/maintenance areas, Outdoor parking areas and access roads, Outdoor wash areas, Rooftop equipment, Outdoor drainage from indoor areas

- (g) Specific Problems
- (h) Problem Resolution
- (i) Additional Comments

The electronic database or equivalent tabular system shall be made readily available to the Executive Officer and during inspections and audits by the Water Board staff or its representatives.

- (5) The ERP shall be developed and implemented by April 1, 2010.

**iii. Reporting** – Permittees shall include the following information in each Annual Report:

- (1) Number of inspections conducted, Number of violations issued (excluding verbal warnings), Percentage of sites inspected in violation, and number and percent of violations resolved within 10 working days or otherwise deemed resolved in a longer but still timely manner;
- (2) Frequency and Types/categories of violations observed, Frequency and type of enforcement conducted;
- (3) Summary of types of violations noted by business category; and
- (4) Facilities that are required to have coverage under the Industrial General Permit, but have not filed for coverage.

**C.4.d. Staff Training**

**i. Task Description**

Permittees shall provide focused training for inspectors annually. Trainings may be Program-wide, Region-wide, or Permittee-specific.

**ii. Implementation Level**

At a minimum, train inspectors, within the 5-year term of this Permit, in the following topics:

- (1) Urban runoff pollution prevention;
- (2) Inspection procedures;
- (3) Illicit Discharge Detection, Elimination and follow-up; and
- (4) Implementation of typical BMPs at Industrial and Commercial Facilities.

Permittees, either countywide or regionally, if they have not already done so, are encouraged to create or adopt guidance for inspectors or reference existing inspector guidance including the California Association of Stormwater Quality Agencies (CASQA) Industrial BMP Handbook.



**iii. Reporting**

The Permittees shall include the following information in the Annual Report:

- (1) Dates of trainings;
- (2) Training topics that have been covered; and
- (3) Percentage of Permittee inspectors attending training.

## **C.5. Illicit Discharge Detection and Elimination**

The purpose of this provision is to implement the illicit discharge prohibition and to ensure illicit discharges are detected and controlled that are not otherwise controlled under provision C4, Industrial and Commercial Site Controls and C6, Construction Site Controls. Permittees shall develop and implement an illicit discharge program that includes an active surveillance component and a centralized complaint collection and follow-up component to target illicit discharge and non-stormwater sources. Permittees shall maintain a complaint tracking and follow-up data system as their primary accountability reporting for this provision.

### **C.5.a. Legal Authority**

- i. Task Description – Permittees shall have the legal authority to prohibit and control illicit discharges and escalate stricter enforcement to achieve expedient compliance.
- ii. **Implementation Level**
  - (1) Permittees shall have adequate legal authority to address stormwater and non-stormwater pollution associated with, but not limited to the following:
    - (a) Sewage;
    - (b) Discharges of wash water resulting from the cleaning of exterior surfaces and pavement, or the equipment and other facilities of any commercial business, or any other public or private facility;
    - (c) Discharges of runoff from material storage areas, including containing chemicals, fuels, or other potentially polluting or hazardous materials;
    - (d) Discharges of pool or fountain water containing chlorine, biocides, or other chemicals; discharges of pool or fountain filter backwash water;
    - (e) Discharges of sediment, pet waste, vegetation clippings, or other landscape or construction-related wastes; and
    - (f) Discharges of food-related wastes (e.g., grease, fish processing, and restaurant kitchen mat and trash bin wash water, etc.).
  - (2) Permittees shall have adequate legal authority to prohibit, discover through inspection and surveillance, and eliminate illicit connections and discharges to storm drains.
  - (3) Permittees shall have adequate legal authority to control the discharge of spills, dumping, or disposal of materials other than storm water to storm drains.

### **C.5.b. Enforcement Response Plan (ERP)**

- i. Task Description – Permittees shall develop and implement an ERP that will serve as guidance for inspection staff to take consistent actions to achieve timely and effective abatement of illicit discharges.
- ii. Implementation Level – The ERP shall contain the following:

- (1) Recommended responses and enforcement actions – including timeframes for corrections of problems – for various types and degree of violations. The ERP shall provide guidelines on when to employ the range of regulatory responses from warnings, citations and cleanup and cost recovery, to administrative or criminal penalties.
- (2) Timely Correction of Violations: All violations must be corrected in a timely manner with the goal of correcting them before the next rain event but no longer than 10 business days after the violations are discovered. If more than 10 business days are required for compliance, a rationale shall be recorded in the electronic database or equivalent tabular system. Immediate correction can be temporary and short-term if a long-term, permanent correction will involve significant resources and construction time. An example would be replumbing of a wash area to the sanitary sewer, which would involve an immediate short-term, temporary fix followed by permanent replumbing.
- (3) If corrective actions are not implemented promptly or if there are repeat violations, Permittees shall escalate responses as needed to achieve compliance, including referral to other agencies were necessary.
- (4) The ERP shall be developed and implemented by April 1, 2010.

**C.5.c. Spill and Dumping Response, Complaint Response, and Frequency of Inspections**

- i. Task Description – Permittees shall have a central contact point, including a phone number for complaints and spill reporting, and publicize this number to both internal Permittee staff and the public. If 911 is selected, also maintain and publicize a staffed, non-emergency phone number with voicemail, which is checked during normal business hours.

Permittees shall develop a spill/dumping response flow chart and phone tree or contact list for internal use that shows the various responsible agencies and their contacts, who would be involved in illicit discharge incident response that goes beyond the Permittees immediate capabilities. The list shall be maintained and updated as changes occur.

Permittees shall conduct reactive inspections in response to complaints and follow-up inspections as needed to ensure that corrective measures have been implemented to achieve and maintain compliance.

- ii. Implementation Level – Permittees will have the phone number and contact information available and integrated into training and outreach both to Permittee staff and the public by July 1, 2010.
- iii. Reporting – Submit the complaint and spill response phone number and spill contact list with the 2010 Annual Report and update annually if changes occur.

**C.5.d. Control of Mobile Sources**

- i. Task Description – The purpose of this section is to establish oversight and control of pollutants associated with mobile business sources.

- ii. Implementation Level – Each Permittee shall develop and implement a program to reduce the discharge of pollutants from mobile businesses.
  - (1) The program shall include the following:
    - (a) Development and implementation of minimum standards and BMPs to be required for each of the various types of mobile businesses such as automobile washing, power washing, steam cleaning, and carpet cleaning. This guidance can be developed via county-wide or regional collaboration.
    - (b) Development and implementation of an enforcement strategy which specifically addresses the unique characteristics of mobile businesses.
    - (c) Outreach to mobile businesses operating within the Permittee’s jurisdiction with minimum standards and BMP requirements and local ordinances through an outreach and education strategy.
    - (d) Inspection of mobile businesses as needed.
  - (2) Permittees should cooperate regionally in developing and implementing their programs for mobile businesses, including sharing of mobile business inventories, BMP requirements, enforcement action information, and education.
- iii. Reporting – Permittees shall report on implementation of minimum standards and BMPs for mobile business and their enforcement strategy in each Annual Report.

**C.5.e. Collection System Screening - Municipal Separate Storm Sewer System (MS4) Map Availability**

- i. Task Description – Permittees shall perform routine surveys for illicit discharges and illegal dumping in above ground check points in the collection system including elements that are typically inspected for other maintenance purposes, such as end of pipes, creeks, flood conveyances, storm drain inlets and catch basins, in coordination with public works/flood control maintenance surveys, video inspections of storm drains, and during other routine Permittee maintenance and inspection activities when Permittee staff are working in or near the MS4 system.
- ii. Implementation Level – Permittees shall develop and implement a screening program utilizing the USEPA/Center for Watershed Protection publication, “Illicit Discharge Detection and Elimination: A Guidance Manual for Program Development and Technical Assessment.” Permittees shall implement the screening program by conducting a survey of strategic collection system check points (one screening point per square mile of Permittee urban and suburban jurisdiction area, less open space) including some key major outfalls draining industrial areas as defined in 40 CFR 122.26 (b)(5) once each year in dry weather conditions meaning no significant rainfall within the past 3 weeks. Routine surveys that occur on an ongoing basis during regular conveyance system inspections may be credited toward this requirement. Make maps of the MS4 publicly available, either electronically or in hard copy by July 1, 2010. The public availability shall be through a publicized single point of contact that

is convenient for the public, such as a staffed counter or web accessible maps. The MS4 map availability shall be publicized through Permittee directories and web pages.

- iii. Reporting – Permittees shall provide a summary of their collection screening program, a summary of problems found during collection system screening, and any changes to the screening program in each Annual Report.

**C.5.f. Tracking and Case Follow-up**

- i. Task Description – All incidents or discharges reported to the complaint/spill system that might pose a threat to water quality shall be logged to track follow-up and response through problem resolution. The data collected shall be sufficient to demonstrate escalating responses for repeated problems, and inter/intra-agency coordination, where appropriate.
- ii. Implementation Level – Create and maintain a water quality spill and discharge complaint tracking and follow-up in an electronic database or equivalent tabular system by April 1, 2010.

The spill and discharge complaint tracking system shall contain the following information:

- (1) Complaint information:
  - (a) Date and time of complaint
  - (b) Type of pollutant
  - (c) Problem Status (potential or actual discharge.)
- (2) Investigation information:
  - (a) Date and time started
  - (b) Type of pollutant
  - (c) Entered storm drain and/or receiving water
  - (d) Date abated
  - (e) Type of enforcement (if applicable)
- (3) Response time (days)
  - (a) Call to investigation
  - (b) Investigation to abatement
  - (c) Call to abatement

The electronic database or equivalent tabular system shall be made available to Water Board staff as needed for review of enforcement response through problem resolution.

- iii. Reporting – Permittees shall provide the following information in the Annual Report:
  - (1) Number of discharges reported;
  - (2) Number of discharges reaching storm drains and/or receiving waters;
  - (3) Number and percentage of discharges resolved in a timely manner; and
  - (4) Summary of major types of discharges and complaints.

## **C.6. Construction Site Control**

Each Permittee shall implement a construction site inspection and control program at all construction sites, with follow-up and enforcement consistent with each Permittee's respective Enforcement Response Plan (ERP), to prevent construction site discharges of pollutants and impacts on beneficial uses of receiving waters. Inspections shall confirm implementation of appropriate and effective erosion and other construction pollutant controls by construction site operators/developers; and reporting shall demonstrate the effectiveness of this inspection and problem solution activity by the Permittees.

### **C.6.a. Legal Authority for Effective Site Management**

- i. Task Description** – Permittees shall have the ability to require effective stormwater pollutant controls, and escalate progressively stricter enforcement to achieve expedient compliance and clean up at all public and private construction sites.
- ii. Implementation Level**
  - (1) Permittees shall have the legal authority to require at all construction sites year round effective erosion control, run-on and runoff control, sediment control, active treatment systems (as appropriate), good site management, and non storm water management through all phases of construction (including but not limited to site grading, building, and finishing of lots) until the site is fully stabilized by landscaping or the installation of permanent erosion control measures.
  - (2) Permittees shall have the legal authority to oversee, inspect, and require expedient compliance and clean up at all construction sites year round.
- iii. Reporting** – Permittees shall certify adequacy of their respective legal authority in the 2010 Annual Report.

### **C.6.b. Enforcement Response Plan (ERP)**

- i. Task Description** – Permittees shall develop and implement an ERP that will serve as a reference document for inspection staff to take consistent actions to achieve timely and effective compliance from all public and private construction site owners/operators.
- ii. Implementation Level**
  - (1) The ERP shall include required enforcement actions – including timeframes for corrections of problems – for various field violation scenarios. All violations must be corrected in a timely manner with the goal of correcting them before the next rain event but no longer than 10 business days after the violations are discovered. If more than 10 business days are required for compliance, a rationale shall be recorded in the electronic database or equivalent tabular system.

- (2) If site owners/operators do not implement appropriate corrective actions in a timely manner, or if violations repeat, Permittees shall take progressively stricter responses to achieve compliance. The ERP shall include the structure for progressively stricter responses and various violation scenarios that evoke progressively stricter responses.
- (3) The ERP shall be developed and implemented by April 1, 2010.

**C.6.c. Best Management Practices Categories**

- i. Task Description – Permittees shall require all construction sites to have site specific, and seasonally- and phase-appropriate, effective Best Management Practices (BMPs) in the following six categories:
  - Erosion Control
  - Run-on and Run-off Control
  - Sediment Control
  - Active Treatment Systems (as necessary)
  - Good Site Management
  - Non Stormwater Management.

These BMP categories are listed in State General NPDES Permit for Stormwater Discharges Associated with Construction Activities (hereinafter the Construction General Permit).

**ii. Implementation Level**

The BMPs targeting specific pollutants within the six categories listed in C.6.c.i. shall be site specific. Site specific BMPs targeting specific pollutants from the six categories listed in C.6.c.i. can be a combination of BMPs from:

- California BMP Handbook, Construction, January 2003.
- Caltrans Stormwater Quality Handbooks, Construction Site Best Management Practices Manual, March 2003, and addenda.
- California Regional Water Quality Control Board, San Francisco Bay Region, Erosion and Sediment Control Field Manual, 2002.
- New BMPs available since the release of these Handbooks.

**C.6.d. Plan Approval Process**

- i. Task Description – Permittees shall review erosion control plans for consistency with local requirements, appropriateness and adequacy of proposed BMPs for each site before issuance of grading permits for projects. Permittees shall also verify that sites disturbing one acre or more of land have filed a Notice of Intent for coverage under the Construction General Permit.
- ii. Implementation Level – Before approval and issuance of local grading permits, each Permittee shall perform the following:

- (1) Review the site operator's/developer's erosion/pollution control plan or Stormwater Pollution Prevention Plan (SWPPP) to verify compliance with the Permittee's grading ordinance and other local requirements. Also review the site operator's/developer's erosion/pollution control plan or SWPPP to verify that seasonally appropriate and effective BMPs for the six categories listed in C.6.c.i. are planned;
- (2) For sites disturbing one acre or more of soil, verify that the site operators/developers have filed a Notice of Intent for permit coverage under the Construction General Permit; and
- (3) Provide construction stormwater management educational materials to site operators/developers, as appropriate.

#### **C.6.e. Inspections**

- i. Task Description – Permittees shall conduct inspections to determine compliance with local ordinances (grading and stormwater) and determine the effectiveness of the BMPs in the six categories listed in C.6.c.i.; and Permittees shall require timely corrections of all actual and threatened violations of local ordinances observed.

#### **ii. Implementation Level**

- (1) **Wet Season Notification**  
By September 1st of each year, each Permittee shall remind all site developers and/or owners disturbing one acre or more of soil to prepare for the upcoming wet season.
- (2) **Frequency of Inspections**  
Inspections shall be conducted monthly during the wet season<sup>11</sup> at the following sites:
  - (a) All construction sites disturbing one or more acre of land; and
  - (b) **High Priority Sites** – Other sites determined by the Permittee or the Water Board as significant threats to water quality. In evaluating threat to water quality, the following factors shall be considered:
    - (i) Soil erosion potential or soil type;
    - (ii) Site slope;
    - (iii) Project size and type;
    - (iv) Sensitivity or receiving waterbodies;
    - (v) Proximity to receiving waterbodies;
    - (vi) Non-stormwater discharges; and
    - (vii) Any other relevant factors as determined by the local agency or the Water Board.

<sup>11</sup> For the purpose of inspections, the wet season is defined as October through April, but sites need to implement seasonally appropriate BMPs in the six categories listed in C.6.c.i throughout the year.



(3) **Contents of Inspections**

Inspections shall focus on the adequacy and effectiveness of the site specific BMPs implemented for the six categories listed in C.6.c.i. Permittees shall require timely corrections of all actual and potential problems observed. Inspections of construction sites shall include, but are not limited to, the following:

- (a) Assessment of compliance with Permittee's ordinances and permits related to urban runoff, including the implementation and maintenance of the verified erosion/pollution control plan or SWPPP (from C.6.d.ii.(1));
- (b) Assessment of the adequacy and effectiveness of the site specific BMPs implemented for the six categories listed in C.6.c.i.;
- (c) Visual observations for:
  - actual discharges of sediment and/or construction related materials into stormdrains and/or waterbodies.
  - evidence of sediment and/or construction related materials discharges into stormdrains and/or waterbodies.
  - illicit connections.
  - potential illicit connections.
- (d) Education on stormwater pollution prevention, as needed.

(4) **Tracking**

All inspections must be recorded on a written or electronic inspection form. Inspectors shall follow the ERP if a violation is noted and shall require timely corrections of all actual and threatened violations of local ordinances observed. All violations must be corrected in a timely manner with the goal of correcting them before the next rain event but no longer than 10 business days after the violations are discovered. If more than 10 business days are required for compliance, a rationale shall be recorded on the inspection form.

Permittees shall track in an electronic database or tabular format all inspections. This electronic database or tabular format shall be made readily available to the Executive Officer and during inspections and audits by the Water Board staff or its representatives. This electronic database or tabular format shall record the following information for each site inspection:

- (a) Site name;
- (b) Inspection date;
- (c) Weather during inspection;
- (d) Has there been rainfall with runoff since the last inspection?;
- (e) Enforcement Response Level (Use ERP);
- (f) Problem(s) observed using Illicit Discharge and the six BMP categories listed in C.6.c.i.;

- (g) Specific Problem(s) (List the specific problem(s) within the BMP categories);
- (h) Resolution of Problems noted using the following three standardized categories: Problems Fixed, Need More Time, and Escalate Enforcement; and
- (i) Comments, which shall include all Rationales for Longer Compliance Time, all escalation in enforcement discussions, and any other information that may be relevant to that site inspection.

### iii. Reporting

- (1) In each Annual Report, each Permittee shall summarize the following information:
  - (a) Total number of active sites disturbing less than one acre of soil requiring inspection;
  - (b) Total number of active sites disturbing 1 acre or more of soil;
  - (c) Total number of inspections conducted;
  - (d) Number and percentage<sup>12</sup> of violations in each of the six categories listed in C.6.c.i.;
  - (e) Number and percentage<sup>13</sup> of each type of enforcement action taken as listed in each Permittee's ERP;
  - (f) Number of discharges, actual and those inferred through evidence, of sediment or other construction related materials;
  - (g) Number of sites with discharges, actual and those inferred through evidence, of sediment or other construction related materials;
  - (h) Number and percentage<sup>14</sup> of violations fully corrected prior to the next rain event but no longer than 10 business days after the violations are discovered or otherwise considered corrected in a timely, though longer period; and
  - (i) Number and percentage<sup>15</sup> of violations not fully corrected 30 days after the violations are discovered.
- (2) In each Annual Report, each Permittee shall evaluate its respective electronic database or tabular format and the summaries produced in C.6.e.ii.(4) above. This evaluation shall include findings on the program's strength, comparison to previous years' results, as well as areas that need

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<sup>12</sup> Percentage shall be calculated as number of violations in each category divided by total number of violations in all six categories.

<sup>13</sup> Percentage shall be calculated as number of each type of enforcement action divided by the total number of enforcement actions.

<sup>14</sup> Percentage shall be calculated as follows: number of violations fully corrected prior to the goal of the next rain event but no later than 10 business days after the violations are discovered divided by the total number of violations for the reporting year.

<sup>15</sup> Percentage shall be calculated as follows: number of violations not fully corrected 30 days after the violations are discovered divided by the total number of violations for the reporting year.

more focused education for site owners, operators, and developers the following year.

- (3) The Executive Officer may require that the information recorded and tracked by C.6.e.ii.(4) be submitted electronically or in a tabular format. Permittees shall submit the information within 10-working days of the Executive Officer's requirement. Submittal of the information in tabular form for the reporting year is not required in each Annual Report but encouraged.

**C.6.f. Staff Training**

- i. Task Description – Permittees shall provide training or access to training for staff conducting construction stormwater inspections.
- ii. Implementation Level – Permittees shall provide training at least every other year to municipal staff responsible for conducting construction site stormwater inspections. Training topics will include information on correct uses of specific BMPs, proper installation and maintenance of BMPs, Permit requirements, local requirements, and ERP.
- iii. Reporting – Permittees shall include in each Annual Report the following information: training topics covered, dates of training, and the percentage of Permittees' inspectors attending each training. If no training in that year, so state.

## **C.7. Public Information and Outreach**

Each Permittee shall increase the knowledge of the target audiences regarding the impacts of stormwater pollution on receiving water and potential solutions to mitigate the problems caused; change the waste disposal and runoff pollution generation behavior of target audiences by encouraging implementation of appropriate solutions; and involve various citizens in mitigating the impacts of stormwater pollution.

### **C.7.a. Storm Drain Inlet Marking**

- i. Task Description** – Permittees shall mark and maintain at least 80 percent of municipally-maintained storm drain inlets with an appropriate stormwater pollution prevention message, such as “No dumping, drains to Bay” or equivalent. At least 80% of municipally-maintained storm drain inlet markings shall be inspected and maintained at least once per 5-year permit term. For newly approved, privately maintained streets, Permittees shall require inlet marking by the project developer upon construction and maintenance of markings through the development maintenance entity. Markings shall be verified prior to acceptance of the project.
- ii. Implementation Level**
  - (1) Inspect and maintain markings of at least 80 percent of municipality maintained inlets to ensure they are legibly labeled with a no dumping message or equivalent once per permit term.
  - (2) Verify that newly developed streets are marked prior to acceptance of the project.
- iii. Reporting**
  - (1) In the 2013 Annual Report, each Permittee shall report prior years’ annual percentages of municipality maintained inlet markings inspected and maintained as legible with a no dumping message or equivalent.
  - (2) In the 2013 Annual Report, each Permittee shall report prior years’ annual number of projects accepted after inlet markings were verified.

### **C.7.b. Advertising Campaigns**

- i. Task Description** – Permittees shall participate in or contribute to advertising campaigns on trash/litter in waterways and pesticides with the goal of significantly increasing overall awareness of stormwater runoff pollution prevention messages and behavior changes in target audience.
- ii. Implementation Level**
  - (1) Target a broad audience with two separate advertising campaigns, one focused on reducing trash/litter in waterways and one focused on reducing the impact of urban pesticides. The advertising campaigns may be coordinated regionally or county-wide.
  - (2) Permittees shall conduct a pre-campaign survey and a post-campaign survey to identify and quantify the audiences’ knowledge, trends, and

attitudes and/or practices; and to measure the overall population's awareness of the messages and behavior changes achieved by the two advertising campaigns. These surveys may be done regionally or county-wide.

**iii. Reporting**

- (1) In the Annual Report following the pre-campaign survey, each Permittee (or the Countywide Program, if the survey was done county-wide or regionally) shall provide a report of the survey completed, which at a minimum, shall include the following:
  - A summary of how the survey was implemented.
  - A copy of the survey.
  - A copy of the survey results.
  - An analysis of the survey results.
  - A discussion of the outreach strategies based on the survey results.
  - A discussion of the planned or future advertising campaigns to influence awareness and behavior changes regarding trash/litter and pesticides.
- (2) In the Annual Report following the post campaign survey, each Permittee (or the Countywide Program, if survey was done county-wide or regionally) shall provide a report of the survey completed, which at minimum shall include the information required in the pre-campaign report (C.7.b.iii.(1)) and the following:
  - A discussion of the campaigns.
  - A discussion of the measurable changes in awareness and behavior achieved.
  - An update of outreach strategies based on the survey results.

**C.7.c. Media Relations – Use of Free Media**

- i. Task Description – Permittees shall participate in or contribute to a media relations campaign. Maximize use of free media/media coverage with the objective of significantly increasing the overall awareness of stormwater pollution prevention messages and associated behavior change in target audiences, and to achieve public goals.
- ii. Implementation Level – Conduct a minimum of six pitches (e.g., press releases, public service announcements, and/or other means) per year at the county-wide program, regional, and/or local levels.
- iii. Reporting – In each Annual Report, each Permittee (or the Countywide Program, if the media relations campaign was done county-wide or regionally) shall include the details of each media pitch, such as the medium, date, and content of the pitch.

**C.7.d. Stormwater Point of Contact**

- i. Task Description – Permittees shall individually or collectively create and maintain a point of contact, e.g., phone number or website, to provide the public with information on watershed characteristics and stormwater pollution prevention alternatives.
- ii. Implementation Level – Maintain and publicize one point of contact for information on stormwater issues. Permittees may combine this function with the complaint/spill contact required in C.5.
- iii. Reporting – In the 2010 Annual Report, each Permittee shall discuss how this point of contact is publicized and maintained. If any change occurs in this contact, report in subsequent annual report.

**C.7.e. Public Outreach Events**

- i. Task Description – Participate in and/or host events such as fairs, shows, workshops, (e.g., community events, street fairs, and farmers’ markets), to reach a broad spectrum of the community with both general and specific stormwater runoff pollution prevention messages. Pollution prevention messages shall include encouraging residents to (1) wash cars at commercial car washing facilities, (2) use minimal detergent when washing cars, and (3) divert the car washing runoff to landscaped area.
- ii. Implementation Level – Each Permittee shall annually participate and/or host the number of events according to its population, as shown in the table below:

**Table 7.1 Public Outreach Events<sup>16</sup>**

Permittee Population	Number of Outreach Events
< 10,000	2
10,001– 40,000	3
40,001 – 100,000	4
100,001 – 175,000	5
175,001 – 250,000	6
> 250,000	8
Non-population-based Permittees <sup>17</sup>	6

Should a public outreach event contain significant citizen involvement elements, the Permittee may claim credit for both Public Outreach Events (C.7.e.) and Citizen Involvement Events (C.7.g.).

- iii. Reporting – In each Annual Report, each Permittee shall list the events (name of event, event location, and event date) participated in and assess the effectiveness

<sup>16</sup> Permittees may claim individual credits for all events in which their Countywide Program or BASMAA participates, supports, and/or hosts, which are publicized to reach the Permittees jurisdiction.

<sup>17</sup> Alameda County Flood Control and Water Conservation District, Contra Costa Flood Control and Water Conservation District, Santa Clara Valley Water District, Vallejo Sanitation and Flood Control District, and Zone 7 of the Alameda County Flood Control and Water Conservation District

of efforts with appropriate measures (e.g., success at reaching a broad spectrum of the community, number of participants compared to previous years, post-event survey results, quantity/volume materials cleaned up and comparisons to previous efforts).

**C.7.f. Watershed Stewardship Collaborative Efforts**

- i. Task Description – Permittees shall individually or collectively encourage and support watershed stewardship collaborative efforts of community groups such as the Contra Costa Watershed Forum, the Santa Clara Basin Watershed Management Initiative, “friends of creek” groups, and other organizations that benefit the health of the watershed such as the Bay-Friendly Landscaping and Gardening Coalition. If no such organizations exist, encourage and support development of grassroots watershed groups or engagement of an existing group, such as a neighborhood association, in watershed stewardship activities. Coordinate with existing groups to further stewardship efforts.
- ii. Implementation Level – Annually demonstrate effort.
- iii. Reporting – In each Annual Report, each Permittee shall state the level of effort, describe the support given, state what efforts were undertaken and the results of these efforts, and provide an evaluation of the effectiveness of these efforts.

**C.7.g. Citizen Involvement Events**

- i. Task Description – Permittees shall individually or collectively, support citizen involvement events, which provide the opportunity for citizens to directly participate in water quality and aquatic habitat improvement, such as creek/shore clean-ups, adopt-an-inlet/creek/beach programs, volunteer monitoring, service learning activities such as storm drain inlet marking, community riparian restoration activities, community grants, other participation and/or host volunteer activities.
- ii. Implementation Level – Each Permittee shall annually sponsor and/or host the number of citizen involvement events according to its population, as shown in the table below:

**Table 7.2 Community Involvement Events<sup>18</sup>**

Permittee Population	Number of Involvement Events
< 10,000	1
10,001 – 40,000	1
40,001 – 100,000	2
100,001 – 175,000	3
175,001 – 250,000	4
> 250,000	5
Non-population-based Permittees	2

<sup>18</sup> Permittees can claim individual credit for all events sponsored or hosted by their Countywide Program or BASMAA, which are publicized to reach the Permittee’s jurisdiction.

Should a citizen involvement event contain significant public outreach elements, the Permittee may claim credit for both Citizen Involvement Events (C.7.g.) and Public Outreach Events (C.7.e.).

- iii. Reporting – In each Annual Report, each Permittee shall list the events (name of event, event location, and event date) participated in and assess the effectiveness of efforts with appropriate measures (e.g., success at reaching a broad spectrum of the community, number of participants compared to previous years, post-event survey results, number of inlets/creeks/shores/parks/and such adopted, quantity/volume materials cleaned up, data trends, and comparisons to previous efforts).

**C.7.h. School-Age Children Outreach**

- i. Task Description – Permittees shall individually or collectively implement outreach activities designed to increase awareness of stormwater and/or watershed message(s) in school-age children (K through 12).
- ii. Implementation Level – Implement annually and demonstrate effectiveness of efforts through assessment.
- iii. Reporting – In each Annual Report, each Permittee shall state the level of effort, spectrum of children reached, and methods used, and provide an evaluation of the effectiveness of these efforts.

**C.7.i. Outreach to Municipal Officials**

- i. Task Description – Permittees shall conduct outreach to municipal officials. One alternative means of accomplishing this is through the use of the Nonpoint Education for Municipal Officials program (NEMO) to significantly increase overall awareness of stormwater and/or watershed message(s) among regional municipal officials.
- ii. Implementation Level – At least once per permit cycle, or more often.
- iii. Reporting – Permittees shall summarize efforts in the 2013 Annual Report.



## C.8. Water Quality Monitoring

### C.8.a. Compliance Options

- i. **Regional Collaboration** – All Permittees shall comply with the monitoring requirements in C.8, however, Permittees may choose to comply with any requirement of this Provision through a collaborative effort to conduct or cause to be conducted the required monitoring in their jurisdictions. Where all or a majority of the Permittees collaborate to conduct water quality monitoring, this shall be considered a regional monitoring collaborative.

Where an existing collaborative body has initiated plans, before the adoption of this Permit, to conduct monitoring that would fulfill a requirement(s) of this Provision, but the monitoring would not meet this Provision's due date(s) by a year or less, the Permittees may request the Executive Officer adjust the due date(s) to synchronize with such efforts.

The types, quantities, and quality of data required within Provision C.8 establish the minimum level-of-effort that a regional monitoring collaborative must achieve. Provided these data types, quantities, and quality are obtained, a regional monitoring collaborative may develop its own sampling design. For Pollutants of Concern and Long-Term monitoring required under C.8.e, an alternative approach may be pursued by Permittees provided that: either similar data types, data quality, data quantity are collected with an equivalent level of effort described under C.8.e; or an equivalent level of monitoring effort is employed to answer the management information needs stated under C.8.e.

- ii. **Implementation Schedule** – Monitoring conducted through a regional monitoring collaborative shall commence data collection by October 2011. All other Permittee monitoring efforts shall commence data collection by October 2010. By July 1, 2010, each Permittee shall provide documentation to the Water Board, such as a written agreement, letter, or similar document that confirms whether the Permittee will conduct monitoring individually or through a regional monitoring collaborative.<sup>19</sup>
- iii. **Permittee Responsibilities** – A Permittee may comply with the requirements in Provision C.8 by performing the following:
  - (1) Contributing to its stormwater countywide program, as determined appropriate by the Permittee members, so that the stormwater countywide Program conducts monitoring on behalf of its members;
  - (2) Contributing to a regional collaborative effort;

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<sup>19</sup> This documentation will allow the Water Board to know when monitoring will commence for each Permittee. Permittees who commit to monitoring individually may join the regional monitoring collaborative at any time. Any Permittee who discontinues monitoring through the regional collaborative must commence complying with all requirements of Provision C.8 immediately.

- (3) Fulfilling monitoring requirements within its own jurisdictional boundaries; or
  - (4) A combination of the previous options, so that all requirements are fulfilled.
- iv. **Third-party Monitoring** – Permittees may choose to fulfill requirements of Provision C.8 using data collected by citizen monitors or other third-party organizations, provided the data are demonstrated to meet the data quality objectives described in Provision C.8.h. Where an existing third-party organization has initiated plans to conduct monitoring that would fulfill a requirement(s) of this Provision, but the monitoring would not meet this Provision's due date(s) by a year or less, the Permittees may request that the Executive Officer adjust the due date(s) to synchronize with such efforts.

**C.8.b. San Francisco Estuary Receiving Water Monitoring**

With limited exceptions, urban runoff from the Permittees' jurisdictions ultimately discharges to the San Francisco Estuary. Monitoring of the Estuary is intended to answer questions<sup>20</sup> such as:

- Are chemical concentrations in the Estuary potentially at levels of concern and are associated impacts likely?
- What are the concentrations and masses of contaminants in the Estuary and its segments?
- What are the sources, pathways, loadings, and processes leading to contaminant related impacts in the Estuary?
- Have the concentrations, masses, and associated impacts of contaminants in the Estuary increased or decreased?
- What are the projected concentrations, masses, and associated impacts of contaminants in the Estuary?

Permittees shall participate in implementing an Estuary receiving water monitoring program, at a minimum equivalent to the San Francisco Estuary Regional Monitoring Program for Trace Substances (RMP), by contributing their fair-share financially on an annual basis.

**C.8.c. Status Monitoring/Rotating Watersheds**

- i. Status Monitoring is intended to answer these questions: Are water quality objectives, both numeric and narrative, being met in local receiving waters,

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<sup>20</sup> These are the management questions approved by the Regional Monitoring Program's Steering Committee on May 9, 2008, and stated at [http://www.sfei/rmp/rmp\\_steering\\_meetings/rmp\\_steering\\_meeting\\_5\\_09\\_08/Item%2010a%20Attachment%201%20%20Draft%20RMP%20Management%20Questions%2005-02-08%20Annotated.pdf](http://www.sfei/rmp/rmp_steering_meetings/rmp_steering_meeting_5_09_08/Item%2010a%20Attachment%201%20%20Draft%20RMP%20Management%20Questions%2005-02-08%20Annotated.pdf). While the stated objectives may change over time, the intent of this provision is for Permittees to continue contributing financially and as stakeholders in such a program as the RMP, which monitors the quality of San Francisco Bay.

including creeks, rivers and tributaries? Are conditions in local receiving waters supportive of or likely to be supportive of beneficial uses?

- ii. **Parameters and Methods** – Permittees shall conduct Status Monitoring using the parameters, methods, occurrences, durations, and minimum number of sampling sites as described in Table 8.1. Spring sampling shall be conducted during the April - June timeframe; dry weather sampling shall be conducted during the July - September timeframe. Minor variations of the parameters and methods may be allowed with Executive Officer concurrence.
- iii. **Frequency** – Permittees shall complete the Status Monitoring in Table 8.1 at the following frequencies:
  - Alameda Permittees – annually
  - Contra Costa Permittees – annually
  - Fairfield-Suisun Permittees – twice during the Permit term
  - San Mateo Permittees – annually
  - Santa Clara Permittees – annually
  - Vallejo Permittees – once during the Permit term

Table 8.1 Status Monitoring Elements

Status Monitoring Parameter	Sampling and/or Analytical Method <sup>21</sup>	Minimum Sampling Occurrence <sup>22</sup>	Duration of Sampling	Minimum # Sample Sites to Monitor/Yr <sup>23</sup>	Result(s) that Trigger a Monitoring Project in Provision C.8.d.i.
Biological Assessment <sup>24</sup> (Includes Physical Habitat Assessment and General Water Quality Parameters <sup>25</sup> ) Nutrients (total phosphorus, dissolved orthophosphate, total nitrogen, nitrate, ammonia, silica, chloride,	SWAMP Std Operating Procedure <sup>26,27,28</sup> for Biological Assessments & PHab; SWAMP	1/yr (Spring Sampling)	Grab sample	Santa Clara & Alameda Permittees/ Contra Costa & San Mateo Permittees/ Fairfield-Suisun & Vallejo Permittees  Spring 20 / 10 / 4	BMI metrics that indicate substantially degraded community as per Attachment F, Table H-1  For Nutrients: 20% of results in one waterbody exceed one or more water quality standard

<sup>21</sup> Refers to field protocol, instrumentation and/or laboratory protocol.

<sup>22</sup> Refers to the number of sampling events at a specific site in a given year.

<sup>23</sup> The number of sampling sites shown is based on the relative population in each Regional Stormwater Countywide Program and is listed in this order: Santa Clara & Alameda Countywide / Contra Costa & San Mateo Countywide / Vallejo & Fairfield-Suisun Programs.

<sup>24</sup> The same general location must be used to collect benthic community, sediment chemistry, and sediment toxicity samples. General Water Quality Parameters need not be collected twice, where it is collected by a multi-parameter probe at a subset of these sample sites (see next row of Table 8.1).

<sup>25</sup> Includes dissolved oxygen, temperature, conductivity, and pH.

<sup>26</sup> Ode, P.R. 2007. Standard Operating Procedures for Collecting Benthic Macroinvertebrate Samples and Associated Physical and Chemical Data for Ambient Bioassessments in California, California State Water Resources Control Board Surface Water Ambient Monitoring Program (SWAMP), as subsequently revised ([http://www.waterboards.ca.gov/water\\_issues/programs/swamp/docs/phab\\_sopr6.pdf](http://www.waterboards.ca.gov/water_issues/programs/swamp/docs/phab_sopr6.pdf)). Permittees may coordinate with Water Board staff to modify their sampling procedures if these referenced procedures change during the Permit term.

<sup>27</sup> Biological assessments shall include benthic macroinvertebrates and algae. Bioassessment sampling method shall be multihabitat reach-wide. Macroinvertebrates shall be identified according to the Standard Taxonomic Effort Level I of the Southwestern Association of Freshwater Invertebrate Taxonomists, using the most current SWAMP approved method. Current methods are documented in (1) SWAMP Standard Operating Procedure (SOP) and Interim Guidance on Quality Assurance for SWAMP Bioassessments, Memorandum to SWAMP Roundtable from Beverly H. van Buuren and Peter R. Ode, 5-21-07, and (2) Amendment to SWAMP Interim Guidance on Quality Assurance for SWAMP Bioassessments, Memorandum from Beverly H. van Buuren and Peter R. Ode, 9-17-08. For algae, include mass (ash-free dry weight), chlorophyll a, diatom and soft algae taxonomy, and reachwide algal percent cover. Physical Habitat (PHab) Assessment shall include the SWAMP basic method plus 1) depth and pebble count + CPOM, 2) cobble embeddedness, 3) discharge measurements, and 4) in-stream habitat. Permittees may coordinate with Water Board staff to modify these sampling procedures if SWAMP procedures change during the Permit term.

<sup>28</sup> Algae shall be collected in a consistent timeframe as Regional SWAMP. For guidance on algae sampling and evaluation: Fetscher, A. and K. McLaughlin, May 16, 2008. Incorporating Bioassessment Using Freshwater Algae into California's Surface Water Ambient Monitoring Program (SWAMP). Technical Report 563 and current SWAMP-approved updates to Standard Operating Procedures therein. Available at [http://www.waterboards.ca.gov/water\\_issues/programs/swamp/docs/reports/563\\_periphyton\\_bioassessment.pdf](http://www.waterboards.ca.gov/water_issues/programs/swamp/docs/reports/563_periphyton_bioassessment.pdf).

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Status Monitoring Parameter	Sampling and/or Analytical Method <sup>21</sup>	Minimum Sampling Occurrence <sup>22</sup>	Duration of Sampling	Minimum # Sample Sites to Monitor/Yr <sup>23</sup>	Result(s) that Trigger a Monitoring Project in Provision C.8.d.i.
dissolved organic carbon, suspended sediment concentration)	comparable methods for Nutrients			Santa Clara & Alameda Permittees/ Contra Costa & San Mateo Permittees/ Fairfield-Suisun & Vallejo Permittees	or established threshold
General Water Quality <sup>29</sup>	Multi-Parameter Probe	2/yr (Concurrent with bioassessment & during the Aug. - Sept. timeframe)	15-minute intervals for 1-2 weeks	3 / 2 / 1	20% of results in one waterbody exceed one or more water quality standard or established threshold
Chlorine (Free and Total)	USEPA Std. Method 4500 Cl <sup>30</sup>	2/yr Spring & Dry Seasons	Grab sample	Spring 20 / 10 / 2 Dry 3 / 2 / 1	After immediate resampling, concentrations remain > 0.08 mg/L
Temperature	Digital Temperature Logger	60-minute intervals	60-minute intervals April through Sept.	8 / 4 / 1	20% of results in one waterbody exceed applicable temperature threshold <sup>31</sup>
Toxicity – Water Column <sup>32</sup>	Applicable SWAMP Comparable Method	2/yr (1/Dry Season & 1 Storm Event)	Grab or composite sample	3 / 2 / 1	If toxicity results < 50% of control results, repeat sample. If 2nd sample yields < 50% of control results, proceed to C.8.d.i.

<sup>29</sup> Includes dissolved oxygen, temperature, conductivity, and pH.

<sup>30</sup> The method of analysis shall achieve a method detection limit at least as low as that achieved by the Amperometric Titration Method (4500-Cl) from *Standard Methods for Examination of Water and Wastewater*, Edition 20).

<sup>31</sup> If temperatures exceed applicable threshold (e.g., Maximum Weekly Average Temperature, Sullivan K., Martin, D.J., Cardwell, R.D., Toll, J.E., Duke, S. 2000. *Analysis of the Effects of Temperature on Salmonids of the Pacific Northwest with Implications for Selecting Temperature Criteria, Sustainable Ecosystem Institute*) or spike with no obvious natural explanation observed.

<sup>32</sup> US EPA three species toxicity tests: *Selenastrum* growth and *Ceriodaphnia* and *Pimephales* with lethal and sublethal endpoints. Also *Hyaella azteca* with lethal endpoint.

Status Monitoring Parameter	Sampling and/or Analytical Method <sup>21</sup>	Minimum Sampling Occurrence <sup>22</sup>	Duration of Sampling	Minimum # Sample Sites to Monitor/Yr <sup>23</sup> Santa Clara & Alameda Permittees/ Contra Costa & San Mateo Permittees/ Fairfield-Suisun & Vallejo Permittees	Result(s) that Trigger a Monitoring Project in Provision C.8.d.i.
Toxicity— Bedded Sediment, Fine-grained <sup>33</sup>	Applicable SWAMP Comparable Method	1/yr	Grab sample	3 / 2 / 1 At fine-grained depositional area at bottom of watershed	See Attachment H, Table H-1
Pollutants — Bedded Sediment, <sup>34</sup> fine- grained	Applicable SWAMP Comparable Method inc. grain size	1/yr	Grab sample	3 / 2 / 1 At fine-grained depositional area at bottom of watershed	See Attachment H, Table H-1
Pathogen Indicators <sup>35</sup>	U.S. EPA protocol <sup>36</sup>	1/yr (During Summer)	Follow U.S. EPA protocol	*Fairfield-Suisun & Vallejo Permittees: 3 sites twice in permit term  5 / 5 / *	Exceedance of USEPA criteria
Stream Survey (stream walk & mapping) <sup>37</sup>	USA <sup>38</sup> or equivalent	1 waterbody/yr	N/A	9 / 6 / 3 stream miles/year	N/A

<sup>33</sup>

Bedded sediments should be fine-grain from depositional areas. Grain size and TOC must be reported. Coordinate with TMDL Provision requirements as applicable.

<sup>34</sup>

Bedded sediments should be fine-grain from depositional areas. Grain size and TOC must be reported. Analytes shall include all of those reported in MacDonald et al. 2000 (including copper, nickel, mercury, DDT, chlordane, dieldrin) as well as pyrethroids (see Table 8.4 for list of pyrethroids). Coordinate with TMDL Provision requirements as applicable. MacDonald, D.D., G.G. Ingersoll, and T.A. Berger. 2000. Development and Evaluation of Consensus-based Sediment Quality Guidelines for Freshwater Ecosystems. *Archives of Environ. Contamination and Toxicology* 39(1):20-31.

<sup>35</sup>

Includes fecal coliform and *E. Coli*.

<sup>36</sup>

Rather than collecting samples over five separate days, Permittees may use Example #2, pg. 54, of USEPA's *Implementation Guidance for Ambient Water Quality Criteria for Bacteria*, March 2004 Final.

<sup>37</sup>

The Stream Surveys need not be repeated on a watershed if a Stream Survey was completed on that waterbody within the previous five years. The number of stream miles to be surveyed in any given year may be less than that shown in Table 8-1 in order to avoid repeating surveys at areas surveyed during the previous five years.

<sup>38</sup>

Center for Watershed Protection, Manual 10: *Unified Stream Assessment: A User's Manual*, February 2005.

- iv. **Locations** – For each sampling year (per C.8.c.iii.), Permittees shall select at least one waterbody to sample from the applicable list below. Locations shall be selected so that sampling is sufficient to characterize segments of the waterbody(s). For example, Permittees required to collect a larger number of samples should sample two or more waterbodies, so that each sampling effort represents a reasonable segment length and/or type. Samples shall be collected in reaches that receive urban stormwater discharges, except in possible infrequent instances where non-urban-impacted stream samples are needed for comparison<sup>39</sup>. Waterbody selection shall be based on factors such as watershed area, land use, likelihood of urban runoff impacts, and existing monitoring data.

**Table 8.2 Status Monitoring Locations – Waterbodies**

SCVURPPP	ACCWP	CCCWP	SMCWPPP	FSUMRP	VALLEJO
Coyote Creek and tributaries	Arroyo Valle (below Livermore or lower)	Kirker Creek	San Pedro Creek and tributaries	Laurel Creek	Chabot Creek
Guadalupe River and tributaries	Arroyo Mocho	Mt. Diablo Creek	Pilarcitos Creek	Ledgewood Creek	Austin Creek & tributaries
San Tomas Creek and tributaries	Tassajara Creek	Walnut Creek and tributaries	Colma Creek		
Calabazas Creek	Alamo Creek	Rodeo Creek	San Bruno Creek and tributaries		
Permanente Creek and tributaries	Arroyo de la Laguna	Pinole Creek	Millbrae Creek and tributaries		
Stevens Creek and tributaries	Alameda Creek (at Fremont or below)	San Pablo Creek	Mills Creek and tributaries		
Matadero Creek and tributaries	San Lorenzo Creek & tribs	Alhambra Creek	Easton Creek and tributaries		
Adobe Creek	San Leandro Creek & tribs	Wildcat Creek	Sanchez Creek and tributaries		
Lower Penitencia Creek and tributaries	Oakland, Berkeley, or Albany Creeks		Burlingame Creek and tributaries		
Barron Creek			San Mateo Creek (below dam only)		
San Francisquito Creek & tributaries			Borel Creek & tributaries		
			Laurel Creek & tribs		
			Belmont Creek & tribs		
			Pulgas Creek & tribs		
			Cordilleras & tributaries		
			Redwood Creek & tribs		
			Atherton Creek & tribs		
			San Francisquito Creek and tributaries		

<sup>39</sup> Sampling efforts shall focus on stream reaches with urban stormwater system discharges. Sampling upstream of urban outfalls is not precluded where needed to meet sampling plan objectives.

- v. Status Monitoring Results – When Status Monitoring produces results such as those described in the final column of Table 8.1, Permittees shall conduct Monitoring Project(s) as described in C.8.d.i.

**C.8.d. Monitoring Projects** – Permittees shall conduct the Monitoring Projects listed below.

- i. **Stressor/Source Identification** – When Status results trigger a follow-up action as indicated in Table 8.1, Permittees shall take the following actions, as also required by Provision C.1. If the trigger stressor or source is already known, proceed directly to step 2. The first follow-up action shall be initiated as soon as possible, and no later than the second fiscal year after the sampling event that triggered the Monitoring Project.

- (1) Conduct a site specific study (or non-site specific if the problem is widespread) in a stepwise process to identify and isolate the cause(s) of the trigger stressor/source. This study should follow guidance for Toxicity Reduction Evaluations (TRE)<sup>40</sup> or Toxicity Identification Evaluations (TIE).<sup>41</sup> A TRE, as adapted for urban stormwater data, allows Permittees to use other sources of information (such as industrial facility stormwater monitoring reports) in attempting to determine the trigger cause, potentially eliminating the need for a TIE. If a TRE does not result in identification of the stressor/source, Permittees shall conduct a TIE.
- (2) Identify and evaluate the effectiveness of options for controlling the cause(s) of the trigger stressor/source.
- (3) Implement one or more controls.
- (4) Confirm the reduction of the cause(s) of trigger stressor/source.
- (5) Stressor/Source Identification Project Cap: Permittees who conduct this monitoring through a regional collaborative shall be required to initiate no more than ten Stressor/Source Identification projects during the Permit term in total, and at least two must be toxicity follow-ups, unless monitoring results do not indicate the presence of toxicity. If conducted through a stormwater countywide program, the Santa Clara and Alameda

<sup>40</sup> USEPA. August 1999. *Toxicity Reduction Evaluation Guidance for Municipal Wastewater Treatment Plants*. EPA/833B-99/002. Office of Wastewater Management, Washington, D.C.

<sup>41</sup> Select TIE methods from the following references after conferring with SWAMP personnel: For sediment: (1) Ho KT, Burgess R., Mount D, Norberg-King T, Hockett, RS. 2007. *Sediment toxicity identification evaluation: interstitial and whole methods for freshwater and marine sediments*. USEPA, Atlantic Ecology Division/Mid-Continental Ecology Division, Office of Research and Development, Narragansett, RI, or (2) Anderson, BS, Hunt, JW, Phillips, BM, Tjeerdema, RS. 2007. *Navigating the TMDL Process: Sediment Toxicity*. Final Report- 02-WSM-2. Water Environment Research Federation. 181 pp. For water column: (1) USEPA. 1991. *Methods for aquatic toxicity identification evaluations. Phase I Toxicity Characterization Procedures*. EPA 600/6-91/003. Office of Research and Development, Washington, DC., (2) USEPA. 1993. *Methods for aquatic toxicity identification evaluations. Phase II Toxicity Identification Procedures for Samples Exhibiting Acute and Chronic Toxicity*. EPA 600/R-92/080. Office of Research and Development, Washington, DC., or (3) USEPA. 1996. *Marine Toxicity Identification Evaluation (TIE), Phase I Guidance Document*. EPA/600/R-95/054. Office of Research and Development, Washington, DC.



Permittees each shall be required to initiate no more than five (two for toxicity); the Contra Costa and San Mateo Permittees each shall be required to initiate no more than three (one for toxicity); and the Fairfield-Suisun and Vallejo Permittees each shall be required to initiate no more than one Stressor/Source Identification project(s) during the Permit term.

(6) As long as Permittees have complied with the procedures set forth above, they do not have to repeat the same procedure for continuing or recurring exceedances of the same receiving water limitations unless directed to do so by the Water Board.

ii. **BMP Effectiveness Investigation** – Investigate the effectiveness of one BMP for stormwater treatment or hydrograph modification control. Permittees who do this project through a regional collaborative are required to initiate no more than one BMP Effectiveness Investigation during the Permit term. If conducted through a stormwater countywide program, the Santa Clara, Alameda, Contra Costa, and San Mateo Permittees shall be required to initiate one BMP Effectiveness Investigation each, and the Fairfield-Suisun and Vallejo Permittees shall be exempt from this requirement. The BMP(s) used to fulfill requirements of C.3.b.iii., C.11.e. and C.12.e. may be used to fulfill this requirement, provided the BMP Effectiveness Investigation includes the range of pollutants generally found in urban runoff. The BMP Effectiveness Investigation will not trigger a Stressor/Source Identification Project. Data from this Monitoring Project need not be SWAMP-comparable.

iii. **Geomorphic Project** – This monitoring is intended to answer the questions: How and where can our creeks be restored or protected to cost-effectively reduce the impacts of pollutants, increased flow rates, and increased flow durations of urban runoff?

Permittees shall select a waterbody/reach, preferably one that contains significant fish and wildlife resources, and conduct one of the following projects within each county, except that only one such project must be completed within the collective Fairfield-Suisun and Vallejo Permittees' jurisdictions:

- (1) Gather geomorphic data to support the efforts of a local watershed partnership<sup>42</sup> to improve creek conditions; or
- (2) Inventory locations for potential retrofit projects in which decentralized, landscape-based stormwater retention units can be installed; or
- (3) Conduct a geomorphic study which will help in development of regional curves which help estimate equilibrium channel conditions for different-sized drainages. Select a waterbody/reach that is not undergoing changing land use. Collect and report the following data:
  - Formally surveyed channel dimensions (profile), planform, and cross-sections. Cross-sections shall include the topmost floodplain terrace and

<sup>42</sup> A list of local watershed partnerships may be obtained from Water Board staff.

be marked by a permanent, protruding (not flush with ground) monument.

- Contributing drainage area.
- Best available information on bankfull discharges and width and depth of channel formed by bankfull discharges.
- Best available information on average annual rainfall in the study area.

Permittees shall complete the selected geomorphic project so that project results are reported in the Integrated Monitoring Report (see Provision C.8.g.v).

#### **C.8.e. Pollutants of Concern and Long-Term Trends Monitoring**

Pollutants of Concern (POC) monitoring is intended to assess inputs of Pollutants of Concern to the Bay from local tributaries and urban runoff, assess progress toward achieving wasteload allocations (WLAs) for TMDLs and help resolve uncertainties associated with loading estimates for these pollutants. In particular, there are four priority management information needs toward which POC monitoring must be directed: 1) identifying which Bay tributaries (including stormwater conveyances) contribute most to Bay impairment from pollutants of concern; 2) quantifying annual loads or concentrations of pollutants of concern from tributaries to the Bay; 3) quantifying the decadal-scale loading or concentration trends of pollutants of concern from small tributaries to the Bay; and 4) quantifying the projected impacts of management actions (including control measures) on tributaries and identifying where these management actions should be implemented to have the greatest beneficial impact.

Permittees shall implement the following POC monitoring components or pursue an alternative approach that addresses each of the aforementioned management information needs. An alternative approach may be pursued by Permittees provided that: either similar data types, data quality, data quantity are collected with an equivalent level of effort described; or an equivalent level of monitoring effort is employed to answer the management information needs.

Long-Term monitoring is intended to assess long-term trends in pollutant concentrations and toxicity in receiving waters and sediment, in order to evaluate if stormwater discharges are causing or contributing to toxic impacts on aquatic life. Permittees shall implement the following Long-Term monitoring components or, following approval by the Executive Officer, an equivalent monitoring program.

- i. Pollutants of Concern Loads Monitoring Locations** – Permittees shall conduct Pollutants of Concern monitoring at stations listed below. Permittees may install these stations in two phases providing at least half of the stations are monitored in the water year beginning October 2010, and all the stations are monitored in the water year beginning October 2012. Upon approval by the Executive Officer, Permittees may use alternate POC monitoring locations.

- (1) Castro Valley Creek S3 at USGS gauging station in Castro Valley
- (2) Guadalupe River
- (3) Zone 4 Line A at Chabot Road in Hayward
- (4) Rheem Creek at Giant Road in Richmond
- (5) Walnut Creek at a downstream location
- (6) Calabazas Creek at Lakeside Drive in Sunnyvale, at border with Santa Clara
- (7) San Mateo Creek at downstream location
- (8) Laurel Creek at Laurie Meadows park, off Casanova Drive in City of San Mateo.

ii. **Long-Term Monitoring Locations** – Permittees shall conduct Long-Term monitoring at stations listed below. After conferring with the Regional SWAMP program, and upon approval by the Executive Officer, Permittees may use alternate Long-Term monitoring locations.

**Table 8.3. Long-Term Monitoring Locations**

Stormwater Countywide Program	Waterbody	Suggested Location
Alameda Permittees	Alameda Creek OR	East of Alvarado Blvd*
	Lower San Leandro Creek	Empire Road*
Contra Costa Permittees	Kirker Creek OR	Floodway*
	Walnut Creek	Concord Avenue*
Santa Clara Permittees	Guadalupe River OR	USGS Gaging Station 11169025*
	Coyote Creek	Montague*
San Mateo Permittees	San Mateo Creek	Gateway Park*

\* SWAMP is scheduled to collect sediment toxicity and sediment chemistry samples annually at these stations during the month of June.

iii. **Parameters and Frequencies** – Permittees shall conduct Pollutants of Concern sampling pursuant to Table 8.4, Categories 1 and 2. In Table 8.4, Category 1 pollutants are those for which the Water Board has active water quality attainment strategies (WQAS), such as TMDL or site-specific objective projects. Category 2 pollutants are those for which WQAS are in development. The lower monitoring frequency for Category 2 pollutants is sufficient to develop preliminary loading estimates for these pollutants.

Permittees shall conduct Long-Term monitoring pursuant to Table 8.4, Category 3. SWAMP has scheduled collection of Category 3 data at the Long-Term monitoring locations stated in C.8.e.ii. As stated in Provision C.8.a.iv., Permittees may use SWAMP data to fulfill Category 3 sampling requirements.

iv. **Protocols** – At a minimum, sampling and analysis protocols shall be consistent with 40 CFR 122.21(g)(7)(ii).

- v. **Methods** – Methyl mercury samples shall be grab samples collected during storm events that produce rainfall of at least 0.10 inch, shall be frozen immediately upon collection, and shall be kept frozen during transport to the laboratory. All other Category 1 and 2 samples shall be wet weather flow-weighted composite samples, collected during storm events that produce rainfall of at least 0.10 inch. Sampled storms should be separated by 21 days of dry weather, but, at a minimum, sampled storms must have 72 hours of antecedent dry weather. Samples must include the first rise in the hydrograph. Category 3 monitoring data shall be SWAMP-comparable.

**Table 8.4 Pollutants of Concern Loads & Long-Term Monitoring Elements**

Category/Parameter	Sampling Years	Minimum Sampling Occurrence	Sampling Interval
<b>Category 1</b> <ul style="list-style-type: none"> <li>• Total and Dissolved Copper</li> <li>• Total Mercury<sup>43</sup></li> <li>• Methyl Mercury</li> <li>• Total PCBs<sup>44</sup></li> <li>• Suspended Sediments (SSC)</li> <li>• Total Organic Carbon</li> <li>• Toxicity – Water Column</li> <li>• Nitrate as N</li> <li>• Hardness</li> </ul>	Annually	Average of 4 wet weather events per year  For methyl mercury only: average of 2 wet & 2 dry weather events per year	Flow-weighted composite  For methyl mercury only: grab samples collected during the first rise in the hydrograph of a storm event.
<b>Category 2</b> <ul style="list-style-type: none"> <li>• Total and Dissolved Selenium</li> <li>• Total PBDEs (Polybrominated Diphenyl Ethers)</li> <li>• Total PAHs (Poly-Aromatic Hydrocarbons)</li> <li>• Chlordane</li> <li>• DDTs (Dichloro-Diphenyl-Trichloroethane)</li> <li>• Dieldrin</li> <li>• Nitrate as N</li> <li>• Pyrethroids - bifenthrin, cyfluthrin, beta-cyfluthrin, cypermethrin, deltamethrin, esfenvalerate, lambda-cyhalothrin, permethrin, and tralomethrin</li> <li>• Carbaryl and fipronil</li> <li>• Total and Dissolved Phosphorus</li> </ul>	Oct. 2010 - 2011 water year and  Oct. 2012 - 2013 water year	2 times per year	Flow-weighted composite
<b>Category 3</b> Toxicity – Bedded Sediment, fine-grained <sup>45</sup>	Biennially, Coordinate	Once per year, during April-June,	Grab sample

<sup>43</sup> The monitoring type and frequency shown for mercury is not sufficient to determine progress toward achieving TMDL load allocations. Progress toward achieving load allocations will be accomplished by assessing loads avoided resulting from treatment, source control, and pollution prevention actions.

<sup>44</sup> The monitoring type and frequency shown for PCBs is not sufficient to determine progress toward achieving TMDL load allocations. Progress toward achieving load allocations will be accomplished by assessing loads avoided resulting from treatment, source control, and pollution prevention actions.

Category/Parameter	Sampling Years	Minimum Sampling Occurrence	Sampling Interval
Pollutants – Bedded Sediment, fine-grained	with SWAMP	coordinate with SWAMP	

- vi. **Sediment Delivery Estimate/Budget** – The objective of this monitoring is to develop a strong estimate of the amount of sediment entering the Bay from local tributaries and urban drainages. By July 1, 2011, Permittees shall develop a design for a robust sediment delivery estimate/sediment budget in local tributaries and urban drainages. Permittees shall implement the study by July 1, 2012.
- vii. **Emerging Pollutants** – Permittees shall develop a work plan and schedule for initial loading estimates and source analyses for emerging pollutants: endocrine-disrupting compounds, PFOS/PFAS (Perfluorooctane Sulfonates (PFOS), Perfluoroalkyl sulfonates (PFAS); these perfluorocompounds are related to Teflon products), and NP/NPEs (nonylphenols/nonylphenol esters —estrogen-like compounds). This work plan, which is to be implemented in the next Permit term, shall be submitted with the Integrated Monitoring Report (see Provision C.8.g.).

**C.8.f. Citizen Monitoring and Participation**

- i. Permittees shall encourage Citizen Monitoring.
- ii. In developing Monitoring Projects and evaluating Status & Trends data, Permittees shall make reasonable efforts to seek out citizen and stakeholder information and comment regarding waterbody function and quality.
- iii. Permittees shall demonstrate annually that they have encouraged citizen and stakeholder observations and reporting of waterbody conditions. Permittees shall report on these outreach efforts in the annual Urban Creeks Monitoring Report.

**C.8.g. Reporting**

- i. **Water Quality Standard Exceedance** – When data collected pursuant to C.8.a.-C.8.f. indicate that stormwater runoff or dry weather discharges are or may be causing or contributing to exceedance(s) of applicable water quality standards, including narrative standards, a discussion of possible pollutant sources shall be included in the Urban Creeks Monitoring Report. When data collected pursuant to C.8.a.-C.8.f. indicate that discharges are causing or contributing to an exceedance of an applicable water quality standard, Permittees shall notify the Water Board within no more than 30 days of such a determination and submit a follow-up report in accordance with Provision C.1 requirements. The preceding reporting requirements shall not apply to

<sup>45</sup> If Ceriodaphnia, Hyalella azteca, or Pimephales survival or Selenastrum growth is < 50% of control results, repeat wet weather sample. If 2nd sample yields < 50% of control results, proceed to C.8.d.i.

continuing or recurring exceedances of water quality standards previously reported to the Water Board or to exceedances of pollutants that are to be addressed pursuant to Provisions C.8 through C.14 of this Order in accordance with Provision C.1.

- ii. **Status Monitoring Electronic Reporting** – Permittees shall submit an Electronic Status Monitoring Data Report no later than January 15 of each year, reporting on all data collected during the foregoing October 1–September 30 period. Electronic Status Monitoring Data Reports shall be in a format compatible with the SWAMP database.<sup>46</sup> Water Quality Objective exceedances shall be highlighted in the Report.
- iii. **Urban Creeks Monitoring Report** – Permittees shall submit a comprehensive Urban Creeks Monitoring Report no later than March 15 of each year, reporting on all data collected during the foregoing October 1–September 30 period, with the initial report due March 15, 2012, unless the Permittees choose to monitor through a regional collaborative, in which case the due date is March 15, 2013. Each Urban Creeks Monitoring Report shall contain summaries of Status, Long-Term, Monitoring Projects, and Pollutants of Concern Monitoring including, as appropriate, the following:
  - (1) Maps and descriptions of all monitoring locations;
  - (2) Data tables and graphical data summaries; Constituents that exceed applicable water quality standards shall be highlighted;
  - (3) For all data, a statement of the data quality;
  - (4) An analysis of the data, which shall include the following:
    - Calculations of biological metrics and physical habitat endpoints.
    - Comparison of biological metrics to:
      - Each other
      - Any applicable, available reference site(s)
      - Any applicable, available index of biotic integrity
      - Physical habitat endpoints.
    - Identification and analysis of any long-term trends in stormwater or receiving water quality.
  - (5) A discussion of the data for each monitoring program component, which shall:
    - Discuss monitoring data relative to prior conditions, beneficial uses and applicable water quality standards as described in the Basin Plan, the Ocean Plan, or the California Toxics Rule or other applicable water quality control plans.

<sup>46</sup> See <http://mpsl.mlml.calstate.edu/swdataformats.htm>. Permittees shall maintain an information management system that will support electronic transfer of data to the Regional Data Center of the *California Environmental Data Exchange Network (CEDEN)*, located within the San Francisco Estuary Institute.

- Where appropriate, develop hypotheses to investigate regarding pollutant sources, trends, and BMP effectiveness.
  - Identify and prioritize water quality problems.
  - Identify potential sources of water quality problems.
  - Describe follow-up actions.
  - Evaluate the effectiveness of existing control measures.
  - Identify management actions needed to address water quality problems.
- iv. **Monitoring Project Reports** – Permittees shall report on the status of each ongoing Monitoring Project in each annual Urban Creeks Monitoring Report. In addition, Permittees shall submit stand-alone summary reports within six months of completing BMP Effectiveness and Geomorphic Projects; these reports shall include: a description of the project; map(s) of project locations; data tables and summaries; and discussion of results.
- v. **Integrated Monitoring Report** – No later than March 15, 2014, Permittees shall prepare and submit an Integrated Monitoring Report through the regional collaborative monitoring effort on behalf of all participating Permittees, or on a countywide basis on behalf of participating Permittees, so that all monitoring conducted during the Permit term is reported.<sup>47</sup> This report shall be in lieu of the Annual Urban Creeks Monitoring Report due on March 15, 2014.
- The report shall include, but not be limited to, a comprehensive analysis of all data collected pursuant to Provision C.8., and may include other pertinent studies. For Pollutants of Concern, the report shall include methods, data, calculations, load estimates, and source estimates for each Pollutant of Concern Monitoring parameter. The report shall include a budget summary for each monitoring requirement and recommendations for future monitoring. This report will be part of the next Report of Waste Discharge for the reissuance of this Permit.
- vi. **Standard Report Content** – All monitoring reports shall include the following:
- The purpose of the monitoring and briefly describe the study design rationale.
  - Quality Assurance/Quality Control summaries for sample collection and analytical methods, including a discussion of any limitations of the data.
  - Brief descriptions of sampling protocols and analytical methods.
  - Sample location description, including waterbody name and segment and latitude and longitude coordinates.
  - Sample ID, collection date (and time if relevant), media (e.g., water, filtered water, bed sediment, tissue).
  - Concentrations detected, measurement units, and detection limits.

<sup>47</sup> Permittees who do not participate in the Regional Monitoring Group or in a stormwater countywide program must submit an individual Integrated Receiving Water Impacts Report.

- Assessment, analysis, and interpretation of the data for each monitoring program component.
  - Pollutant load and concentration at each mass emissions station.
  - A listing of volunteer and other non-Permittee entities whose data are included in the report.
  - Assessment of compliance with applicable water quality standards.
  - A signed certification statement.
- vii. **Data Accessibility** – Permittees shall make electronic reports available through a regional data center, and optionally through their web sites. Permittees shall notify stakeholders and members of the general public about the availability of electronic and paper monitoring reports through notices distributed through appropriate means, such as an electronic mailing list.

#### **C.8.h. Monitoring Protocols and Data Quality**

Where applicable, monitoring data must be SWAMP comparable. Minimum data quality shall be consistent with the latest version of the SWAMP Quality Assurance Project Plan (QAPP)<sup>48</sup> for applicable parameters, including data quality objectives, field and laboratory blanks, field duplicates, laboratory spikes, and clean techniques, using the most recent Standard Operating Procedures. A Regional Monitoring Collaborative may adapt the SWAMP QAPP for use in conducting monitoring in the San Francisco Bay Region, and may use such QAPP if acceptable to the Executive Officer.

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<sup>48</sup> The current SWAMP QAPP at the time of Permit issuance is dated September 1, 2008, and is available at [http://www.waterboards.ca.gov/water\\_issues/programs/swamp/docs/qapp/swamp\\_qapp\\_master090108a.pdf](http://www.waterboards.ca.gov/water_issues/programs/swamp/docs/qapp/swamp_qapp_master090108a.pdf).



## C.9. Pesticides Toxicity Control

To prevent the impairment of urban streams by pesticide-related toxicity, the Permittees shall implement a pesticide toxicity control program that addresses their own and others' use of pesticides within their jurisdictions that pose a threat to water quality and that have the potential to enter the municipal conveyance system. This provision implements requirements of the TMDL for Diazinon and Pesticide related Toxicity for Urban Creeks in the region. The TMDL includes urban runoff allocations for Diazinon of 100 ng/l and for pesticide related toxicity of 1.0 Acute Toxicity Units (TUa) and 1.0 Chronic Toxicity Units (TUc) to be met in urban creek waters. However, urban runoff management agencies (i.e., the Permittees) are not solely responsible for attaining the allocations because their authority to regulate pesticide use is constrained by federal and State law. Accordingly, the Permittees' requirements for addressing the allocations are set forth in the TMDL implementation plan and are included in this provision.

Pesticides of concern include: organophosphorous pesticides (chlorpyrifos, diazinon, and malathion); pyrethroids (bifenthrin, cyfluthrin, beta-cyfluthrin, cypermethrin, deltamethrin, esfenvalerate, lambda-cyhalothrin, permethrin, and tralomethrin); carbamates (e.g., carbaryl); and fipronil. The Permittees may coordinate with BASMAA, the Urban Pesticide Pollution Prevention Project, the Urban Pesticide Committee, the Bay-Friendly Landscaping and Gardening Coalition, and other agencies and organizations in carrying out these activities.

### C.9.a. Adopt an Integrated Pest Management (IPM) Policy or Ordinance

- i. **Task Description** – In their IPM policies or ordinances, the Permittees shall include provisions to minimize reliance on pesticides that threaten water quality and to require the use of IPM in municipal operations and on municipal property.
- ii. **Implementation Level** – If not already in place, the Permittees shall adopt IPM policies or ordinances no later than July 1, 2010.
- iii. **Reporting** – The Permittees shall submit a copy of their IPM ordinance(s) or policy(s) in their 2010 Annual Report.

### C.9.b. Implement IPM Policy or Ordinance

- i. **Task Description** – The Permittees shall establish written standard operating procedures for pesticide use that ensure implementation of the IPM policy or ordinance and require municipal employees and contractors to adhere to the IPM standard operating procedures.
- ii. **Reporting**
  - (1) In their Annual Reports, the Permittees shall report on IPM implementation by showing trends in quantities and types of pesticide used, and suggest reasons for increases in use of pesticides that threaten water quality, specifically organophosphorous pesticides, pyrethroids, carbaryl, and fipronil.

- (2) The Permittees shall maintain pesticide application standard operating procedures and submit them upon request.

**C.9.c. Train Municipal Employees**

- i. **Task Description** – The Permittees shall ensure that all municipal employees who, within the scope of their duties, apply or use pesticides that threaten water quality are trained in IPM practices and the Permittee’s IPM policy. This training may also include other training opportunities such as Bay-Friendly Landscape Maintenance Training & Qualification Program and EcoWise Certified.
- ii. **Reporting**
  - (1) In their Annual Reports, the Permittees shall report the percentage of municipal employees who apply pesticides who have received training in IPM policy and IPM standard operating procedures within the last three years.
  - (2) The Permittees shall submit training materials (e.g., course outline, date, attendees) upon request.

**C.9.d. Require Contractors to Implement IPM**

- i. **Task Description** – The Permittees shall hire IPM-certified contractors or include contract specifications requiring contractors to implement IPM no later than July 1, 2010.
- ii. **Reporting** – In their Annual Reports, the Permittees shall submit documentation to confirm compliance, such as the Permittee’s standard contract specification or copy of contractors’ certification(s).

**C.9.e. Track and Participate in Relevant Regulatory Processes** (may be done jointly with other Permittees, such as through CASQA or BASMAA and/or the Urban Pesticide Pollution Prevention Project)

- i. **Task Description**
  - (1) The Permittees shall track USEPA pesticide evaluation and registration activities as they relate to surface water quality, and when necessary, encourage USEPA to coordinate implementation of the Federal Insecticide, Fungicide, and Rodenticide Act and the CWA and to accommodate water quality concerns within its pesticide registration process;
  - (2) The Permittees shall track California Department of Pesticide Regulation (DPR) pesticide evaluation activities as they relate to surface water quality, and when necessary, encourage DPR to coordinate implementation of the California Food and Agriculture Code with the California Water Code and to accommodate water quality concerns within its pesticide evaluation process;
  - (3) The Permittees shall assemble and submit information (such as monitoring data) as needed to assist DPR and County Agricultural Commissioners in

ensuring that pesticide applications comply with water quality standards;  
and

- (4) As appropriate, the Permittees shall submit comment letters on USEPA and DPR re-registration, re-evaluation, and other actions relating to pesticides of concern for water quality.
- ii. **Reporting** – In their Annual Reports, the Permittees who participate in a regional effort to comply with C.9.e. may reference a regional report that summarizes regional participation efforts, information submitted, and how regulatory actions were affected. All other Permittees shall list their specific participation efforts, information submitted, and how regulatory actions were affected.

**C.9.f. Interface with County Agricultural Commissioners**

- i. **Task Description** – The Permittees shall maintain regular communications with county agricultural commissioners (or other appropriate State and/or local agencies) to (1) get input and assistance on urban pest management practices and use of pesticides, (2) inform them of water quality issues related to pesticides, and (3) report violations of pesticide regulations (e.g., illegal handling) associated with stormwater management.
- ii. **Reporting** – In their Annual Reports, the Permittees shall summarize improper pesticide usage reported to county agricultural commissioners and report follow-up actions to correct violations.

**C.9.g. Evaluate Implementation of Source Control Actions Relating to Pesticides**

- i. **Task Description** – The Permittees shall evaluate the effectiveness of the control measures implemented, evaluate attainment of pesticide concentration and toxicity targets for water and sediment from monitoring data (Provision C.8.), and identify improvements to existing control measures and/or additional control measures, if needed, to attain targets with an implementation time schedule.
- ii. **Reporting** – In their 2013 Annual Reports, the Permittees shall report the evaluation results, and if needed, submit a plan to implement improved and/or new control measures.

**C.9.h. Public Outreach** (may be done jointly with other Permittees, such as through CASQA or BASMAA and/or the Urban Pesticide Pollution Prevention Project or the Bay-Friendly Landscaping and Gardening Coalition).

- i. **Point of Purchase Outreach:** The Permittees shall:
  - (1) Conduct outreach to consumers at the point of purchase;
  - (2) Provide targeted information on proper pesticide use and disposal, potential adverse impacts on water quality, and less toxic methods of pest prevention and control; and

- (3) Participate in and provide resources for the “Our Water, Our World” program or a functionally equivalent pesticide use reduction outreach program.
- ii. **Reporting** – In their Annual Reports, the Permittees who participate in a regional effort to comply with C.9.h.i. may reference a report that summarizes these actions. All other Permittees shall summarize activities completed and document any measurable awareness and behavior changes resulting from outreach.
  - iii. **Pest Control Contracting Outreach:** The Permittees shall conduct outreach to residents who use or contract for structural or landscape pest control and shall:
    - (1) Provide targeted information on proper pesticide use and disposal, potential adverse impacts on water quality, and less toxic methods of pest prevention and control, including IPM;
    - (2) Incorporate IPM messages into general outreach;
    - (3) Provide information to residents about “Our Water, Our World” or functionally equivalent program;
    - (4) Provide information to residents about EcoWise Certified IPM certification in Structural Pest Management, or functionally equivalent certification program; and
    - (5) Coordinate with household hazardous-waste programs to facilitate appropriate pesticide waste disposal, conduct education and outreach, and promote appropriate disposal.
  - iv. **Reporting** – In their 2013 Annual Reports, the Permittees who participate in a regional effort to comply with C.9.h.iii. may reference a report that summarizes these actions. All other Permittees shall document the effectiveness of their actions in their 2013 Annual Reports. This documentation may include percentages of residents hiring certified IPM providers and the change in this percentage.
  - v. **Outreach to Pest Control Operators:** The Permittees shall conduct outreach to pest control operators (PCOs) and landscapers; Permittees are encouraged to work with DPR, county agricultural commissioners, UC-IPM, BASMAA, the Urban Pesticide Committee, the EcoWise Certified Program (or functionally equivalent certification program), the Bio-integral Resource Center and others to promote IPM to PCOs and landscapers.
  - vi. **Reporting** – In each Annual Report, the Permittees who participate in a regional effort to comply with C.9.h.v. may reference a report that summarizes these actions. All other Permittees shall summarize how they reached PCOs and landscapers and reduced pesticide use.

## C.10. Trash Load Reduction

The Permittees shall demonstrate compliance with Discharge Prohibition A.2 and trash-related Receiving Water Limitations through the timely implementation of control measures and other actions to reduce trash loads from municipal separate storm sewer systems (MS4s) by 40% by 2014, 70% by 2017, and 100% by 2022 as further specified below.

During this permit term, the Permittees shall develop and implement a Short-Term Trash Load Reduction Plan. This includes implementation of a mandatory minimum level of trash capture; cleanup and abatement progress on a mandatory minimum number of Trash Hot Spots; and implementation of other control measures and best management practices, such as trash reduction ordinances, to prevent or remove trash loads from MS4s to attain a 40% reduction in trash loads by July 1, 2014. The Permittees shall also develop and begin implementation of a Long-Term Trash Load Reduction Plan to attain a 70% reduction in trash loads from their MS4s by 2017 and 100% by 2022. Flood management agencies, which are non-population-based Permittees that do not have jurisdiction over urban watershed land, are not subject to these trash reduction requirements except for minimum full trash capture and Trash Hot Spot requirements, as specified in subsections C.10.a.iii and C.10.b below.

### C.10.a. Short-Term Trash Load Reduction

- i. **Short-Term Trash Loading Reduction Plan** – Each Permittee shall submit a Short-Term Trash Load Reduction Plan, including an implementation schedule, to the Water Board by February 1, 2012. The Plan shall describe control measures and best management practices, including any trash reduction ordinances, that are currently being implemented and the current level of implementation and additional control measures and best management practices that will be implemented, and/or an increased level of implementation designed to attain a 40% trash load reduction from its MS4 by July 1, 2014.

The Short-Term Trash Load Reduction Plan shall account for required mandatory minimum Full Trash Capture devices called for in Provision C.10.a.iii and Trash Hot Spot Cleanup called for in Provision C.10.b.

- ii. **Baseline Trash Load and Trash Load Reduction Tracking Method** – Each Permittee, working collaboratively or individually, shall determine the baseline trash load from its MS4 to establish the basis for trash load reductions and submit the determined load level to the Water Board by February 1, 2012, along with documentation of methodology used to determine the load level. The submittal shall also include a description of the trash load reduction tracking method that will be used to account for trash load reduction actions and to demonstrate progress and attainment of trash load reduction levels. The submittal shall account for the drainage areas of a Permittee's jurisdiction that are associated with the baseline trash load from its MS4, and the baseline trash load level per unit area by land use type and drainage area characteristics used to derive the total baseline trash load level for each Permittee.

In the determination of applicable areas that generate trash loads for inclusion in the Baseline Trash Load, the Permittees may propose areas for exclusion, with supporting documentation, which meet Discharge Prohibition A.2 and trash-

related Receiving Water Limitations. Documentation demonstrating no material trash presence or adverse impact may include data from the maintenance of existing trash capture devices, data from trash flux measurements in the MS4 and the water column of streams during wet weather, Trash Hot Spot assessments, and litter audits of street curb and gutter areas in high pedestrian traffic and high commercial activity areas.

If proposed areas for exclusion are commercial, industrial, or high density residential areas, or adjacent to schools or event venues, the Permittee shall collect and submit by February 1, 2013, an additional year of documentation to further support the basis for the exclusion. If the data continue to support the exclusion determination, further trash reduction actions are not required in these areas, unless the Water Board notifies the Permittee otherwise.

Each Permittee shall submit a progress report by February 1, 2011, that indicates whether it is determining its baseline trash load and trash load reduction method individually or collaboratively with other Permittees and a summary of the approach being used. The report shall also include the types and examples of documentation that will be used to propose exclusion areas, and the land use characteristics and estimated area of potentially excluded areas.

- iii. Minimum Full Trash Capture** – Except as excluded below, population-based Permittees shall install and maintain a mandatory minimum number of full trash capture devices by July 1, 2014, to treat runoff from an area equivalent to 30% of Retail/Wholesale Land<sup>49</sup> that drains to MS4s within their jurisdictions (see Table 10.1 in Attachment J). If the sum of the areas that generate trash loads determined pursuant to C.10.a.ii above is a smaller acreage than the required trash capture acreage, a population-based Permittee may reduce its minimum full trash capture requirement to the smaller acreage. A population-based Permittee with a population less than 12,000 and retail/wholesale land less than 40 acres, or a population less than 2000, is exempt from this trash capture requirement. The minimum number of trash capture devices required to be installed and maintained by non-population-based Permittees is included in Attachment J.

All installed devices that meet the following full trash capture definition may be counted toward this requirement regardless of date of installation. A full capture system or device is any single device or series of devices that traps all particles retained by a 5 mm mesh screen and has a design treatment capacity of not less than the peak flow rate  $Q$  resulting from a one-year, one-hour, storm in the sub-drainage area.

#### **C.10.b. Trash Hot Spot Selection and Cleanup**

Trash Hot Spots in receiving waters shall be cleaned annually to achieve the multiple benefits of beginning abatement of these impacts as mitigation and to learn more about the sources and patterns of trash loading.

<sup>49</sup> [<http://quake.abag.ca.gov/mitigation/pickdbh2.html>] and Association of Bay Area Governments, 2005 ABAG Land Use Existing Land Use in 2005: Report and Data for Bay Area Counties

- i. **Hot Spot Cleanup and Definition** – The Permittees shall cleanup selected Trash Hot Spots to a level of “no visual impact” at least one time per year for the term of the permit. Trash Hot Spots shall be at least 100 yards of creek length or 200 yards of shoreline length.
- ii. **Hot Spot Selection** – Population-based Permittees shall identify high trash-impacted locations on State waters totaling at least one Trash Hot Spot per 30,000 population, or one per 100 acres of Retail/Wholesale Commercial Land Area, within their jurisdictions based on Association of Bay Area Governments (ABAG) 2005 data, whichever is greater. If the hot spot number by one of the two determination methods is more than twice that determined by the other method, double the smaller hot spot number shall be used. Otherwise, the larger hot spot number determined by the two methods shall be the Trash Hot Spot assignment for a population-based Permittee. Each population-based Permittee shall select at least one Trash Hot Spot. The Permittees shall each submit selected Trash Hot Spots to the Water Board by July 1, 2010. The list should include photo documentation (one photo per 50 feet) and initial assessment results for the proposed hot spots. The minimum number of Trash Hot Spots per Permittee is included in Attachment J for population and non-population-based Permittees. The Permittees shall proceed with cleanup of selected Trash Hot Spots unless informed otherwise by the Water Board.
- iii. **Hot Spot Assessments** – The Permittees shall quantify the volume of material removed from each Trash Hot Spot cleanup, and identify the dominant types of trash (e.g., glass, plastics, paper) removed and their sources to the extent possible. Documentation shall include the trash condition before and after clean up of the entire hot spot using photo documentation with a minimum of one photo per 50 feet of hot spot length. Trash Hot Spots may also be assessed using either the Rapid Trash Assessment (RTA v.8) or the SCVURPPP Urban RTA variation of that method.

#### **C.10.c. Long-Term Trash Load Reduction**

Each Permittee shall submit a Long-Term Trash Load Reduction Plan, including an implementation schedule, to the Water Board by February 1, 2014. The Plan shall describe control measures and best management practices, including any trash reduction ordinances, that are being implemented and the level of implementation and additional control measures and best management practices that will be implemented, and/or an increased level of implementation designed to attain a 70% trash load reduction from its MS4 by July 1, 2017, and 100% by July 1, 2022.

#### **C.10.d. Reporting**

- i. In each Annual Report, each Permittee shall provide a summary of its trash load reduction actions (control measures and best management practices) including the types of actions and levels of implementation, the total trash loads and dominant types of trash removed by its actions, and the total trash loads and dominant types of trash for each type of action. The latter shall include each Trash Hot Spot selected pursuant to C.10.b. Beginning with the 2012 Annual

Report, each Permittee shall also report its percent annual trash load reduction relative to its Baseline Trash Load.

- ii. The Permittees shall retain records for review providing supporting documentation of trash load reduction actions and the volume and dominant type of trash removed from full trash capture devices, from each Trash Hot Spot cleanup, and from additional control measures or best management practices implemented. Data may be combined for specific types of full trash capture devices deployed in the same drainage area. These records shall have the specificity required for the trash load reduction tracking method established pursuant to subsection C.10.a.iii.



## C.11. Mercury Controls

The Permittees shall implement the following control programs for mercury. The Permittees shall perform the control measures and provide reporting on those control measures according to the provisions below. The purpose of this provision is to implement the urban runoff requirements of the San Francisco Bay mercury TMDL and reduce mercury loads to make substantial progress toward achieving the urban runoff mercury load allocation established for the TMDL. The aggregate, regionwide, urban runoff wasteload load allocation is 82 kg/yr. This allocation should be achieved by February 2028 and, as a way to measure progress, an interim loading milestone of 120 kg/yr, halfway between the current load and the allocation, should be achieved by February 2018. If the interim loading milestone is not achieved, the Permittees shall demonstrate reasonable and measurable progress toward achieving the milestone. The Permittees may comply with any requirement of this provision through a collaborative effort.

### C.11.a. Mercury Collection and Recycling Implemented throughout the Region

- i. **Task Description** – The Permittees shall promote, facilitate, and/or participate in collection and recycling of mercury containing devices and equipment at the consumer level (e.g., thermometers, thermostats, switches, bulbs).
- ii. **Reporting** – The Permittees shall report on these efforts in their Annual Report, including an estimate of the mass of mercury collected.

### C.11.b. Monitor Methylmercury

- i. **Task Description** – The Permittees shall monitor methylmercury in runoff discharges. The objective of the monitoring is to investigate a representative set of drainages and obtain seasonal information and to assess the magnitude and spatial/temporal patterns of methylmercury concentrations.
- ii. **Implementation Level** – The Permittees shall analyze aqueous grab samples already being collected for total mercury analysis for methylmercury as specified in Provision C.8.f.
- iii. **Reporting** – The Permittees shall report monitoring results annually beginning with their 2010 Annual Report.

### C.11.c. Pilot Projects To Investigate and Abate Mercury Sources in Drainages, Including Public Rights-Of-Way, and Stormwater Conveyances with Accumulated Sediment that Contains Elevated Mercury Concentrations.

- i. **Task Description** – The Permittees shall investigate and abate mercury sources in or to their storm drain systems in conjunction with the Water Board and other appropriate regulatory agencies with investigation and cleanup authorities. The purpose of this task is to implement and evaluate the benefit of a suite of abatement measures at five pilot project locations. The Permittees shall document the knowledge and experience gained through pilot implementation,

and this documentation will provide a basis for determining the scope of abatement implementation in subsequent permit terms. The Permittees shall also quantify and report the amount of mercury loads abated resulting from implementation of these measures.

- ii. **Implementation Level** – Reducing loads of PCBs is the main pilot location selection factor for this Provision, and reducing loads of mercury is a secondary criterion. Accordingly, for PCB pilot project locations selected as part of Provision C.12.c, the Permittees shall conduct reconnaissance in the pilot project drainage areas. The Permittees shall test sediments in storm drains and conveyances to characterize the extent and magnitude of mercury concentrations. They shall evaluate monitoring data and determine if a mercury sediment abatement program would reduce mercury loading significantly. If so determined, the Permittees shall cause abatement activities to be conducted at those sites under Permittee jurisdiction with identified remedial activities. When contamination is located on private property, a Permittee must either exercise direct authority to require cleanup or notify and request other appropriate authorities to exercise their cleanup authority.
- iii. **Reporting** – Report on mercury-related aspects of work and loads abated as part of reporting requirements for Provision C.12.c.

**C.11.d. Pilot Projects to Evaluate and Enhance Municipal Sediment Removal and Management Practices**

- i. **Task Description** – The Permittees shall jointly evaluate ways to enhance mercury load reduction benefits of operation and maintenance activities that remove or manage sediment. The purpose of this task is to implement these management practices at the pilot scale in five drainages during this permit term. The knowledge and experience gained through pilot implementation will be used to determine the implementation scope of enhanced sediment removal and management practices in subsequent permit terms. The Permittees shall document the knowledge and experience gained through pilot implementation, and this documentation will provide a basis for determining the implementation scope of enhanced sediment removal management practices in subsequent permit terms. The Permittees shall also quantify and report the amount of mercury loads removed or avoided resulting from implementation of these measures.
- ii. **Implementation Level** – In all pilot program drainages selected as part of Provision C.12.c, the Permittees shall jointly evaluate ways to enhance existing sediment removal and management practices such as municipal street sweeping, curb clearing parking restrictions, inlet cleaning, catch basin cleaning, stream and stormwater conveyance system maintenance, and pump station cleaning via increased effort and/or retrofits for the control of mercury. This evaluation shall also include consideration of street flushing and capture, collection, or routing to the sanitary sewer (in coordination and consultation with local sanitary sewer agencies) as a potential enhanced management practice in coordination and consultation with local sanitary sewer agencies.

Beginning July 1, 2011, the Permittees shall implement pilot studies for the most potentially effective measures(s) based on the evaluation of Provision C.11.d.ii in all drainages for which PCB pilot projects are being conducted.

**iii. Reporting**

- (1) The Permittees shall present a progress report on the results of the evaluation in their 2010 Annual Report and the final evaluation results in their 2011 Annual Report.
- (2) In their March 15, 2014 Integrated Monitoring Report, the Permittees shall report the effectiveness of enhanced practices pilot implementation, report estimates of loads reduced, and present a plan and schedule for possible expanded implementation for subsequent permit terms.

**C.11.e. Conduct Pilot Projects to Evaluate On-Site Stormwater Treatment via Retrofit**

- i. **Task Description** – The Permittees shall evaluate and quantify the removal of mercury by on-site treatment systems via retrofit of such systems into existing storm drain systems. The purpose of this task is to implement on-site treatment projects at the pilot scale in ten locations during this permit term. The Permittees shall document the knowledge and experience gained through pilot implementation, and this documentation will provide a basis for determining the implementation scope of on-site treatment retrofits in subsequent permit terms. The Permittees shall also quantify and report the amount of mercury loads removed or avoided resulting from implementation of these measures.
- ii. **Implementation Level** – The Permittees, working collaboratively, shall identify at least ten locations throughout the Permittees' jurisdictions that present opportunities to install and evaluate<sup>50</sup> on-site treatment systems (e.g., detention basins, bioretention units, sand filters, infiltration basins, treatment wetlands) and shall assess best treatment options for those locations. Every county (San Mateo, Contra Costa, Alameda, Santa Clara, and Solano) should have at least one location. This effort shall identify potential locations draining a variety of land uses; evaluate technical feasibility; and discuss economical feasibility. The pilot locations may be the same as those chosen for Provision C.12.e, but consideration should be given to areas of elevated mercury concentrations.

On the basis of the Provision C.11.e.ii report, the Permittees shall select sites to perform pilot studies and shall conduct pilot studies in ten selected locations. Pilot studies shall span treatment types and drainage characteristics.

**iii. Reporting –**

- (1) In their 2011 Annual Report, the Permittees shall report on candidate locations and types of treatment retrofit for each location. The report shall include assessment of at least ten locations.

<sup>50</sup> Permittees may evaluate a maximum of two pre-existing treatment systems of the ten total required systems to be evaluated provided that these existing treatment systems are applicable to the intent of this provision..

- (2) In their March 15, 2014 Integrated Monitoring Report, the Permittees shall report status, results, mercury removal effectiveness, and lessons learned from the ten pilot studies and their plan for implementing this type of treatment on an expanded basis throughout their jurisdictions during the next permit term.

**C.11.f. Diversion of Dry Weather and First Flush Flows to Publicly Owned Treatment Works (POTWs)**

- i. **Task Description** – The Permittees shall evaluate the reduced loads of mercury from diversion of dry weather and first flush stormwater flows to sanitary sewers. The Permittees shall document the knowledge and experience gained through pilot implementation, and this documentation will provide a basis for determining the implementation scope of urban runoff diversion projects in subsequent permit terms. The Permittees shall also quantify and report the amount of mercury loads removed or avoided resulting from implementation of these measures.
- ii. **Implementation Level** – The Permittees shall implement pilot projects to divert dry weather and first flush flows to POTWs to address these flows as a source of PCBs and mercury to receiving waters. The Permittees are strongly encouraged to make use of stormwater pump stations in this effort because pump station characterization work performed pursuant to Provisions C.2 and C.10, addressing dissolved oxygen depletion and trash impacts, may be efficiently leveraged for the initial phase of these diversion pilot projects. The objectives of this Provision are to: implement five pilot projects for urban runoff diversion from stormwater pump stations to POTWs; evaluate the reduced loads of mercury and PCBs resulting from each diversion; and gather information to guide the selection of additional diversion projects in future permits. Collectively, the Permittees shall select five stormwater pump stations and five alternates by evaluating drainage characteristics and the feasibility of diverting flows to the sanitary sewer.
  - (1) The Permittees should work with local POTWs on a watershed, county, or regional level to evaluate feasibility and to establish cost sharing agreements. The feasibility evaluation shall include, but not be limited to, costs, benefits, and impacts on the stormwater and wastewater agencies and the receiving waters relevant to the diversion and treatment of the dry weather and first flush flows.
  - (2) From this feasibility evaluation, the Permittees shall select five pump stations and five alternates for pilot diversion studies. At least one urban runoff diversion pilot project shall be implemented in each of the five counties (San Mateo, Contra Costa, Alameda, Santa Clara, and Solano). The pilot and alternate locations should be located in industrially-dominated catchments where elevated PCB concentrations are documented.

- (3) The Permittees shall implement flow diversion to the sanitary sewer at five pilot pump stations. As part of the pilot studies, the Permittees shall monitor, measure, and report mercury load reduction.

**iii. Reporting**

- (1) The Permittees shall summarize the results of the feasibility evaluation in their 2010 Annual Report, including:
  - Selection criteria leading to the identification of the five candidate and five alternate pump stations for pilot studies.
  - Time schedules for conducting the pilot studies.
  - A proposed method for distributing mercury load reductions to participating wastewater and stormwater agencies.
- (2) The Permittees shall report annually on the status of the pilot studies in each subsequent Annual Report.
- (3) The Permittees shall include in their March 15, 2014 Integrated Monitoring Report:
  - Evaluation of pilot program effectiveness.
  - Mercury loads reduced.
  - Updated feasibility evaluation procedures to guide future diversion project selection.

**C.11.g. Monitor Stormwater Mercury Pollutant Loads and Loads Reduced**

- i. **Task Description** – The Permittees shall develop and implement a monitoring program to quantify mercury loads and loads reduced through source control, treatment and other management measures as required in Provision C.8.f.
- ii. **Implementation Level** – The Permittees shall demonstrate progress toward (a) the interim loading milestones, or (b) attainment of the program area allocations, by using the following methods:
  - (1) Quantify through estimates the annual average mercury load reduced by implementing pollution prevention, source control and treatment control efforts required by the provisions of this permit or other relevant efforts; or
  - (2) Quantify the mercury load as a rolling five-year annual average using data on flow and water column mercury concentrations; or
  - (3) Quantitatively demonstrate that the mercury concentration of suspended sediment that best represents sediment discharged with urban runoff is below the target of 0.2 mg mercury/kg dry weight.

**iii. Reporting**

- (1) The Permittees shall report in their 2010 Annual Report methods used to assess progress toward meeting WLA goals and a full description of the

measurement and estimation methodology and rationale for the approaches.

- (2) The Permittees shall report in their March 15, 2014 Integrated Monitoring Report results of chosen monitoring/measurement approach concerning loads assessment and estimation of loads reduced.

**C.11.h. Fate and Transport Study of Mercury in Urban Runoff**

- i. **Task Description** – The Permittees shall conduct or cause to be conducted studies aimed at better understanding the fate, transport, and biological uptake of mercury discharged in urban runoff to San Francisco Bay and tidal areas.
- ii. **Implementation Level** – The specific information needs include understanding the in-Bay transport of mercury discharged in urban runoff, the influence of urban runoff on the patterns of food web mercury accumulation, and the identification of drainages where urban runoff mercury is particularly important in food web accumulation.
- iii. **Reporting** – The Permittees shall submit in their 2010 Annual Report a work plan describing the specific manner in which these information needs will be accomplished and describing the studies to be performed with a schedule. The Permittees shall report on status of these studies in their 2010, 2011, and 2012 Annual Reports. In the March 15, 2014 Integrated Monitoring Report, the Permittees shall report the findings and results of the studies completed, planned, or in progress as well as implications of studies on potential control measures to be investigated, piloted or implemented in future permit cycles.

**C.11.i. Development of a Risk Reduction Program Implemented Throughout the Region.**

- i. **Task Description** – The Permittees shall develop and implement or participate in effective programs to reduce mercury-related risks to humans and quantify the resulting risk reductions from these activities.
- ii. **Implementation Level** – The risk reduction activities shall include investigating ways to address public health impacts of mercury in San Francisco Bay/Delta fish, including activities that reduce actual and potential exposure of health impacts to those people and communities most likely to be affected by mercury in San Francisco Bay-caught fish, such as subsistence fishers and their families. Such strategies should include public participation in developing effective programs in order to ensure their effectiveness. The Permittees may include studies needed to establish effective exposure reduction activities and risk communication messages as part of their planning. The risk reduction activities may be performed by a third party if the Permittees wish to provide funding for this purpose. This requirement may be satisfied by a combination of related efforts through the Regional Monitoring Program or other similar collaborative efforts.

- iii. **Reporting** – The Permittees shall submit in their 2010 Annual Report the specific manner in which these risk reduction activities will be accomplished and describe the studies to be performed with a schedule. The Permittees shall report on the status of the risk reduction efforts in their 2011 and 2012 Annual Reports. The Permittees shall report the findings and results of the studies completed, planned, or in progress as well as the status of other risk reduction actions in their March 15, 2014 Integrated Monitoring Report.

**C.11.j. Develop Allocation Sharing Scheme with Caltrans.**

- i. **Task Description** – The wasteload allocations for urban stormwater developed through the San Francisco Bay mercury TMDL implicitly include California Department of Transportation (Caltrans) roadway and non-roadway facilities within the geographic boundaries of urban runoff management agencies. Consistent with the TMDL, the Permittees are required to develop an equitable mercury allocation-sharing scheme in consultation with Caltrans to address the Caltrans facilities in the program area, and report the details to the Water Board. Alternatively, Caltrans may choose to implement mercury load reduction actions on a watershed or regionwide basis in lieu of sharing a portion of an urban runoff management agencies' mercury allocation. In such a case, the Water Board will consider a separate allocation for Caltrans for which it may demonstrate progress toward attaining an allocation or load reduction in the same manner as municipal programs.
- ii. **Reporting** – The Permittees shall report on the status of the efforts to develop this allocation sharing scheme in their 2010, 2011, and 2012 Annual Reports. The Permittees shall submit in their March 15, 2014 Integrated Monitoring Report the manner in which the urban runoff mercury TMDL allocation will be shared between the Permittees and Caltrans.

## C.12. Polychlorinated Biphenyls (PCBs) Controls

The Permittees shall implement the following control programs for PCBs. The Permittees shall perform the control measures and provide reporting on those control measures according to the provisions below. The purpose of these provisions is to implement the urban runoff requirements of the PCBs TMDL and reduce PCBs loads to make substantial progress toward achieving the urban runoff PCBs load allocation. The Permittees may comply with any requirement of this Provision through a collaborative effort.

### C.12.a. Implement Project throughout Region to Incorporate PCBs and PCB-Containing Equipment Identification into Existing Industrial Inspections

- i. **Task Description** – The Permittees shall develop training materials and train municipal industrial building inspectors to identify, in the course of their existing inspections, PCBs or PCB-containing equipment. The Permittees shall incorporate such PCB identification into industrial inspection programs.
- ii. **Implementation Level** – Where inspectors identify during inspections PCBs or PCB-containing equipment, the Permittees shall document incidents in inspection reports and refer to appropriate regulatory agencies (e.g. county health departments, Department of Toxic Substances Control, California Department of Public Health, and the Water Board) as necessary.
- iii. **Reporting** – The Permittees shall report the results of training in their 2010 Annual Report and report on both ongoing training development and inspections for PCB identification in their 2011, and following, Annual Reports.

### C.12.b. Conduct Pilot Projects to Evaluate Managing PCB-Containing Materials and Wastes during Building Demolition and Renovation (e.g., Window Replacement) Activities

- i. **Task Description** – The Permittees shall evaluate potential presence of PCBs at construction sites, current material handling and disposal regulations/programs (e.g., municipal ordinances, RCRA, TSCA) and current level of implementation.
- ii. **Implementation Level** –
  - (1) The Permittees shall develop a sampling and analysis plan to evaluate PCBs at construction sites that involve demolition activities (including research on when, where, and which materials potentially contained PCBs).
  - (2) The Permittees shall implement a sampling and analysis plan at a minimum of 10 sites distributed throughout the combined Permittees' jurisdiction areas.
  - (3) The Permittees shall develop/select BMPs to reduce or prevent discharges of PCBs during demolition/remodeling. The BMPs will focus on methods



to identify, handle, contain, transport and dispose of PCB-containing building materials.

- (4) The Permittees shall develop model ordinances or policies, train and deploy inspectors, and pilot test BMPs at 5 sites.

**iii. Reporting –**

- (1) In their 2010 Annual Report, the Permittees shall submit the sampling and analysis plan (of Provision C.12.b.ii.).
- (2) In their 2010 Annual Report, the Permittees shall submit a status report on sampling and analysis along with whatever sampling results are available.
- (3) In their 2011 Annual Report, the Permittees shall submit the results of the evaluation (Provision C.12.b.i.) of current regulations, level of implementation, and regulatory gaps as well as the final sampling and analysis report, a list of appropriate BMPs, BMP training program, and model ordinances and policies to prevent PCB discharges from building demolition and improvement activities.
- (4) In the March 15, 2014 Integrated Monitoring Report, the Permittees shall submit the results of pilot program effectiveness evaluation.

**C.12.c. Pilot Projects to Investigate and Abate On-land Locations with Elevated PCB Concentrations, Including Public Rights-of-way, and Stormwater Conveyances with Accumulated Sediments with Elevated PCBs Concentrations.**

**i. Task Description –** The Permittees shall investigate and abate PCBs sources in or to their storm drain systems in conjunction with the Water Board and other appropriate regulatory agencies with investigation and cleanup authorities. The purpose of this task is to implement and evaluate the benefit of a suite of abatement measures at five pilot project locations. The Permittees shall document the knowledge and experience gained through pilot implementation, and this documentation will provide a basis for determining the implementation scope of abatement projects in subsequent permit terms. The Permittees shall also quantify and report the amount of PCBs loads abated resulting from implementation of these measures.

**ii. Implementation Level –**

- (1) The Permittees, working collaboratively, shall identify 5 drainage areas that contain high levels of PCBs and conduct pilot projects to investigate and abate these high PCB concentrations. To accomplish this, the Permittees shall interview municipal staff and review municipal databases, data collected or compiled through grant-funded efforts, other agency files, and other available information to identify potential PCB source areas and areas where PCB-contaminated sediment accumulates, including within stormwater conveyances. The Permittees shall qualitatively rank and map potential PCB source areas within each drainage. Investigation of mercury (Provision C.11.c.) shall be included in these efforts unless not

appropriate. When contamination is located on private property, the Permittees must either exercise direct authority to require cleanup or notify and request other appropriate authorities to exercise their cleanup authority.

- (2) The Permittees shall conduct reconnaissance surveys of the identified drainages and gather information concerning past or current use of PCBs to further identify potential source areas and determine whether runoff from such locations is likely to convey soils/sediments with PCBs to municipal stormwater conveyances.
- (3) The Permittees shall validate existence of elevated PCB concentrations through surface soil/sediment sampling and analysis where visual inspections and/or other information suggest potential source areas within each drainage.

Where data confirm significantly elevated PCB concentrations in surface soils/sediments within the subject pilot drainage, the Permittees shall provide available information on current site conditions and owner/operators and other potentially responsible parties to Water Board and other appropriate regulatory agencies to facilitate their issuance of orders for further investigation and remediation of subject sites. The Permittees shall assist the Water Board and other appropriate agencies to identify/evaluate funding to perform abatement and/or responsible parties and abatement options.

- (4) The Permittees shall identify areas for expedited abatement on the basis of loading potential including factors such as PCB concentration, mass of sediment, and mobilization potential and/or human health protection thresholds, such as California Human Health Screening Levels.
- (5) The Permittees shall conduct an abatement program in portions of drainages under their jurisdiction in conjunction with the Water Board and other appropriate agencies.

### **iii. Reporting**

- (1) The Permittees shall report on the identified suspect drainage areas [Provision C.12.c.ii (1)] in their 2010 Annual Report and results of the surveys [Provision C.12.c.ii.(2)] in their 2011 Annual Report.
- (2) The Permittees shall report sampling and chemical analysis results at pilot locations [Provision C.12.c.ii.(3)] in their 2011 Annual Reports.
- (3) The Permittees shall report on proposed abatement opportunities and activities [Provision C.12.c.ii.(4) and (5)], responsible parties, funding, agency oversight, and schedules in their 2012 Annual Report.
- (4) The Permittees shall report results of abatement program effectiveness and estimates of loads reduced (see C.11.g) in the March 15, 2014 Integrated Monitoring Report.

**C.12.d. Conduct Pilot Projects to Evaluate and Enhance Municipal Sediment Removal and Management Practices**

- i. **Task Description** – The Permittees shall jointly evaluate ways to enhance PCBs load reduction benefits of operation and maintenance activities that remove or manage sediment. The purpose of this task is to implement these management practices at the pilot scale in five drainages during this permit term. The Permittees shall document the knowledge and experience gained through pilot implementation, and this documentation will provide a basis for determining the implementation scope of enhanced sediment removal and management practices in subsequent permit terms. The Permittees shall also quantify and report the amount of PCBs loads removed or avoided resulting from implementation of these measures.
- ii. **Implementation Level** – In all pilot program drainages selected as part of Provision C.12.c, the Permittees shall jointly evaluate ways to enhance existing sediment removal and management practices such as municipal street sweeping, curb clearing parking restrictions, inlet cleaning, catch basin cleaning, stream and stormwater conveyance system maintenance, and pump station cleaning via increased effort and/or retrofits. This evaluation shall also include consideration of street flushing and capture, collection, or routing to the sanitary sewer (in coordination and consultation with local sanitary sewer agency) as a potential enhanced management practice. The Permittees shall also jointly evaluate existing information on high-efficiency street sweepers. The goal is to evaluate the cost-effectiveness of high-efficiency street sweeping relative to reducing pollutant loads. The Permittees shall develop recommendations for follow-up studies to be conducted.
- iii. **Reporting** – The Permittees shall submit a progress report on the results of these two evaluations in their 2010 Annual Report and the final evaluation results in their 2011 Annual Report.
- iv. Beginning July 1, 2011, the Permittees shall implement pilot studies for the most potentially effective measure(s) based on the evaluation of Provision C.12.d. ii. throughout the region.
- v. **Reporting** – The Permittees shall report effectiveness of enhanced practices pilot implementation in the March 15, 2014 Integrated Monitoring Report, and their plan for implementing enhanced practices in the next permit term.

**C.12.e. Conduct Pilot Projects to Evaluate On-Site Stormwater Treatment via Retrofit**

- i. **Task Description** – The Permittees shall evaluate and quantify the removal of PCBs by on-site treatment systems via retrofit of such systems into existing storm drain systems. The purpose of this task is to implement on-site treatment projects at the pilot scale in ten locations during this permit term. The Permittees shall document the knowledge and experience gained through pilot implementation, and this documentation will provide a basis for determining the implementation scope of on-site treatment retrofits in subsequent permit terms.

- ii. **Implementation Level** – The Permittees, working collaboratively, shall identify at least 10 locations throughout the Permittees’ jurisdictions that present opportunities to install and evaluate<sup>51</sup> on-site treatment systems (e.g., detention basins, bioretention units, sand filters, infiltration basins, treatment wetlands) and shall assess the best treatment options for those locations. Every county (San Mateo, Contra Costa, Alameda, Santa Clara, and Solano) should have at least one location. This assessment shall identify potential locations draining a variety of land uses, discuss technical feasibility, and discuss economical feasibility. The Permittees shall choose pilot study locations primarily on the basis of elevated PCBs concentrations with additional consideration to mercury concentrations.
- iii. On the basis of the Provision C.12.e.ii. report, the Permittees shall select sites to perform pilot studies and shall conduct pilot studies in selected locations. Taken as a group, these 10 pilot study locations should span treatment types and drainage characteristics.
- iv. **Reporting** –
  - (1) In their 2011 Annual Report, the Permittees shall report on candidate locations with types of treatment retrofit for each location. The report shall include assessment of at least 10 locations.
  - (2) In the March 15, 2014 Integrated Monitoring Report, the Permittees shall report status, results, PCBs-removal effectiveness, and lessons learned from the pilot studies and their plan for implementing this type of treatment on an expanded basis throughout the region during the next permit term.

**C.12.f. Diversion of Dry Weather and First Flush Flows to POTWs**

- i. **Task Description** – The Permittees shall evaluate the reduced loads of PCBs from diversion of dry weather and first flush stormwater flows to sanitary sewers. The knowledge and experience gained through pilot implementation will be used to determine the implementation scope of urban runoff diversion in subsequent permit terms. The Permittees shall document the knowledge and experience gained through pilot implementation, and this documentation will provide a basis for determining the implementation scope of urban runoff diversion projects in subsequent permit terms.
- ii. **Implementation Level** – The Permittees shall implement pilot projects to address the role of pump stations as a source of pollutants of concern (primarily PCBs and secondarily mercury). This work is in addition to Provisions C.2 and C.10 that address dissolved oxygen depletion and trash impacts in receiving waters. The objectives of this provision are: to implement five pilot projects for urban runoff diversion from stormwater pump stations to POTWs; evaluate the reduced loads of mercury and PCBs resulting from the diversion; and gather

<sup>51</sup> The Permittees may evaluate a maximum of two pre-existing treatment systems of the ten total required systems to be evaluated provided that these existing treatment systems are applicable to the intent of this provision.

information to guide the selection of additional diversion projects required in future permits. Collectively, the Permittees shall select 5 stormwater pump stations and 5 alternates by evaluating drainage characteristics and the feasibility of diverting flows to the sanitary sewer.

- (1) The Permittees should work with the local POTW on a watershed, program, or regional level to evaluate feasibility and to establish cost sharing agreements. The feasibility evaluation shall include, but not be limited to, costs, benefits, and impacts on the stormwater and wastewater agencies and the receiving waters relevant to the diversion and treatment of the dry weather and first flush flows.
- (2) From this feasibility evaluation, the Permittees shall select 5 pump stations and 5 alternates for pilot diversion studies. At least one urban runoff diversion pilot project shall be implemented in each of the five counties (San Mateo, Contra Costa, Alameda, Santa Clara, and Solano). The pilot and alternate locations should be located in industrially dominated catchments where elevated PCB concentrations are documented.
- (3) The Permittees shall implement flow diversion to the sanitary sewer at the 5 pilot pump stations. As part of the pilot studies, they shall monitor and measure PCBs load reduction.

**iii. Reporting –**

- (1) The Permittees shall summarize the results of the feasibility evaluation in their 2010 Annual Report, including:
  - Selection criteria leading to the identification of the 5 candidate and 5 alternate pump station for pilot studies.
  - Time schedules for conducting the pilot studies.
  - A proposed method for distributing PCBs load reductions to participating wastewater and stormwater agencies.
- (2) The Permittees shall report annually on the status of the pilot studies in each subsequent annual report.
- (3) The March 15, 2014 Integrated Monitoring Report shall include:
  - Evaluation of pilot program effectiveness.
  - PCBs loads reduced.
  - Updated feasibility evaluation procedures to guide future diversion project selection.

**C.12.g. Monitor Stormwater PCB Pollutant Loads and Loads Reduced**

The Permittees shall develop and implement a monitoring program as required in Provision C.8.f to quantify PCBs loads and loads reduced (see C.11.g for details) through the source control, treatment and other management measures implemented as part of the pilot studies of C.12.a through C.12.f.

**C.12.h. Fate and Transport Study of PCBs in Urban Runoff**

- i. **Task Description** – The Permittees shall conduct or cause to be conducted studies aimed at better understanding the fate, transport, and biological uptake of PCBs discharged in urban runoff.
- ii. **Implementation Level** – The specific information needs include understanding the in-Bay transport of PCBs discharged in urban runoff, the influence of urban runoff on the patterns of food web PCBs accumulation, and the identification of drainages where urban runoff PCBs are particularly important in food web accumulation.
- iii. **Reporting** – The Permittees shall submit in their 2010 Annual Report a workplan describing the specific manner in which these information needs will be accomplished and describing the studies to be performed with a schedule. The Permittees shall report on status of the studies in their 2011 and 2012 Annual Reports. The Permittees shall report in the March 15, 2014 Integrated Monitoring Report the findings and results of the studies completed, planned, or in progress as well as implications of studies on potential control measures to be investigated, piloted or implemented in future permit cycles.

**C.12.i. Development of a Risk Reduction Program Implemented throughout the Region**

- i. **Task Description** – The Permittees shall develop and implement or participate in effective programs to reduce PCBs-related risks to humans and quantify the resulting risk reductions from these activities.
- ii. **Implementation Level** – The risk reduction activities shall include investigating ways to address public health impacts of PCBs in San Francisco Bay/Delta fish, including activities that reduce actual and potential exposure of health impacts to those people and communities most likely to be affected by PCBs in San Francisco Bay-caught fish, such as subsistence fishers and their families. Such strategies should include public participation in developing effective programs in order to ensure their effectiveness. The Permittees may include studies needed to establish effective exposure reduction activities and risk communication messages as part of their planning. The risk reduction activities may be performed by a third party if the Permittees wish to provide funding for this purpose. This requirement may be satisfied by a combination of related efforts through the Regional Monitoring Program or other similar collaborative efforts.
- iii. **Reporting** – The Permittees shall submit in their 2010 Annual Report the specific manner in which these risk reduction activities will be accomplished and describe the studies to be performed with a schedule. The Permittees shall report on status of the studies in their 2011 and 2012 Annual Reports. The Permittees shall report the findings and results of the studies completed, planned, or in progress as well as the status of other risk reduction actions in the March 15, 2014 Integrated Monitoring Report.

### C.13. Copper Controls

The control program for copper is detailed below. The Permittees shall implement the control measures and accomplish the reporting on those control measures according to the provisions below. The purpose of these provisions is to implement the control measures identified in the Basin Plan amendment necessary to support the copper site-specific objectives in San Francisco Bay. The Permittees may comply with any requirement of C.13 Provisions through a collaborative effort.

#### C.13.a. Manage Waste Generated from Cleaning and Treating of Copper Architectural Features, Including Copper Roofs, during Construction and Post-Construction.

- i. **Task Description** – The Permittees shall ensure that local ordinance authority is established to prohibit the discharge of wastewater to storm drains generated from the installation, cleaning, treating, and washing of the surface of copper architectural features, including copper roofs to storm drains.
- ii. **Implementation Level**
  - (1) The Permittees shall develop BMPs on how to manage the waste during and post-construction.
  - (2) The Permittees shall require use of appropriate BMPs when issuing building permits.
  - (3) The Permittees shall educate installers and operators on appropriate BMPs.
  - (4) The Permittees shall enforce against noncompliance.
- iii. **Reporting**
  - (1) The Permittees shall certify adequate legal authority in their 2011 Annual Report or otherwise provide justification for schedule not to exceed one year to comply.
  - (2) The Permittees shall report annually, starting with their 2012 Annual Report, on training, permitting and enforcement activities.
  - (3) In their 2013 Annual Report, the Permittees shall evaluate the effectiveness of these measures, including BMP implementation and propose any additional measures to address this source.

#### C.13.b. Manage Discharges from Pools, Spas, and Fountains that Contain Copper-Based Chemicals

- i. **Task Description** – By adopting local ordinances, the Permittees shall prohibit discharges to storm drains from pools, spas, and fountains that contain copper-based chemicals.
- ii. **Implementation Level** – The Permittees shall either: 1) require installation of a sanitary sewer discharge connection for pools, spas, and fountains, including

connection for filter backwash, with a proper permit from the POTWs; or 2) require diversion of discharge for use in landscaping or irrigation.

- iii. **Reporting** – The Permittees shall certify adequate legal authority in their 2011 Annual Report or otherwise provide justification for schedule not to exceed one year to comply.

#### C.13.c. Vehicle Brake Pads

- i. **Task Description** – The Permittees shall engage in efforts to reduce the copper discharged from automobile brake pads to surface waters via urban runoff.
- ii. **Implementation Level** – The Permittees shall participate in the Brake Pad Partnership (BPP) process to develop California legislation phasing out copper from certain automobile brake pads sold in California.
- iii. **Reporting** – The Permittees shall report on legislation development and implementation status in Annual Reports during the permit term. In their 2013 Annual Report, the Permittees shall assess status of copper water quality issues associated with automobile brake pads and recommend brake pad-related actions for inclusion in subsequent permits if needed.

#### C.13.d. Industrial Sources

- i. **Task Description** – The Permittees shall ensure industrial facilities do not discharge elevated levels of copper to storm drains by ensuring, through industrial facility inspections, that proper BMPs are in place.
- ii. **Implementation Level** –
  - (1) As part of industrial site controls required by Provision C.4, the Permittees shall identify facilities likely to use copper or have sources of copper (e.g., plating facilities, metal finishers, auto dismantlers) and include them in their inspection program plans.
  - (2) The Permittees shall educate industrial inspectors on industrial facilities likely to use copper or have sources of copper and proper BMPs for them.
  - (3) As part of the industrial inspection, inspectors shall ensure that proper BMPs are in place at such facilities to minimize discharge of copper to storm drains, including consideration of roof runoff that might accumulate copper deposits from ventilation systems on-site.
- iii. **Reporting**

The Permittees shall highlight copper reduction results in the industrial inspection component in the C.13 portion of each Annual Report beginning September 2010.



**C.13.e. Studies to Reduce Copper Pollutant Impact Uncertainties**

- i. Task Description** – The Permittees shall conduct or cause to be conducted technical studies to investigate possible copper sediment toxicity and technical studies to investigate sub-lethal effects on salmonids.
- ii. Implementation Level** – Technical uncertainties regarding copper effects in the Bay are described in the Basin Plan’s implementation program for copper site-specific objectives. These uncertainties include toxicity to Bay benthic organisms possibly caused by high copper concentrations as well as possible impacts to the olfactory system of salmonids. The Permittees shall ensure that these studies are supported and conducted. Similar requirements are included in NPDES permits for wastewater discharges. The Permittees shall submit in their 2010 Annual Report the specific manner in which these information needs will be accomplished and describe the studies to be performed with a schedule. The Permittees shall report the findings and results of the studies completed, planned, or in progress in their 2012 Annual Report.

## C.14. Polybrominated Diphenyl Ethers (PBDE), Legacy Pesticides and Selenium

The control program for PBDEs, legacy pesticides, and selenium is detailed below. The Permittees shall perform the control measures and accomplish the reporting on those control measures according to the provisions below. The purpose of these provisions is to gather concentration and loading information on a number of pollutants of concern (e.g., PBDEs, DDT, dieldrin, chlordane, selenium) for which TMDLs are planned or are in the early stages of development. The Permittees may comply with any requirement of C.14 Provisions through a collaborative effort.

### C.14.a. Control Program for PBDEs, Legacy Pesticides, and Selenium.

- i. **Task Description** – To determine if urban runoff is a conveyance mechanism associated with the possible impairment of San Francisco Bay for PBDEs, legacy pesticides (such as DDT, dieldrin, and chlordane), and selenium, the Permittees shall work with the other municipal stormwater management agencies in the Bay Region to implement a plan (PBDEs/Legacy Pesticides/Selenium Plans) to identify, assess, and manage controllable sources of PBDEs, legacy pesticides, and selenium found in urban runoff, if any. The Water Board recognizes that these three pollutants are distinct in terms of origin and transport, but they have been grouped into a single permit provision because the requirements are identical. The Water Board anticipates that some of the control measures that are developed for PCBs consistent with aforementioned efforts warrant consideration for the control of PBDEs and possibly legacy pesticides.
- ii. **Implementation Level** – The PBDEs/Legacy Pesticides/Selenium Plan shall include actions to do the following:  

Characterize the representative distribution of PBDEs, legacy pesticides, and selenium in the urban areas of the Bay Region covered by this permit to determine:

  - (1) If PBDEs, legacy pesticides, and selenium are present in urban runoff;
  - (2) If PBDEs, legacy pesticides, or selenium are distributed relatively uniformly in urban areas; and
  - (3) Whether storm drains or other surface drainage pathways are sources of PBDEs, legacy pesticides, or selenium in themselves, or whether there are specific locations within urban watersheds where prior or current uses result in land sources contributing to discharges of PBDEs, legacy pesticides, or selenium to San Francisco Bay via urban runoff conveyance systems.
- iii. Report on progress in 2010 and 2011 Annual Reports. Submit in the 2012 Annual Report a report with the results of the characterization of PBDEs, legacy pesticides, and selenium in urban areas throughout the Bay Region.
- iv. Provide information to allow calculation of PBDEs, legacy pesticides, and selenium loads to San Francisco Bay from urban runoff conveyance systems.

- v. Submit in the 2013 Annual Report a report with the information required to compute such loads to San Francisco Bay of PBDEs, legacy pesticides, and selenium from urban runoff conveyance systems throughout the Bay.
- vi. Identify control measures and/or management practices to eliminate or reduce discharges of PBDEs, legacy pesticides, or selenium conveyed by urban runoff conveyance systems.
- vii. Submit in the 2013 Annual Report a report identifying such control measures/management practices.

## **C.15. Exempted and Conditionally Exempted Discharges**

The objective of this provision is to exempt unpolluted non-stormwater discharges from Discharge Prohibition A.1 and to conditionally exempt non-stormwater discharges that are potential sources of pollutants. In order for non-stormwater discharges to be conditionally exempted from Discharge Prohibition A.1, the Permittees must identify appropriate BMPs, monitor the non-stormwater discharges where necessary, and ensure implementation of effective control measures – as listed below – to eliminate adverse impacts to waters of the State consistent with the discharge prohibitions of the Order.

### **C.15.a. Exempted Non-Stormwater Discharges (Exempted Discharges):**

- i. **Discharge Type** – In carrying out Discharge Prohibition A.1, the following unpolluted discharges are exempted from prohibition of non-stormwater discharges:
  - (1) Flows from riparian habitats or wetlands;
  - (2) Diverted stream flows;
  - (3) Flows from natural springs;
  - (4) Rising ground waters;
  - (5) Uncontaminated and unpolluted groundwater infiltration;
  - (6) Single family homes' pumped groundwater, foundation drains, and water from crawl space pumps and footing drains;
  - (7) Pumped groundwater from drinking water aquifers; and
  - (8) NPDES permitted discharges (individual or general permits).
- ii. **Implementation Level** – The non-stormwater discharges listed in Provision C.15.a.i above are exempted unless they are identified by the Permittees or the Executive Officer as sources of pollutants to receiving waters. If any of the above categories of discharges, or sources of such discharges, are identified as sources of pollutants to receiving waters, such categories or sources shall be addressed as conditionally exempted discharges in accordance with Provision C.15.b below.

### **C.15.b. Conditionally Exempted Non-Stormwater Discharges:**

The following non-stormwater discharges are also exempt from Discharge Prohibition A.1 if they are either identified by the Permittees or the Executive Officer as not being sources of pollutants to receiving waters, or if appropriate control measures to eliminate adverse impacts of such sources are developed and implemented in accordance with the tasks and implementation levels of each category of Provision C.15.b.i-viii below.

- i. **Discharge Type** – Pumped Groundwater, Foundation Drains, and Water from Crawl Space Pumps and Footing Drains

- (1) **Pumped Groundwater from Non Drinking Water Aquifers –**  
Groundwater pumped from monitoring wells, used for groundwater basin management, which are owned and/or operated by the Permittees who pump groundwater as drinking water. These aquifers tend to be shallower, when compared to drinking water aquifers.
- (a) **Implementation Level –** Twice a year (once during the wet season and once during the dry season), representative samples shall be taken from each aquifer that potentially will discharge or has discharged into a storm drain. Samples collected and analyzed for compliance in accordance with self-monitoring requirements of other NPDES permits or sample data collected for drinking water regulatory compliance may be submitted to comply with this requirement as long as they meet the following criteria:
- (i) The water samples shall meet water quality standards consistent with the existing effluent limitations in the Water Board's NPDES General Permits, such as NPDES Nos. CAG912002 and CAG912003 for Discharge or Reuse of Extracted and Treated Groundwater Resulting from the Cleanup of Groundwater Polluted by fuel and VOCs, respectively, and NPDES No. CAG912004 for discharges of low-level, incidental, and potentially contaminated groundwater.
  - (ii) The water samples shall be analyzed using approved USEPA Methods (e.g., (a) USEPA Method 160.2 for total suspended solids; (b) USEPA Method 8015 Modified for total petroleum hydrocarbons; (c) USEPA Method 8260B and 8270C or equivalent for volatile and semi-volatile organic compounds; and (d) USEPA Method 3005 for metals.
  - (iii) The water samples shall be analyzed for pH and turbidity.
  - (iv) If a Permittee is unable to comply with the above criteria, the Permittee shall notify the Water Board upon becoming aware of the compliance issue.
- (b) **Required BMPs –** When uncontaminated (meeting the criteria in C.15.b.i.(1)(a)(i)) groundwater is discharged from these monitoring wells, the following shall be implemented:
- (i) Discharges shall be properly controlled and maintained to prevent erosion at the discharge point and at a rate that avoids scouring of banks and excess sedimentation in the receiving waterbody.
  - (ii) Appropriate BMPs shall be implemented to remove total suspended solids and silt to allowable discharge levels. Appropriate BMPs may include filtration, settling, coagulant application with no residual coagulant discharge, minor odor or color removal with activated carbon, small scale peroxide addition, or other minor treatment.
  - (iii) Turbidity of the discharged groundwater shall be maintained below 50 NTUs for discharges to dry creeks, 110 percent of the

- ambient stream turbidity for a flowing stream with turbidities greater than 50 NTU, or 5 NTU above ambient turbidity for flowing streams with turbidities less than or equal to 50 NTU.
- (iv) pH of the discharged groundwater shall be maintained within the range of 6.5 to 8.5.
- (c) **Reporting** – The Permittees shall maintain records of these discharges, BMPs implemented, and any monitoring data collected.
- (2) **Pumped<sup>52</sup> Groundwater, Foundation Drains, and Water from Crawl Space Pumps and Footing Drains**
- (a) Proposed new discharges of uncontaminated groundwater at flows of 10,000 gallons/day or more and all new discharges of potentially contaminated groundwater shall be reported to the Water Board so that they can be subject to NPDES permitting requirements.
- (b) Proposed new discharges of uncontaminated groundwater at flows of less than 10,000 gallons/day shall be encouraged to discharge to a landscaped area or bioretention unit that is large enough to accommodate the volume.
- (c) If the discharge options in C.15.b.i.(2)(b) above are not feasible and these discharges must enter a storm drain, sampling shall be done to verify that the discharge is uncontaminated.
- (i) The discharge shall meet water quality standards consistent with the existing effluent limitations in the Water Board's NPDES General Permits, such as NPDES Nos. CAG912002 and CAG912003 for Discharge or Reuse of Extracted and Treated Groundwater Resulting from the Cleanup of Groundwater Polluted by fuel and VOCs, respectively, and NPDES No. CAG912004 for discharges of low-level, incidental, and potentially contaminated groundwater.
- (ii) The Permittees shall require that water samples from these discharge types be analyzed using approved USEPA Methods (e.g., (a) USEPA Method 160.2 for total suspended solids; (b) USEPA Method 8015 Modified for total petroleum hydrocarbons; (c) USEPA Method 8260B and 8270C or equivalent for volatile and semi-volatile organic compounds; and (d) USEPA Method 3005 for metals.
- (d) **Required BMPs** – When the discharge has been verified as uncontaminated per sampling completed in C.15.b.i.(2)(c) above, the Permittees shall require the following during discharge:
- (i) Proper control and maintain to prevent erosion at the discharge point and at a rate that avoids scouring of banks and excess sedimentation in the receiving waterbody.
- (ii) Appropriate BMPs to render pumped groundwater free of pollutants and therefore exempted from prohibition may include

<sup>52</sup> Pumped groundwater not exempted in C.15.a or conditionally exempted in C.15.b.i.(1).

the following: filtration, settling, coagulant application with no residual coagulant discharge, minor odor or color removal with activated carbon, small scale peroxide addition, or other minor treatment.

- (iii) Testing of water samples for turbidity and pH on the first two consecutive days of dewatering.
- (iv) Turbidity of discharged groundwater shall be maintained below 50 NTU for discharges to dry creeks, 110 percent of the ambient stream turbidity for a flowing stream with turbidities greater than 50 NTU, or 5 NTU above ambient turbidity for a flowing stream with turbidities less than or equal to 50 NTU.
- (v) pH of discharged water shall be maintained within the range of 6.5 to 8.5.
- (e) If a Permittee determines that a discharger or a project proponent is unable to comply with the above criteria, the discharger shall be directed to obtain approval or permits directly from the Water Board.
- (f) **Reporting** – The Permittees shall maintain records of these discharges, BMPs implemented, and any monitoring data collected.

**ii. Discharge Type – Air Conditioning Condensate**

**Required BMPs** – Condensate from air conditioning units shall be directed to landscaped areas or the ground. Discharge to a storm drain system may be allowed if discharge to landscaped areas or the ground is not feasible.

**iii. Discharge Types – Planned,<sup>53</sup> Unplanned,<sup>54</sup> and Emergency Discharges of the Potable Water System**

(1) **Planned Discharges** – Planned discharges are routine operation and maintenance activities in the potable water distribution system that can be scheduled in advance, such as disinfecting water mains, testing fire hydrants, storage tank maintenance, cleaning and lining pipe sections, routine distribution system flushing, reservoir dewatering, and water main dewatering activities. The following requirements only apply to those Permittees that are water purveyors and pertain to their planned discharges of potable water to their storm drain systems.

- (a) **Required BMPs<sup>55</sup>** – The Permittees shall implement appropriate BMPs for dechlorination, and erosion and sediment controls for all planned potable water discharges.

<sup>53</sup> Planned discharges typically result from required routine operation and maintenance activities that can be scheduled in advance. Planned discharges are easier to control than unplanned discharges, and the BMPs are significantly easier to plan and implement.

<sup>54</sup> Unplanned discharges are non-routine, the result of accidents or incidents that cannot be scheduled or planned for in advance.

<sup>55</sup> Reference for BMPs, monitoring methods: *Guidelines for the Development of Your BMP Manual for Drinking Water System Releases*. Developed by the California-Nevada Sections of the American Water Works Association (CA-NV AWWA), Environmental Compliance Committee (ECC) 2005.

(b) **Notification Requirements**

- (i) The Permittees shall notify the Water Board staff at least one week in advance for planned discharges with a flow rate of 250,000 gallons per day or more, or a total volume of 500,000 gallons or more. The Permittees shall also notify other interested parties who may be impacted by planned discharges, such as flood control agencies, downstream jurisdictions, and non-governmental organizations such as creek groups, before discharge. The notification shall include the following information, but is not limited to: (1) project name; (2) type of discharges; (3) receiving waterbody(ies); (4) date of discharge; (5) time of discharge (in military time); (6) estimated volume (gallons); and (7) estimated flow rate (gallons per day); and (8) monitoring plan of the discharges and receiving water. If receiving water monitoring is infeasible or is not practicable, justification shall be provided.

(c) **Monitoring and Reporting Requirements**

- (i) The Permittees shall monitor planned discharges for pH, chlorine residual, and turbidity.
- (ii) The following discharge benchmarks shall be used to evaluate the effectiveness of BMPs for all planned discharges:
- Chlorine residual 0.05 mg/L using the field test (Standard Methods 4500-Cl F and F) or equivalent
  - pH ranges between 6.5 and 8.5
  - Turbidity of 50 NTU post-BMPs or limit increase in turbidity above background level as follows:

<u>Receiving Water Background</u>	<u>Incremental Increase</u>
Dry Creek	50 NTU
< 50 NTU	5 NTU
50–100 NTU	10 NTU
> 100 NTU	10% of background

- (iii) The Permittees shall submit the following information with the Annual Report in tabular form for all planned discharges. Reporting content shall include, but is not limited to the following parameters: (1) project name; (2) type of discharge; (3) receiving waterbody(ies); (4) date of discharge; (5) duration of discharge (in military time); (6) estimated volume (gallons); (7) estimated flow rate (gallons per day); (8) chlorine residual (mg/L); (9) pH; (10) turbidity (NTU) for receiving water where feasible and point of discharge, and (11) description of implemented BMPs or corrective actions.

- (2) **Unplanned Discharges** – Unplanned discharges are non-routine activities such as water line breaks, leaks, overflows, fire hydrant shearing, and emergency flushing. The following requirements only apply to those Permittees that are water purveyors and pertain to their unplanned discharges of potable water to their storm drain systems.



- (a) **Required BMPs** – The Permittees shall implement appropriate BMPs for dechlorination and erosion and sediment control for all unplanned discharges upon containing the discharge and attaining safety of the discharge site.
- (b) **Administrative BMPs** – In some instances, the Permittees shall implement Administrative BMPs, such as source control measures, managerial practices, operations and maintenance procedures, or other measures to reduce or prevent potential pollutants from being discharged during unplanned discharges upon containing the discharge and attaining safety of the discharge site.
- (c) **Notification Requirements**
- (i) The Permittees shall report to the State Office of Emergency Services as soon as possible, but no later than two hours after becoming aware of (1) any aquatic impacts (e.g., fish kill) as a result of the unplanned discharges, or (2) when the discharge might endanger or compromise public health and safety.
- (ii) The Permittees shall report to Water Board staff, by telephone or email as soon as possible, but no later than 24 hours after becoming aware of any unplanned discharges, where the total chlorine residual is greater than 0.05 mg/L and the total volume is approximately 50,000 gallons or more.
- Within five working days after the 24-hour telephone or email report, the Permittees shall submit a report documenting the discharge and corrective actions taken to Water Board staff and other interested parties.
- (d) **Monitoring and Reporting Requirements**
- (i) The Permittees shall monitor at least 10% of their unplanned discharges for pH and chlorine residual, and visually assess each discharge for turbidity immediately downstream of implemented BMPs to demonstrate their effectiveness. After the implementation of appropriate BMPs, the discharge pH levels outside the discharge ranges (below 6.5 and above 8.5), chlorine residual above 0.05 mg/l, or moderate and high turbidity shall trigger BMP improvement. If the Permittees monitor more than 10% of the unplanned discharges, all monitoring results shall be included in the Annual Report.
- (ii) The Permittees shall submit the following information with the Annual Report in tabular form for all unplanned discharges. The reporting format and content shall be as described in Provision C.15.b.ii.(1)(c)(iii) of the Planned Discharges above. In addition, these reports shall also state the time of discharge discovery, notification time, inspector arrival time, and responding crew arrival time.
- (iii) After 18 months of consecutive data gathering, a Permittee may propose, to the Executive Officer, a reduced monitoring plan targeting specific “high-risk” or “environmentally sensitive”

areas (i.e., areas that are prone to erosion and excess sedimentation at high flows, support rare or endangered species, or provide aquatic habitat with proven effective BMPs). Until the Executive Officer approves the reduced monitoring plan, the Permittee shall continue the monitoring plan prescribed in C.15.b.iii.(2)(d)(i).

- (3) **Emergency Discharges** – Emergency discharges are the result of firefighting, unauthorized hydrant openings, natural or man-made disasters (e.g., earthquakes, floods, wildfires, accidents, terrorist actions).

**Required BMPs**

- (a) The Permittees shall implement or require fire fighting personnel to implement BMPs for emergency discharges. However, the BMPs should not interfere with immediate emergency response operations or impact public health and safety. BMPs may include, but are not limited to, the plugging of the storm drain collection system for temporary storage, the proper disposal of water according to jurisdictional requirements, and the use of foam where there may be toxic substances on the property the fire is located.
- (b) During emergency situations, priority of efforts shall be directed toward life, property, and the environment (in descending order). The Permittees or fire fighting personnel shall control the pollution threat from their activities to the extent that time and resources allow.
- (c) **Reporting Requirements** – Reporting requirements will be determined by Water Board staff on a case-by-case basis, such as for fire incidents at chemical plants.

**iv. Discharge Type – Individual Residential Car Washing**

**Required BMPs**

- (1) The Permittees shall discourage through outreach efforts individual residential car washing within their jurisdictional areas that discharge directly into their MS4s.
- (2) The Permittees shall encourage individuals to direct car wash waters to landscaped areas, use as little detergent as necessary, wash cars at commercial car wash facilities, etc.

**v. Discharge Type – Swimming Pool, Hot Tub, Spa, and Fountain Water Discharges**

**(1) Required BMPs**

- (a) The Permittees shall prohibit discharge of water that contains chlorine residual, copper algacide, filter backwash or other pollutants to storm drains or to waterbodies. Such polluted discharges from pools, hot tubs, spas, and fountains shall be directed to the sanitary sewer (with the local sanitary sewer agency's approval) or to landscaped areas that can accommodate the volume.
- (b) Discharges from swimming pools, hot tubs, spas and fountains shall be allowed into storm drain collection systems only if there are no

other feasible disposal alternatives (e.g., disposal to sanitary sewer or landscaped areas) and if the discharge is properly dechlorinated to non-detectable levels of chlorine consistent with water quality standards.

- (c) The Permittees shall require that new or rebuilt swimming pools, hot tubs, spas and fountains within their jurisdictions have a connection<sup>56</sup> to the sanitary sewer to facilitate draining events. The Permittees shall coordinate with local sanitary sewer agencies to determine the standards and requirements necessary for the installation of a sanitary sewer discharge location to allow draining events for pools, hot tubs, spas, and fountains to occur with the proper permits from the local sanitary sewer agency.
  - (d) The Permittees shall improve their public outreach and educational efforts and ensure implementation of the required BMPs and compliance in commercial, municipal, and residential facilities.
  - (e) The Permittees shall implement the Illicit Discharge Enforcement Response Plan from C.5.b for polluted (contains chlorine, copper algaecide, filter backwash, or other pollutants) swimming pool, hot tub; spa, or fountain waters that get discharged into the storm drain.
- (2) **Reporting** – The Permittees shall keep records of the authorized major discharges of dechlorinated pool, hot tubs, spa and fountain water to the storm drain, including BMPs employed; such records shall be available for inspection by the Water Board.

**vi. Discharge Type – Irrigation Water, Landscape Irrigation, and Lawn or Garden Watering**

- (1) **Required BMPs** – The Permittees shall promote measures that minimize runoff and pollutant loading from excess irrigation via the following:
  - (a) Promoting and/or working with potable water purveyors to promote conservation programs that minimize discharges from lawn watering and landscape irrigation practices;
  - (b) Promoting outreach messages regarding the use of less toxic options for pest control and landscape management;
  - (c) Promoting and/or working with potable water purveyors to promote the use of drought tolerant, native vegetation to minimize landscape irrigation demands;
  - (d) Promoting and/or working with potable water purveyors to promote outreach messages that encourage appropriate applications of water needed for irrigation and other watering practices; and,
  - (e) Implementing the Illicit Discharge Enforcement Response Plan from C.5.b, as necessary, for ongoing, large-volume landscape irrigation runoff to their MS4s.

<sup>56</sup> This connection could be a drain in the pool to the sanitary sewer or a sanitary sewer clean out located close enough to the pool so that a hose can readily direct the pool discharge into the sanitary sewer clean out.

- (2) **Reporting** – The Permittees shall provide implementation summaries in their Annual Report.
- vii. **Additional Discharge Types** –The Permittees shall identify and describe additional types and categories of discharges not yet listed in Provision C.15.b that they propose to conditionally exempt from Prohibition A.1 in periodic submissions to the Executive Officer. For each such category, the Permittees shall identify and describe, as necessary and appropriate to the category, either documentation that the discharges are not sources of pollutants to receiving waters or circumstances in which they are not found to be sources of pollutants to receiving waters. Otherwise, the Permittees shall describe control measures to eliminate adverse impacts of such sources, procedures and performance standards for their implementation, procedures for notifying the Water Board of these discharges, and procedures for monitoring and record management.
- viii. **Permit Authorization for Exempted Non-Stormwater Discharges**
- (1) Discharges of non-stormwater from sources owned or operated by the Permittees are authorized and permitted by this Permit, if they are in accordance with the conditions of this provision.
- (2) The Water Board may require dischargers of non-stormwater, other than the Permittees, to apply for and obtain coverage under an NPDES permit and to comply with the control measures pursuant to Provision C.15.b. Non-stormwater discharges that are in compliance with such control measures may be accepted by a Permittee and are not subject to Prohibition A.1.
- (3) The Permittees may propose, as part of their annual updates consistent with the requirements of Provision C.15.b of this Permit, additional categories of non-stormwater discharges with BMPs, to be included in the exemption to Prohibition A.1. Such proposals may be subject to approval by the Executive Officer as a minor modification of the Permit.

## **C.16. Annual Reports**

- C.16.a.** The Permittees shall submit Annual Reports electronically and in paper copy upon request by September 15 of each year. Each Annual Report shall report on the previous fiscal year beginning July 1 and ending June 30. The annual reporting requirements are set forth in Provisions C.1 – C.15. The Permittees shall retain documentation as necessary to support their Annual Report. The Permittees shall make this supporting information available upon request within a timely manner, generally no more than ten business days unless otherwise agreed to by the Executive Officer.
- C.16.b.** The Permittees shall collaboratively develop a common annual reporting format for acceptance by the Executive Officer by April 1, 2010. The resulting Annual Report Form, once approved, shall be used by all Permittees. The Annual Report Form may be changed by April 1 of each year for the following annual report, to more accurately reflect the reporting requirements of Provisions C.1 – C.15, with the agreement of the Permittees and by the approval of the Executive Officer.
- C.16.c.** The Permittees shall certify in each Annual Report that they are in compliance with all requirements of the Order. If a Permittee is unable to certify compliance with a requirement, it must submit in the Annual Report the reason for failure to comply, a description and schedule of tasks necessary to achieve compliance, and an estimated date for achieving full compliance.

## **C.17. Modifications to this Order**

This Order may be modified, or alternatively, revoked or reissued, before the expiration date as follows:

- C.17.a.** To address significant changed conditions identified in the technical or Annual Reports required by the Water Board, or through other means or communication, that were unknown at the time of the issuance of this Order;
- C.17.b.** To incorporate applicable requirements of statewide water quality control plans adopted by the State Board or amendments to the Basin Plan approved by the State Board; or
- C.17.c.** To comply with any applicable requirements, guidelines, or regulations issued or approved under section 402(p) of the CWA, if the requirement, guideline, or regulation so issued or approved contains different conditions or additional requirements not provided for in this Order. The Order as modified or reissued under this paragraph shall also contain any other requirements of the CWA then applicable.

## **C.18. Standard Provisions**

Each Permittee shall comply with all parts of the Standard Provisions contained in Attachment K of this Order.

### C.19. Expiration Date

This Order expires on November 30, 2014, five years from the effective date of this Order. The Permittees must file a Report of Waste Discharge in accordance with Title 23, California Code of Regulations, not later than 180 days in advance of such date as application for reissuance of waste discharge requirements.

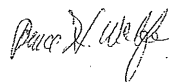
### C.20. Rescission of Old Orders

Order Nos. 99-058, 99-059, 01-024, R2-2003-0021, and R2-2003-0034 are hereby rescinded on the effective date of this Order, which shall be December 1, 2009, provided that the Regional Administrator of USEPA, Region IX, does not object.

### C.21. Effective Date

The Effective Date of this Order and Permit shall be December 1, 2009, provided that the Regional Administrator of USEPA, Region IX, does not object.

I, Bruce H. Wolfe, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on October 14, 2009.



Digitally signed  
by Bruce Wolfe  
Date:  
2009.10.15  
17:21:01 -07'00'

Bruce H. Wolfe  
Executive Officer

- Appendix I: Municipal Regional Stormwater Permit Fact Sheet
- Attachment A: Provision C.3.b. Sample Reporting Table
- Attachment B: Provision C.3.g. Alameda Permittees Hydromodification Requirements
- Attachment C: Provision C.3.g. Contra Costa Permittees Hydromodification Requirements
- Attachment D: Provision C.3.g. Fairfield-Suisun Permittees Hydromodification Requirements
- Attachment E: Provision C.3.g. San Mateo Permittees Hydromodification Requirements
- Attachment F: Provision C.3.g. Santa Clara Permittees Hydromodification Requirements
- Attachment G: Provision C.3.h. Sample Reporting Table
- Attachment H: Provision C.8. Status & Long-Term Monitoring Follow-up Analysis and Actions
- Attachment I: Provision C.8. Standard Monitoring Provisions
- Attachment J: Provision C.10. Minimum Trash Capture Areas and Minimum Number of Trash Hot Spots
- Attachment K: Standard NPDES Stormwater Permit Provisions

## ACRONYMS & ABBREVIATIONS

<b>ACCWP</b>	Alameda Countywide Clean Water Program
<b>BAHM</b>	Bay Area Hydrology Model
<b>Basin Plan</b>	Water Quality Control Plan for the San Francisco Bay Basin
<b>BASMAA</b>	Bay Area Stormwater Management Agencies Association
<b>BMPs</b>	Best Management Practices
<b>CASQA</b>	California Stormwater Quality Association
<b>CCC</b>	California Coastal Commission
<b>CCCWP</b>	Contra Costa Clean Water Program
<b>CDFG</b>	California Department of Fish and Game
<b>CEQA</b>	California Environmental Quality Act
<b>CFR</b>	Code of Federal Regulations
<b>CSBP</b>	California Stream Bioassessment Procedures
<b>CWA</b>	Federal Clean Water Act
<b>CWC</b>	California Water Code
<b>DCIA</b>	Directly Connected Impervious Area
<b>ERP</b>	Enforcement Response Plan
<b>FR</b>	Federal Register
<b>GIS</b>	Geographic information System
<b>HBANC</b>	Homebuilders Association of Northern California
<b>HM</b>	Hydromodification Management
<b>HMP</b>	Hydromodification Management Plan
<b>IC/ID</b>	Illicit Connections and Illicit Discharges
<b>IPM</b>	Integrated Pest Management
<b>LID</b>	Low Impact Development
<b>MEP</b>	Maximum Extent Practicable
<b>MRP</b>	Municipal Stormwater Regional Permit
<b>MS4</b>	Municipal Separate Storm Sewer System
<b>MTC</b>	Metropolitan Transportation Commission

<b>NAFSMA</b>	National Association of Flood & Stormwater Management Agencies
<b>NOI</b>	Notice of Intent
<b>NPDES</b>	National Pollutant Discharge Elimination System
<b>NRDC</b>	Natural Resources Defense Council
<b>O&amp;M</b>	Operation and Maintenance
<b>PBDE</b>	Polybrominated Diphenyl Ether
<b>POTW</b>	Publicly Owned Treatment Works
<b>RCRA</b>	Resource Conservation and Recovery Act
<b>RMP</b>	Regional Monitoring Program
<b>ROWD</b>	Report of Waste Discharge
<b>RTA</b>	Rapid Trash Assessment
<b>SARA</b>	Superfund Amendments and Reauthorization Act
<b>SCURTA</b>	Santa Clara Urban Rapid Trash Assessment
<b>SCVURPPP</b>	Santa Clara Valley Urban Runoff Pollution Prevention Program
<b>SFRWQCB</b>	San Francisco Bay Regional Water Quality Control Board
<b>SIC</b>	Standard Industrial Classification
<b>SMWPPP</b>	San Mateo Countywide Water Pollution Prevention Program
<b>SOP</b>	Standard Operating Procedure
<b>SWAMP</b>	Surface Water Ambient Monitoring Program
<b>SWPPP</b>	Stormwater Pollution Prevention Plan
<b>SWRCB</b>	State Water Resources Control Board
<b>TIE</b>	Toxicity Identification Evaluation
<b>TMDLs</b>	Total Maximum Daily Loads
<b>TSCA</b>	Toxic Substances Control Act
<b>USEPA</b>	United States Environmental Protection Agency
<b>Water Board</b>	San Francisco Bay Regional Water Quality Control Board
<b>WLAs</b>	Wasteload Allocations



## GLOSSARY

<b>Arterial Roads</b>	Freeways, multilane highways, and other important roadways that supplement the Interstate System. Arterial roads connect, as directly as practicable, principal urbanized areas, cities, and industrial centers.
<b>Beneficial Uses</b>	The uses of water of the state protected against degradation, such as domestic, municipal, agricultural and industrial supply; power generation; recreation; aesthetic enjoyment; navigation and preservation of fish and wildlife, and other aquatic resources or preserves.
<b>Collector Roads</b>	Major and minor roads that connect local roads with arterial roads. Collector roads provide less mobility than arterial roads at lower speeds and for shorter distances.
<b>Commercial Development</b>	Development or redevelopment to be used for commercial purposes, such as office buildings, retail or wholesale facilities, restaurants, shopping centers, hotels, and warehouses.
<b>Construction Site</b>	Any project, including projects requiring coverage under the General Construction Permit, that involves soil disturbing activities including, but not limited to, clearing, grading, paving, disturbances to ground such as stockpiling, and excavation. Construction sites are all sites with disturbed or graded land area not protected by vegetation, or pavement, that are subject to a building or grading permit.
<b>Conditionally Exempted Non-Stormwater Discharge</b>	Non-stormwater discharges that are prohibited by A.1. of this permit, unless such discharges are authorized by a separate NPDES permit or are not in violation of water quality standards because appropriate BMPs have been implemented to reduce pollutants to the maximum extent practicable, consistent with Provision C.15.
<b>Discharger</b>	Any responsible party or site owner or operator within the Permittees' jurisdiction whose site discharges stormwater runoff, or a non-stormwater discharge
<b>Detached Single-family Home Project</b>	The building of one single new house or the addition and/or replacement of impervious surface associated with one single existing house, which is not part of a larger plan of development.
<b>Development</b>	Construction, rehabilitation, redevelopment, or reconstruction of any public or private residential project (whether single-family, multi-unit, or planned unit development); or industrial, commercial, retail or other nonresidential project, including public agency projects.
<b>Estate Residential Development</b>	Development zoned for a minimum 1 acre lot size
<b>Emerging Pollutants</b>	Pollutants in water that either: (1) May not have been thoroughly studied to date but are suspected by the scientific community to be a source of impairment of beneficial uses and/or present a health risk; or (2) Are not yet part of a monitoring program.
<b>Erosion</b>	The diminishing or wearing away of land due to wind, or water. Often the eroded debris (silt or sediment) becomes a pollutant via stormwater runoff. Erosion occurs

	naturally, but can be intensified by land disturbing and grading activities such as farming, development, road building, and timber harvesting.
<b>Full Trash Capture Device</b>	Full trash capture systems are defined as “any device or series of devices that traps all particles retained by a 5mm mesh screen and has a design treatment capacity of not less than the peak flow rate resulting from a one-year, one-hour, storm in the tributary drainage catchment area.” Trash collection booms and sea curtains do not meet this definition, but are effective for removal of floating trash if properly maintained. Because these devices do not meet the Full Trash Capture Device definition, only ¼ of the catchment area treated by these measures is credited toward meeting the trash management area requirement of C.10.a.
<b>General Permits</b>	Waste Discharge Requirements or NPDES Permits containing requirements that are applicable to a class or category of dischargers. The State of California has general stormwater permits for construction sites that disturb soil of 1 acre or more; industrial facilities; Phase II smaller municipalities (including nontraditional Small MS4s, which are governmental facilities, such as military bases, public campuses, and prison and hospital complexes); and small linear underground/overhead projects disturbing at least 1 acre, but less than 5 acres (including trenching and staging areas).
<b>Grading</b>	The cutting and/or filling of the land surface to a slope or elevation.
<b>Hydrologic source control measures</b>	Site design techniques that minimize and/or slow the rate of stormwater runoff from the site.
<b>Hydromodification</b>	The modification of a stream’s hydrograph, caused in general by increases in flows and durations that result when land is developed (e.g., made more impervious). The effects of hydromodification include, but are not limited to, increased bed and bank erosion, loss of habitat, increased sediment transport and deposition, and increased flooding.
<b>Illicit Discharge</b>	Any discharge to a municipal separate storm sewer (storm drain) system (MS4) that is prohibited under local, state, or federal statutes, ordinances, codes, or regulations. The term <i>illicit discharge</i> includes all non-stormwater discharges not composed entirely of stormwater and discharges that are identified under Section A. (Discharge Prohibitions) of this Permit. The term illicit discharge does not include discharges that are regulated by an NPDES permit (other than the NPDES permit for discharges from the MS4) or authorized by the Regional Water Board Executive Officer.
<b>Impervious Surface</b>	A surface covering or pavement of a developed parcel of land that prevents the land’s natural ability to absorb and infiltrate rainfall/stormwater. Impervious surfaces include, but are not limited to, roof tops; walkways; patios; driveways; parking lots; storage areas; impervious concrete and asphalt; and any other continuous watertight pavement or covering. Landscaped soil and pervious pavement, including pavers with pervious openings and seams, underlain with pervious soil or pervious storage material, such as a gravel layer sufficient to hold at least the C.3.d volume of rainfall runoff are not impervious surfaces. Open, uncovered retention/detention facilities shall not be considered as impervious surfaces for purposes of determining whether a project is a Regulated Project under

	Provisions C.3.b. and C.3.g. Open, uncovered retention/detention facilities shall be considered impervious surfaces for purposes of runoff modeling and meeting the Hydromodification Standard.
<b>Industrial Development</b>	Development or redevelopment of property to be used for industrial purposes, such as factories; manufacturing buildings; and research and development parks.
<b>Infill Site</b>	A site in an urbanized area where the immediately adjacent parcels are developed with one or more qualified urban uses or at least 75% of the perimeter of the site adjoins parcels that are developed with qualified urban uses and the remaining 25% of the site adjoins parcels that have previously been developed for qualified urban uses and no parcel within the site has been created within the past 10 years.
<b>Infiltration Device</b>	Any structure that is deeper than wide and designed to infiltrate stormwater into the subsurface, and, as designed, bypass the natural groundwater protection afforded by surface soil. These devices include dry wells, injection wells, and infiltration trenches (includes French drains).
<b>Joint Stormwater Treatment Facility</b>	A stormwater treatment facility built to treat the combined runoff from two or more Regulated Projects located adjacent to each other,
<b>Local Roads</b>	Roads that provide limited mobility and are the primary access to residential areas, businesses, farms, and other local areas. Local roads offer the lowest level of mobility and usually contain no bus routes. Service to through traffic movement usually is deliberately discouraged in local roads.
<b>Maximum Extent Practicable (MEP)</b>	A standard for implementation of stormwater management actions to reduce pollutants in stormwater. Clean Water Act (CWA) 402(p)(3)(B)(iii) requires that municipal stormwater permits “shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.” Also see State Board Order WQ 2000-11.
<b>Mixed-use Development or Redevelopment</b>	Development or redevelopment of property to be used for two or more different uses, all intended to be harmonious and complementary. An example is a high-rise building with retail shops on the first 2 floors, office space on floors 3 through 10, apartments on the next 10 floors, and a restaurant on the top floor.
<b>Municipal Separate Storm Sewer System (MS4)</b>	A conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, manmade channels, or storm drains), as defined in 40 CFR 122.26(b)(8): (1) Owned or operated by a state, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law...including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization or a designated and approved management agency under section 208 of the CWA) that discharges into waters of the United States; (2) Designed or used for collecting or conveying stormwater; (3) Which is not a combined sewer; and (4) Which is not part of a Publicly Owned Treatment Works (POTW), as defined in

	40 CFR 122.2.
<b>Municipal Corporation Yards, Vehicle Maintenance/Material Storage Facilities/</b>	Any Permittee-owned or -operated facility, or portion thereof, that: (1) Conducts industrial activity, operates or stores equipment, and materials; (2) Performs fleet vehicle service/maintenance including repair, maintenance, washing, or fueling; (3) Performs maintenance and/or repair of machinery/equipment;
<b>National Pollutant Discharge Elimination System (NPDES)</b>	A national program for issuing, modifying, revoking and reissuing, terminating, monitoring and enforcing permits, and imposing and enforcing pretreatment requirements, under sections 307, 402, 318, and 405 of the CWA.
<b>Notice of Intent (NOI)</b>	The application form by which dischargers seek coverage under General Permits, unless the General Permit requires otherwise.
<b>Parking Lot</b>	Land area or facility for the parking or storage of motor vehicles used for business, commerce, industry, or personal use.
<b>Permittee/Permittees</b>	Municipal agency/agencies that are named in and subject to the requirements of this Permit.
<b>Permit Effective Date</b>	The date at least 45 days after Permit adoption, provided the Regional Administrator of U.S. EPA Region 9 has no objection, whichever is later.
<b>Pervious Pavement</b>	Pavement that stores and infiltrates rainfall at a rate equal to immediately surrounding unpaved, landscaped areas, or that stores and infiltrates the rainfall runoff volume described in C.3.d.
<b>Point Source</b>	Any discernible, confined, and discrete conveyance including, but not limited to, any pipe, ditch, channel, tunnel, conduit, well, discrete fissure, container, rolling stock, concentrated animal feeding operations, landfill leachate collection systems, vessel, or other floating craft, from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture or agricultural stormwater runoff.
<b>Pollutants of Concern</b>	Pollutants that impair waterbodies listed under CWA section 303(d), pollutants associated with the land use type of a development, including pollutants commonly associated with urban runoff. Pollutants commonly associated with stormwater runoff include, but are not limited to, total suspended solids; sediment; pathogens (e.g., bacteria, viruses, protozoa); heavy metals (e.g., copper, lead, zinc, and cadmium); petroleum products and polynuclear aromatic hydrocarbons; synthetic organics (e.g., pesticides, herbicides, and PCBs); nutrients (e.g., nitrogen and phosphorus fertilizers); oxygen-demanding substances (e.g., decaying vegetation and animal waste) litter and trash.
<b>Potable Water</b>	Water that is safe for domestic use, drinking, and cooking.
<b>Pre-Project Runoff Conditions</b>	Stormwater runoff conditions that exist onsite immediately before development activities occur. This definition is not intended to be interpreted as that period before any human-induced land activities occurred. This definition pertains to redevelopment as well as initial development.
<b>Public Development</b>	Any construction, rehabilitation, redevelopment or reconstruction of any public agency project, including but not limited to, libraries, office buildings, roads, and

	highways.
<b>Redevelopment</b>	Land-disturbing activity that results in the creation, addition, or replacement of exterior impervious surface area on a site on which some past development has occurred.
<b>Regional Monitoring Program (RMP)</b>	A monitoring program aimed at determining San Francisco Bay Region receiving water conditions. The program was established in 1993 through an agreement among the Water Board, wastewater discharger agencies, dredgers, Municipal Stormwater Permittees and the San Francisco Estuary Institute to provide regular sampling of Bay sediments, water, and organisms for pollutants. The program is funded by the dischargers and managed by San Francisco Estuary Institute.
<b>Regional Project</b>	A regional or municipal stormwater treatment facility that discharges into the same watershed that the Regulated Project does.
<b>Regulated Projects</b>	Development projects as defined in Provision C.3.b.ii.
<b>Residential Housing Subdivision</b>	Any property development of multiple single-family homes or of dwelling units intended for multiple families/households (e.g., apartments, condominiums, and town homes).
<b>Retrofitting</b>	Installing improved pollution control devices at existing facilities to attain water quality objectives.
<b>Sediments</b>	Soil, sand, and minerals washed from land into water, usually after rain.
<b>Solid Waste</b>	All putrescible and nonputrescible solid, semisolid, and liquid wastes as defined by California Government Code Section 68055.1 (h).
<b>Source Control BMP</b>	Land use or site planning practices, or structural or nonstructural measures, that aim to prevent runoff pollution by reducing the potential for contact with rainfall runoff at the source of pollution. Source control BMPs minimize the contact between pollutants and urban runoff.
<b>Standard Industrial Classification (SIC)</b>	A federal system for classifying establishments by the type of activity in which they are engaged using a four-digit code.
<b>Stormwater Pumping Station</b>	Mechanical device (or pump) that is installed in MS4s or pipelines to discharge stormwater runoff and prevent flooding.
<b>Stormwater Treatment System</b>	Any engineered system designed to remove pollutants from stormwater runoff by settling, filtration, biological degradation, plant uptake, media absorption/adsorption or other physical, biological, or chemical process. This includes landscape-based systems such as grassy swales and bioretention units as well as proprietary systems.
<b>Surface Water Ambient Monitoring Program (SWAMP)</b>	The State Water Board's program to monitor surface water quality; coordinate consistent scientific methods; and design strategies for improving water quality monitoring, assessment, and reporting.
<b>Total Maximum Daily Loads (TMDLs)</b>	The maximum amount of a pollutant that can be discharged into a waterbody from all sources (point and nonpoint) and still maintain water quality standards. Under CWA section 303(d), TMDLs must be developed for all waterbodies that do not meet water quality standards even after application of technology-based controls,

	more stringent effluent limitations required by a state or local authority, and other pollution control requirements such as BMPs.
<b>Toxicity Identification Evaluation (TIE)</b>	TIE is a series of laboratory procedures used to identify the chemical(s) responsible for toxicity to aquatic life. These procedures are designed to decrease, increase, or transform the bioavailable fractions of contaminants to assess their contributions to sample toxicity. TIEs are conducted separately on water column and sediment samples.
<b>Trash and Litter</b>	Trash consists of litter and particles of litter. California Government Code Section 68055.1 (g) defines litter as all improperly discarded waste material, including, but not limited to, convenience food, beverage, and other product packages or containers constructed of steel, aluminum, glass, paper, plastic, and other natural and synthetic materials, thrown or deposited on the lands and waters of the state, but not including the properly discarded waste of the primary processing of agriculture, mining, logging, sawmilling, or manufacturing.
<b>Treatment</b>	Any method, technique, or process designed to remove pollutants and/or solids from polluted stormwater runoff, wastewater, or effluent.
<b>Waste Load Allocations (WLAs)</b>	A portion of a receiving water's TMDL that is allocated to one of its existing or future point sources of pollution.
<b>Water Quality Control Plan (Basin Plan)</b>	The Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) is the Board's master water quality control planning document. It designates beneficial uses and water quality objectives for waters of the State within the Region, including surface waters and groundwater. It also includes programs of implementation to achieve water quality objectives and discharge prohibitions. The Basin Plan was duly adopted and approved by the State Water Resources Control Board, U.S. EPA, and the Office of Administrative Law where required. The latest version is effective as of December 22, 2006.
<b>Water Quality Objectives</b>	The limits or levels of water quality elements or biological characteristics established to reasonably protect the beneficial uses of water or to prevent pollution problems within a specific area. Water quality objectives may be numeric or narrative.
<b>Water Quality Standards</b>	State-adopted and USEPA-approved water quality standards for waterbodies. The standards prescribe the use of the waterbody and establish the water quality criteria that must be met to protect designated uses. Water quality standards also include the federal and state anti-degradation policy.
<b>Wet Season</b>	October 1 through April 30 of each year

# APPENDIX I

## MUNICIPAL REGIONAL STORMWATER PERMIT FACT SHEET

**FACT SHEET/RATIONALE  
TECHNICAL REPORT**

for

**ORDER NO. R2-2009-0074**

**NPDES Permit No. CAS612008**

**Municipal Regional Stormwater NPDES Permit  
and  
Waste Discharge Requirements**

for

The cities of Alameda, Albany, Berkeley, Dublin, Emeryville, Fremont, Hayward, Livermore, Newark, Oakland, Piedmont, Pleasanton, San Leandro, and Union City, Alameda County, the Alameda County Flood Control and Water Conservation District, and Zone 7 of the Alameda County Flood Control and Water Conservation District, which have joined together to form the Alameda Countywide Clean Water Program

The cities of Clayton, Concord, El Cerrito, Hercules, Lafayette, Martinez, Orinda, Pinole, Pittsburg, Pleasant Hill, Richmond, San Pablo, San Ramon, and Walnut Creek, the towns of Danville and Moraga, Contra Costa County, and the Contra Costa County Flood Control and Water Conservation District, which have joined together to form the Contra Costa Clean Water Program

The cities of Campbell, Cupertino, Los Altos, Milpitas, Monte Sereno, Mountain View, Palo Alto, San Jose, Santa Clara, Saratoga, and Sunnyvale, the towns of Los Altos Hills and Los Gatos, the Santa Clara Valley Water District, and Santa Clara County, which have joined together to form the Santa Clara Valley Urban Runoff Pollution Prevention Program

The cities of Belmont, Brisbane, Burlingame, Daly City, East Palo Alto, Foster City, Half Moon Bay, Menlo Park, Millbrae, Pacifica, Redwood City, San Bruno, San Carlos, San Mateo, and South San Francisco, the towns of Atherton, Colma, Hillsborough, Portola Valley, and Woodside, the San Mateo County Flood Control District, and San Mateo County, which have joined together to form the San Mateo Countywide Water Pollution Prevention Program

The cities of Fairfield and Suisun City, which have joined together to form the Fairfield-Suisun Urban Runoff Management Program

The City of Vallejo and the Vallejo Sanitation and Flood Control District



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## I. CONTACT INFORMATION

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The Permit and other related documents can be downloaded from the Water Board website at: <http://www.waterboards.ca.gov/sanfranciscobay/mrp.htm>

Comments can be electronically submitted to [mrp@waterboards.ca.gov](mailto:mrp@waterboards.ca.gov).

All documents referenced in this Fact Sheet and in the Order are available for public review at the Water Board office, located at the address listed above. Public records are available for inspection during regular business hours, from 9:00 am to 4:00 pm, Monday through Friday, 12 - 1 pm excluded. Per the Governor's order calling for furloughs, the Water Board office will be closed the first three Fridays of each month through June 2010. To schedule an appointment to inspect public records, contact Melinda Wong at 510-622-2430.

## II. PERMIT GOALS AND PUBLIC PROCESS

### Goals

The Goals for the Municipal Regional Stormwater Permit (hereinafter, the Permit) Development Process include:

1. Consolidate six Phase I municipal stormwater NPDES permits into one consistent permit which is regional in scope.
2. Include more specificity in NPDES permit order language and requirements. Create (A) required stormwater management actions, (B) a specific level of implementation for each action or set of actions, and (C) reporting and effectiveness evaluation requirements for each action sufficient to determine compliance.
3. Incorporate the Stormwater Management Plan level of detail and specificity into the Permit. Stormwater Management Plans have always been considered integral to the municipal stormwater NPDES permits, but have not received the level of public review in the adoption process necessary relative to their importance in adequate stormwater pollutant management implementation.
4. Implement and enhance actions to control 303(d) listed pollutants, pollutants of concern, and achieve Waste Load Allocations adopted under Total Maximum Daily Loads.
5. Implement more specific and comprehensive stormwater monitoring, including monitoring for 303(d) listed pollutants.

### Public Process

Water Board staff conducted a series of stakeholder meetings and workshops with the Permittees and other interested parties to develop this Permit over the past 3 years. These meetings included Water Board staff, representatives of the Permittees, representatives of

environmental groups, homebuilders, private citizens, and other interested parties. The following is a summary of the lengthy stakeholder process.

(2004–2005) Water Board staff and the Bay Area Stormwater Management Agencies Association (BASMAA) agreed to develop a municipal regional stormwater permit. Board staff and BASMAA held monthly meetings to agree on the regional permit approach and developed concepts and ground rules for a Steering Committee. The Steering Committee for the Permit began regular monthly meetings, and there was agreement to form work groups to develop options for permit program components in table format.

(2006) Water Board staff, BASMAA, and nongovernmental groups met and discussed the Performance Standard (i.e., actions, implementation levels, and reporting requirements) tables from six workgroups. In addition to the Steering Committee, Work Group Stakeholder meetings focused on the six program elements to complete the Performance Standard Tables and discuss other issues in preparation for creating the first Draft Permit Provisions. Two large public workshops were held in November with all interested stakeholders to discuss Work Group products.

(2007) The Water Board held a public workshop in March to receive public input. Board staff distributed an Administrative Draft Permit dated May 1, 2007, held multiple meetings and received comment.

(2007- 2008) On December 14, 2007, Board staff distributed the Tentative Order for a 77-day written public comment period ending February 29, 2008. A public hearing for oral testimony was held on March 11, 2008. During the remainder of 2008 there were additional meetings with stakeholders, and Board staff worked on revisions to the Tentative Order and produced responses to both written comments received by February 29, 2008, and oral comments received at the March 11, 2008, hearing. The Revised Tentative Order for the MRP was released on February 11, 2009, and a May 13, 2009, hearing before the Water Board was scheduled. Written comments on the revisions to the Tentative Order were received until April 3, 2009.

(2009) After the May 2009 MRP Public Hearing, Water Board staff held numerous meetings with the Permittees (via the Bay Area Stormwater Management Agencies Association) and other key stakeholders including Save the Bay, NRDC, the Northern California Homebuilders, S.F. BayKeeper and the U.S. EPA. These meetings have been focused on discussion of revisions to the MRP Tentative Order in response to comments received, in an effort to resolve issues primarily related to Provisions C.3 New Development, C.8 Monitoring, C.10 Trash Load Reduction, C.11 Mercury Controls, C.12 PCBs Controls, and C.15 Exempt Non-Stormwater Discharges.

## **Implementation**

It is the Water Board's intent that this Permit shall ensure attainment of applicable water quality objectives and protection of the beneficial uses of receiving waters and associated habitat. This Permit requires that discharges shall not cause exceedances of water quality objectives nor shall they cause certain conditions to occur that create a condition of nuisance or water quality impairment in receiving waters. Accordingly, the Water Board is

requiring that these standard requirements be addressed through the implementation of technically and economically feasible control measures to reduce pollutants in stormwater discharges to the maximum extent practicable as provided in Provisions C.1 through C.15 of this Permit and section 402(p) of the CWA. Compliance with the Discharge Prohibitions, Receiving Water Limitations, and Provisions of this Permit is deemed compliance with the requirements of this Permit. If these measures, in combination with controls on other point and nonpoint sources of pollutants, do not result in attainment of applicable water quality objectives, the Water Board may invoke Provision C.1. and may reopen this Permit pursuant to Provisions C.1 and C.15 of this Permit to impose additional conditions that require implementation of additional control measures.

Each of the Permittees is individually responsible for adoption and enforcement of ordinances and policies, for implementation of assigned control measures or best management practices (BMPs) needed to prevent or reduce pollutants in stormwater, and for providing funds for the capital, operation, and maintenance expenditures necessary to implement such control measures/BMPs within its jurisdiction. Each Permittee is also responsible for its share of the costs of the area-wide component of the countywide program to which the Permittee belongs. Enforcement actions concerning non-compliance with the Permit will be pursued against individual Permittee(s) responsible for specific violations of the Permit.

### **III. BACKGROUND**

#### **Early Permitting Approach**

The federal Clean Water Act (CWA) was amended in 1987 to address urban stormwater runoff pollution of the nation's waters. One requirement of the amendment was that many municipalities throughout the United States were obligated for the first time to obtain National Pollutant Discharge Elimination System (NPDES) permits for discharges of urban runoff from their Municipal Separate Storm Sewer Systems (MS4s). In response to the CWA amendment (and the pending federal NPDES regulations which would implement the amendment), the Water Board issued a municipal storm water Phase I permits in the early 1990s. These permits were issued to the entire county-wide urban areas of Santa Clara, Alameda, San Mateo and Contra Costa Counties, rather than to individual cities over 100,000 population threshold. The cities chose to collaborate in countywide groups, to pool resources and expertise, and share information, public outreach and monitoring costs, among other tasks.

During the early permitting cycles, the county-wide programs developed many of the implementation specifics which were set forth in their Stormwater Pollution Prevention Management Plans (Plans). The permit orders were relatively simple documents that referred to the stormwater Plans for implementation details. Often specific aspects of permit and Plan implementation evolved during the five year permit cycle, with relatively significant changes approved at the Water Board staff level without significant public review and comment.

## Merging Permit Requirements and Specific Requirements Previously Contained in Stormwater Management Plans

US EPA stormwater rules for Phase I stormwater permits envisioned a process in which municipal stormwater management programs contained the detailed BMP and specific level of implementation information, and are reviewed and approved by the permitting agency before the municipal NPDES stormwater permits are adopted. The current and previous permits established a definition of a stormwater management program and required each Permittee to submit an urban runoff management plan and annual work plans for implementing its stormwater management program. An advantage to this approach was that it provided flexibility for Permittees to tailor their stormwater management programs to reflect local priorities and needs. However, Water Board staff found it difficult to determine Permittees' compliance with the current permits, due to the lack of specific requirements and measurable outcomes of some required actions. Furthermore, federal stormwater regulations require that modifications to stormwater management programs, such as annual revisions to urban runoff management plans, be approved through a public process.

Recent court decisions have reiterated that federal regulations and State law require that the implementation specifics of Municipal Stormwater NPDES permits be adopted after adequate public review and comment, and that no significant change in the permit requirements except minor modifications can occur during the permit term without a similar level of public review and comment.

This Permit introduces a modification to these previous approaches by establishing the stormwater management program requirements and defining up front, as part of the Permit Development Process, the minimum acceptable elements of the municipal stormwater management program. The advantages of this approach are that it satisfies the public involvement requirements of both the federal Clean Water Act and the State Water Code. An advantage for Permittees and the public of this approach is that the permit requirements are known at the time of permit issuance and not left to be determined later through iterative review and approval of work plans. While it may still be necessary to amend the Permit prior to expiration, any need to this should be minimized.

This Permit does not include approval of all Permittees' stormwater management programs or annual reports as part of the administration of the Permit. To do so would require significantly increased staff resources. Instead, minimum measures have been established to simplify assessment of compliance and allow the public to more easily assess each Permittee's compliance. Each Permit provision and its reporting requirements are written with this in mind. That is, each provision establishes the required actions, minimum implementation levels (i.e., minimum percentage of facilities inspected annually, escalating enforcement, reporting requirements for tracking projects, number of monitoring sites, etc.), and specific reporting elements to substantiate that these implementation levels have been met. Water Board staff will evaluate each individual Permittee's compliance through annual report review and the audit process.

The challenge in drafting the Permit is to provide the flexibility described above considering the different sizes and resources while ensuring that the Permit is still enforceable. To achieve this, the Permit frequently prescribes minimum measurable

outcomes, while providing Permittees with flexibility in the approaches they use to meet those outcomes. Enforceability has been found to be a critical aspect of the Permit. To avoid these types of situations, a balance between flexibility and enforceability has been crafted into the Permit.

### **Current Permit Approach**

In the previous permit issuances, the detailed actions to be implemented by the Permittees were contained in Stormwater Management Plans, which were separate from the NPDES permits, and incorporated by reference. Because those plans were legally an integral part of the permits and were subject to complete public notice, review and comment, this permit reissuance incorporates those plan level details in the permit, thus merging the Permittees' stormwater management plans into the permit in one document. This Permit specifies the actions necessary to reduce the discharge of pollutants in stormwater to the maximum extent practicable, in a manner designed to achieve compliance with water quality standards and objectives, and effectively prohibit non-stormwater discharges into municipal storm drain systems and watercourses within the Permittees' jurisdictions. This set of specific actions is equivalent to the requirements that in past permit cycles were included in a separate stormwater management plan for each Permittee or countywide group of Permittees. With this permit reissuance, that level of specific compliance detail is integrated into permit language and is not a separate document.

The Permit includes requirements for the following components:

- Municipal Operations
- New Development and Redevelopment
- Industrial and Commercial Site Controls
- Illicit Discharge and Elimination
- Construction Site Controls
- Public Information and Outreach
- Water Quality Monitoring
- Pesticides Toxicity Controls
- Trash Reduction
- Mercury Controls
- PCBs Controls
- Copper Controls
- Polybrominated Diphenyl Ethers (PBDE), Legacy Pesticides, and Selenium
- Exempt and Conditionally Exempt Discharges

## **IV. ECONOMIC ISSUES**

Economic discussions of urban runoff management programs tend to focus on costs incurred by municipalities in developing and implementing the programs. This is appropriate, and these costs are significant and a major issue for the Permittees. However, when considering the cost of implementing the urban runoff programs, it is also important

to consider the alternative costs incurred by not fully implementing the programs, as well as the benefits which result from program implementation.

It is very difficult to ascertain the true cost of implementation of the Permittees' urban runoff management programs because of inconsistencies in reporting by the Permittees. Reported costs of compliance for the same program element can vary widely from Permittee to Permittee, often by a very wide margin that is not easily explained.<sup>57</sup> Despite these problems, efforts have been made to identify urban runoff management program costs, which can be helpful in understanding the costs of program implementation.

In 1999, United States Environmental Protection Agency (USEPA) reported on multiple studies it conducted to determine the cost of urban runoff management programs. A study of Phase II municipalities determined that the annual cost of the Phase II program was expected to be \$9.16 per household. USEPA also studied 35 Phase I municipalities, finding costs to be similar to those anticipated for Phase II municipalities, at \$9.08 per household annually.<sup>58</sup>

A study on program cost was also conducted by the Los Angeles Regional Water Quality Control Board (LARWQCB), where program costs reported in the municipalities' annual reports were assessed. The LARWQCB estimated that average per household cost to implement the MS4 program in Los Angeles County was \$12.50.

The State Water Resources Control Board (State Water Board) also commissioned a study by the California State University, Sacramento to assess costs of the Phase I MS4 program. This study is current and includes an assessment of costs incurred by the City of Encinitas in implementing its program. Annual cost per household in the study ranged from \$18-46, with the City of Encinitas representing the upper end of the range.<sup>59</sup> The cost of the City of Encinitas' program is understandable, given the City's coastal location, reliance on tourism, and consent decree with environmental groups regarding its program. For these reasons, as well as the general recognition the City of Encinitas receives for implementing a superior program, the City's program cost can be considered as the high end of the spectrum for Permittee urban runoff management program costs.

It is important to note that reported program costs are not all attributable to compliance with MS4 permits. Many program components, and their associated costs, existed before any MS4 permits were issued. For example, street sweeping and trash collection costs cannot be solely or even principally attributable to MS4 permit compliance, since these practices have long been implemented by municipalities. Therefore, true program cost resulting from MS4 permit requirements is some fraction of reported costs. The California State University, Sacramento study found that only 38% of program costs are new costs fully attributable to MS4 permits. The remainder of program costs were either pre-existing or resulted from enhancement of pre-existing programs.<sup>60</sup> The County of Orange found that even lesser amounts of program costs are solely attributable to MS4 permit compliance, reporting that the amount attributable to implement its Drainage Area Management Plan, its municipal

<sup>57</sup> LARWQCB, 2003. Review and Analysis of Budget Data Submitted by the Permittees for Fiscal Years 2000-2003.p.2

<sup>58</sup> Federal Register / Vol. 64, No. 235 / Wednesday, December 8, 1999 / Rules and Regulations. P. 68791-68792.

<sup>59</sup> State Water Board, 2005. NPDES Stormwater Cost Survey. P. ii

<sup>60</sup> Ibid. P. 58.

stormwater permit requirements, is less than 20% of the total budget. The remaining 80% is attributable to pre-existing programs.<sup>61</sup>

It is also important to acknowledge that the vast majority of costs that will be incurred as a result of implementing the Order are not new. Urban runoff management programs have been in place in this region for over 15 years. Any increase in cost to the Permittees will be incremental in nature.

Urban runoff management programs cannot be considered in terms of their costs only. The programs must also be viewed in terms of their value to the public. For example, household willingness to pay for improvements in fresh water quality for fishing and boating has been estimated by USEPA to be \$158-210.<sup>62</sup> This estimate can be considered conservative, since it does not include important considerations such as marine waters benefits, wildlife benefits, or flood control benefits. The California State University, Sacramento study corroborates USEPA's estimates, reporting annual household willingness to pay for statewide clean water to be \$180.<sup>63</sup> When viewed in comparison to household costs of existing urban runoff management programs, these household willingness to pay estimates exhibit that per household costs incurred by Permittees to implement their urban runoff management programs remain reasonable.

Another important way to consider urban runoff management program costs is to consider the implementation cost in terms of costs incurred by not improving the programs. Urban runoff in southern California has been found to cause illness in people bathing near storm drains.<sup>64</sup> A study of south Huntington Beach and north Newport Beach found that an illness rate of about 0.8% among bathers at those beaches resulted in about \$3 million annually in health-related expenses.<sup>65</sup> Extrapolation of such numbers to the beaches and other water contact recreation in San Francisco Bay and the tributary creeks of the region could result in huge expenses to the public.

Urban runoff and its impact on receiving waters also places a cost on tourism. The California Division of Tourism has estimated that each out-of-state visitor spends \$101.00 a day. The experience of Huntington Beach provides an example of the potential economic impact of poor water quality. Approximately 8 miles of Huntington Beach were closed for two months in the middle of summer of 1999, impacting beach visitation and the local economy.

Finally, it is important to consider the benefits of urban runoff management programs in conjunction with their costs. A recent study conducted by USC/UCLA assessed the costs and benefits of implementing various approaches for achieving compliance with the MS4 permits in the Los Angeles Region. The study found that non-structural systems would cost \$2.8 billion but provide \$5.6 billion in benefit. If structural systems were determined to be needed, the study found that total costs would be \$5.7 to \$7.4 billion, while benefits could

<sup>61</sup> County of Orange, 2000. A NPDES Annual Progress Report. P. 60. More current data from the County of Orange is not used in this discussion because the County of Orange no longer reports such information.

<sup>62</sup> Federal Register / Vol. 64, No. 235 / Wednesday, December 8, 1999 / Rules and Regulations. P. 68793.

<sup>63</sup> State Water Board, 2005. NPDES Stormwater Cost Survey. P. iv.

<sup>64</sup> Haile, R.W., et al, 1996. An Epidemiological Study of Possible Adverse Health Effects of Swimming in Santa Monica Bay. Santa Monica Bay Restoration Project.

<sup>65</sup> Los Angeles Times, May 2, 2005. Here's What Ocean Germs Cost You: A UC Irvine Study Tallies the Cost of Treatment and Lost Wages for Beachgoers Who Get Sick.



reach \$18 billion.<sup>66</sup> Costs are anticipated to be borne over many years – probably ten years at least. As can be seen, the benefits of the programs are expected to considerably exceed their costs. Such findings are corroborated by USEPA, which found that the benefits of implementation of its Phase II storm water rule would also outweigh the costs.<sup>67</sup>

## V. LEGAL AUTHORITY

The following statutes, regulations, and Water Quality Control Plans provide the basis for the requirements of Order No. R2-2009-0074: CWA, California Water Code (CWC), 40 CFR Parts 122, 123, 124 (National Pollutant Discharge Elimination System Permit Application Regulations for Storm Water Discharges, Final Rule), Part II of 40 CFR Parts 9, 122, 123, and 124 (National Pollutant Discharge Elimination System – Regulations for Revision of the Water Pollution Control Program Addressing Storm Water Discharges; Final Rule), Water Quality Control Plan – Ocean Waters of California (California Ocean Plan), Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan), 40 CFR 131 Water Quality Standards; Establishment of Numeric Criteria for Priority Toxic Pollutants for the State of California; Rule (California Toxics Rule), and the California Toxics Rule Implementation Plan.

The legal authority citations below generally apply to directives in Order No. R2-2009-0074, and provide the Water Board with ample underlying authority to require each of the directives of Order No. R2-2009-0074.. Legal authority citations are also provided with each permit provision in this Fact Sheet.

CWA 402(p)(3)(B)(ii) – The CWA requires in section 402(p)(3)(B)(ii) that permits for discharges from municipal storm sewers “shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers.”

CWA 402(p)(3)(B)(iii) – The CWA requires in section 402(p)(3)(B)(iii) that permits for discharges from municipal storm sewers “shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.”

40 CFR 122.26(d)(2)(i)(B,C,E, and F) – Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B,C,D,E, and F) require that each Permittee’s permit application “shall consist of: (i) Adequate legal authority. A demonstration that the applicant can operate pursuant to legal authority established by statute, ordinance or series of contracts which authorizes or enables the applicant at a minimum to: [...] (B) Prohibit through ordinance, order or similar means, illicit discharges to the municipal separate storm sewer; (C) Control through ordinance, order or similar means the discharge to a municipal separate storm sewer of spills, dumping or disposal of materials other than storm water; (D) Control through interagency agreements among co-applicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system; (E) Require compliance with condition in ordinances, permits, contracts or orders; and (F) Carry out all

<sup>66</sup> LARWQCB, 2004. Alternative Approaches to Stormwater Control.

<sup>67</sup> Federal Register / Vol. 64, No. 235 / Wednesday, December 8, 1999 / Rules and Regulations. P. 68791.

inspection, surveillance and monitoring procedures necessary to determine compliance and noncompliance with permit conditions including the prohibition on illicit discharges to the municipal separate storm sewer.”

40 CFR 122.26(d)(2)(iv) – Federal NPDES regulation 40 CFR 122.26(d)(2)(iv) requires “a comprehensive planning process which involves public participation and where necessary intergovernmental coordination, to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system, design and engineering methods, and such other provisions which are appropriate. The program shall also include a description of staff and equipment available to implement the program. [...] Proposed programs may impose controls on a system wide basis, a watershed basis, a jurisdiction basis, or on individual outfalls. [...] Proposed management programs shall describe priorities for implementing controls.”

40 CFR 122.26(d)(2)(iv)(A -D) – Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A -D) require municipalities to implement controls to reduce pollutants in urban runoff from new development and significant redevelopment, construction, and commercial, residential, industrial, and municipal land uses or activities. Control of illicit discharges is also required.

CWC 13377 – CWC section 13377 requires that “Notwithstanding any other provision of this division, the state board or the regional boards shall, as required or authorized by the CWA, as amended, issue waste discharge requirements and dredged or fill material permits which apply and ensure compliance with all applicable provisions of the act and acts amendatory thereof or supplementary, thereto, together with anymore stringent effluent standards or limitation necessary to implement water quality control plans, or for the protection of beneficial uses, or to prevent nuisance.”

Order No. R2-2009-0074 is an essential mechanism for achieving the water quality objectives that have been established for protecting the beneficial uses of the water resources in the San Francisco Bay Region. Federal NPDES regulation 40 CFR 122.44(d)(1) requires MS4 permits to include any requirements necessary to “achieve water quality standards established under CWA section 303, including State narrative criteria for water quality.” The term “water quality standards” in this context refers to a water body’s beneficial uses and the water quality objectives necessary to protect those beneficial uses, as established in the Basin Plan.

## **State Mandates**

This Permit does not constitute an unfunded local government mandate subject to subvention under Article XIIB, Section (6) of the California Constitution for several reasons, including, but not limited to, the following. First, this Permit implements federally mandated requirements under CWA section 402, subdivision (p)(3)(B). (33 U.S.C. § 1342(p)(3)(B).) This includes federal requirements to effectively prohibit non-stormwater discharges, to reduce the discharge of pollutants to the maximum extent practicable, and to include such other provisions as the Administrator or the State determines appropriate for the control of such pollutants. Federal cases have held that these provisions require the development of permits and permit provisions on a case-by-case basis to satisfy federal requirements. (Natural Resources Defense Council, Inc. v. USEPA

(9th Cir. 1992) 966 F.2d 1292, 1308, fn. 17.) The authority exercised under this Permit is not reserved state authority under the CWA's savings clause (cf. *Burbank v. State Water Resources Control Bd.* (2005) 35 Cal.4th 613, 627-628 [relying on 33 U.S.C. § 1370, which allows a state to develop requirements that are not less stringent than federal requirements]), but instead, is part of a federal mandate to develop pollutant reduction requirements for MS4. To this extent, it is entirely federal authority that forms the legal basis to establish the permit provisions. (See, *City of Rancho Cucamonga v. Regional Water Quality Control Bd.-Santa Ana Region* (2006) 135 Cal.App.4th 1377, 1389; *Building Industry Association of San Diego County v. State Water Resources Control Bd.* (2004) 124 Cal.App.4th 866, 882-883.)

Likewise, the provisions of this Permit to implement total maximum daily loads (TMDLs) are federal mandates. The CWA requires TMDLs to be developed for waterbodies that do not meet federal water quality standards. (33 U.S.C. § 1313(d).) Once USEPA or a state develops a TMDL, federal law requires that permits must contain effluent limitations consistent with the assumptions of any applicable WLA. (40 CFR 122.44(d)(1)(vii)(B).)

Second, the local agencies' (Permittees') obligations under this Permit are similar to, and in many respects less stringent than, the obligations of nongovernmental dischargers who are issued NPDES permits for stormwater discharges. With a few inapplicable exceptions, the CWA regulates the discharge of pollutants from point sources (33 U.S.C. § 1342) and the Porter-Cologne regulates the discharge of waste (Water Code, section 13263), both without regard to the source of the pollutant or waste. As a result, the costs incurred by local agencies to protect water quality reflect an overarching regulatory scheme that places similar requirements on governmental and nongovernmental dischargers. (See *County of Los Angeles v. State of California* (1987) 43 Cal.3d 46, 57-58 [finding comprehensive workers compensation scheme did not create a cost for local agencies that was subject to state subvention].)

The CWA and the Porter-Cologne Water Quality Control Act largely regulate stormwater with an even hand, but to the extent that there is any relaxation of this evenhanded regulation, it is in favor of the local agencies. Except for MS4s, the CWA requires point source dischargers, including discharges of stormwater associated with industrial or construction activity, to comply strictly with water quality standards. (33 U.S.C. § 1311(b)(1)(C), *Defenders of Wildlife v. Browner* (1999) 191 F.3d 1159, 1164-1165 [noting that industrial stormwater discharges must strictly comply with water quality standards].) As discussed in prior State Water Board decisions, this Permit does not require strict compliance with water quality standards. (SWRCB Order No. WQ 2001-15, p. 7.) The Permit, therefore, regulates the discharge of waste in municipal stormwater more leniently than the discharge of waste from nongovernmental sources.

Third, the Permittees have the authority to levy service charges, fees, or assessments sufficient to pay for compliance with this Permit. The fact sheet demonstrates that numerous activities contribute to the pollutant loading in the MS4. Permittees can levy service charges, fees, or assessments on these activities, independent of real property ownership. (See, e.g., *Apartment Association of Los Angeles County, Inc. v. City of Los Angeles* (2001) 24 Cal.4th 830, 842 [upholding inspection fees associated with renting property].) The ability of a local agency to defray the cost of a program without raising

taxes indicates that a program does not entail a cost subject to subvention. (County of Fresno v. State of California (1991) 53 Cal.3d 482, 487-488.)

Fourth, the Permittees have requested permit coverage in lieu of compliance with the complete prohibition against the discharge of pollutants contained in CWA section 301, subdivision (a) (33 U.S.C. § 1311(a)) and in lieu of numeric restrictions on their discharges. To the extent Permittees have voluntarily availed themselves of the Permit, the program is not a state mandate. (Accord County of San Diego v. State of California (1997) 15 Cal.4th 68, 107-108.) Likewise, the Permittees have voluntarily sought a program-based municipal stormwater permit in lieu of a numeric limits approach. (See City of Abilene v. USEPA (5th Cir. 2003) 325 F.3d 657, 662-663 [noting that municipalities can choose between a management permit or a permit with numeric limits].) The Permittees' voluntary decision to file a report of waste discharge proposing a program-based permit is a voluntary decision not subject to subvention. (See Environmental Defense Center v. USEPA (9th Cir. 2003) 344 F.3d 832, 845-848.)

Fifth, the Permittees' responsibility for preventing discharges of waste that can create conditions of pollution or nuisance from conveyances that are within their ownership or control under State law predates the enactment of Article XIII B, Section (6) of the California Constitution.

This Permit is based on the federal CWA, the Porter-Cologne Water Quality Control Act (Division 7 of the CWC, commencing with Section 13000), applicable State and federal regulations, all applicable provisions of statewide Water Quality Control Plans and Policies adopted by the State Water Board, the Basin Plan, the California Toxics Rule, and the California Toxics Rule Implementation Plan.

**Discussion:** In 1987, Congress established CWA Amendments to create requirements for storm water discharges under the NPDES program, which provides for permit systems to regulate the discharge of pollutants. Under the Porter-Cologne Water Quality Control Act, the State Water Board and Regional Water Quality Control Boards (Water Boards) have primary responsibility for the coordination and control of water quality, including the authority to implement the CWA. Porter-Cologne (section 13240) directs the Water Boards to set water quality objectives via adoption of Basin Plans that conform to all state policies for water quality control. As a means for achieving those water quality objectives, Porter-Cologne (section 13243) further authorizes the Water Boards to establish waste discharge requirements (WDRs) to prohibit waste discharges in certain conditions or areas. Since 1990, the Water Board has issued area-wide MS4 NPDES permits. The Permit will re-issue Order Nos. 99-058, 99-059, 01-024, R2-2003-0021, R2-2003-0034 to comply with the CWA and attain water quality objectives in the Basin Plan by limiting the contributions of pollutants conveyed by urban runoff. Further discussions of the legal authority associated with the prohibitions and directives of the Permit are provided in section V. of this document.

This Permit supersedes NPDES Permit Nos. CAS029718, CAS029831, CAS029912, CAS029921, CAS612005, and CAS612006.

## Basin Plan

The Urban Runoff Management, Comprehensive Control Program section of the Basin Plan requires the Permittees to address existing water quality problems and prevent new problems associated with urban runoff through the development and implementation of a comprehensive control program focused on reducing current levels of pollutant loading to storm drains to the maximum extent practicable. The Basin Plan comprehensive program requirements are designed to be consistent with federal regulations (40 CFR Parts 122-124) and are implemented through issuance of NPDES permits to owners and operators of MS4s. A summary of the regulatory provisions is contained in Title 23 of the California Code of Regulations at section 3912. The Basin Plan identifies beneficial uses and establishes water quality objectives for surface waters in the Region, as well as effluent limitations and discharge prohibitions intended to protect those uses. This Permit implements the plans, policies, and provisions of the Water Board's Basin Plan.

## Statewide General Permits

The State Water Board has issued NPDES general permits for the regulation of stormwater discharges associated with industrial activities and construction activities. To effectively implement the New Development (and significant redevelopment) and Construction Controls, Illicit Discharge Controls, and Industrial and Commercial Discharge Controls components in this Permit, the Permittees will conduct investigations and local regulatory activities at industrial and construction sites covered by these general permits. However, under the CWA, the Water Board cannot delegate its own authority to enforce these general permits to the Permittees. Therefore, Water Board staff intends to work cooperatively with the Permittees to ensure that industries and construction sites within the Permittees' jurisdictions are in compliance with applicable general permit requirements and are not subject to uncoordinated stormwater regulatory activities.

## Regulated Parties

Each of the Permittees listed in this Permit owns or operates a MS4, through which it discharges urban runoff into waters of the United States within the San Francisco Bay Region. These MS4s fall into one or more of the following categories: (1) a medium or large MS4 that services a population of greater than 100,000 or 250,000 respectively; or (2) a small MS4 that is "interrelated" to a medium or large MS4; or (3) an MS4 which contributes to a violation of a water quality standard; or (4) an MS4 which is a significant contributor of pollutants to waters of the United States.

## Permit Coverage

The Permittees each have jurisdiction over and maintenance responsibility for their respective MS4s in the Region. Federal, State or regional entities within the Permittees' boundaries, not currently named in this Permit, operate storm drain facilities and/or discharge stormwater to the storm drains and watercourses covered by this Permit. The Permittees may lack jurisdiction over these entities. Consequently, the Water Board recognizes that the Permittees should not be held responsible for such facilities and/or discharges. The Water Board will consider such facilities for coverage under NPDES permitting pursuant to USEPA Phase II stormwater regulations. Under Phase II, the Water

Board intends to permit these federal, State, and regional entities through use of a Statewide Phase II NPDES General Permit.

Discussion: Section 402 of the CWA prohibits the discharge of any pollutant to waters of the United States from a point source, unless that discharge is authorized by a NPDES permit. Though urban runoff comes from a diffuse source, it is discharged through MS4s, which are point sources under the CWA. Federal NPDES regulation 40 CFR 122.26(a) (iii) and (iv) provide that discharges from MS4s, which service medium or large populations greater than 100,000 or 250,000 respectively, shall be required to obtain a NPDES permit. Federal NPDES regulation 40 CFR 122.26(a)(v) also provides that a NPDES permit is required for "A [storm water] discharge which the Director, or in States with approved NPDES programs, either the Director or the USEPA Regional Administrator, determines to contribute to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States." Such sources are then designated into the program.

## VI. PERMIT PROVISIONS

### A. Discharge Prohibitions

**Prohibition A.1. Legal Authority** – CWA 402(p)(3)(B)(ii) – The CWA requires in section 402(p)(3)(B)(ii) that permits for discharges from municipal storm sewers "shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers."

**Prohibition A.2. Legal Authority** – San Francisco Bay Basin Plan, 2006 Revision, Chapter 4 Implementation, Table 4-1, Prohibition 7.

### B. Receiving Water Limitations

**Receiving Water Limitation B.1. Legal Authority** – Receiving Water Limitations are retained from previous Municipal Stormwater Runoff NPDES permits. They reflect applicable water quality standards from the Basin Plan.

**Receiving Water Limitation B.2. Legal Authority** – Receiving Water Limitations are retained from previous Municipal Stormwater Runoff NPDES permits. They reflect applicable water quality standards from the Basin Plan.

### C. Provisions

#### C.1. Compliance with Discharge Prohibitions and Receiving Water Limitations

##### Legal Authority

**Broad Legal Authority:** CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

**Specific Legal Authority:** The Water Board's Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) contains the following waste discharge prohibition: "The discharge of waste to waters of the state in a manner causing, or threatening to cause a condition of pollution, contamination, or nuisance as defined in California Water Code Section 13050, is prohibited."

California Water Code section 13050(l) states "(1) 'Pollution' means an alteration of the quality of waters of the state by waste to a degree which unreasonably affects either of the following: (A) The water for beneficial uses. (B) Facilities which serve beneficial uses. (2) 'Pollution' may include 'contamination.'"

California Water Code section 13050(k) states "'Contamination' means an impairment of the quality of waters of the state by waste to a degree which creates a hazard to public health through poisoning or through the spread of disease. 'Contamination' includes any equivalent effect resulting from the disposal of waste, whether or not waters of the state are affected."

California Water Code section 13050(m) states "'Nuisance' means anything which meets all of the following requirements: (1) Is injurious to health, or is indecent or offensive to the senses, or an obstruction to the free use of property, so as to interfere with the comfortable enjoyment of life or property. (2) Affects at the same time an entire community or neighborhood, or any considerable number of persons, although the extent of the annoyance or damage inflicted upon individuals may be unequal. (3) Occurs during, or as a result of, the treatment or disposal of wastes."

California Water Code section 13241 requires each water board to "establish such water quality objectives in water quality control plans as in its judgment will ensure the reasonable protection of beneficial uses and the prevention of nuisance [...]."

California Water Code Section 13243 provides that a water board, "in a water quality control plan or in waste discharge requirements, may specify certain conditions or areas where the discharge of waste, or certain types of waste, will not be permitted."

California Water Code Section 13263(a) provides that waste discharge requirements prescribed by the water board implement the Basin Plan.

Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(A -D) require municipalities to implement controls to reduce pollutants in urban runoff from commercial, residential, industrial, and construction land uses or activities.

Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(A -D) require municipalities to have legal authority to control various discharges to their MS4.

Federal NPDES regulation 40 CFR 122.44(d)(1) requires municipal storm water permits to include any requirements necessary to "[a]chieve water quality standards established under section 303 of the CWA, including State narrative criteria for water quality."

Federal NPDES regulation 40 CFR 122.44(d)(1)(i) requires NPDES permits to include limitations to “control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.”

State Water Resources Control Board (“State Water Board”) Order WQ 1999-05, is a precedential order requiring that municipal stormwater permits achieve water quality standards and water quality standard based discharge prohibitions through the implementation of control measures, by which Permittees’ compliance with the permit can be determined. The State Water Board Order specifically requires that Provision C.1 include language that Permittees shall comply with water quality standards based discharge prohibitions and receiving water limitations through timely implementation of control measures and other actions to reduce pollutants in the discharges. State Water Board Order WQ 2001-15 refines Order 1999-05 by requiring an iterative approach to compliance with water quality standards that involves ongoing assessments and revisions.



## C.2. Municipal Operations

### Legal Authority

The following legal authority applies to Provision C.2:

**Broad Legal Authority:** CWA sections 402(p)(3)(B)(ii-iii), California Water Code (CWC) section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

**Specific Legal Authority:** Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(1) requires, "A description of maintenance activities and a maintenance schedule for structural controls to reduce pollutants (including floatables) in discharges from municipal separate storm sewers."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(3) requires, "A description for operating and maintaining public streets, roads and highways and procedures for reducing the impact on receiving waters of discharges from municipal storm sewer systems, including pollutants discharged as a result of deicing activities."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(4) requires, "A description of procedures to assure that flood management projects assess the impacts on the water quality of receiving waterbodies and that existing structural flood control devices have been evaluated to determine if retrofitting the device to provide additional pollutant removal from storm water is feasible."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(5) requires, "A description of a program to monitor pollutants in runoff from operating or closed municipal landfills or other treatment, storage or disposal facilities for municipal waste, which shall identify priorities and procedures for inspections and establishing and implementing control measures for such discharges."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(6) requires, "A description of a program to reduce to the maximum extent practicable, pollutants in discharges from municipal separate storm sewers associated with the application of pesticides, herbicides, and fertilizer which will include, as appropriate, controls such as educational activities, permits, certifications, and other measures for commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities."

Federal NPDES regulation 40 CFR 122.44(d)(1)(i) requires NPDES permits to include limitations to "control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality."

### Fact Sheet Findings in Support of Provision C.2

- C.2-1** Municipal maintenance activities are potential sources of pollutants unless appropriate inspection, pollutant source control, and cleanup measures are implemented during routine maintenance works to minimize pollutant discharges to storm drainage facilities.

Sediment accumulated on paved surfaces, such as roads, parking lots, parks, sidewalks, landscaping, and corporation yards, is the major source of point source pollutants found in urban runoff. Thus, Provision C.2 requires the Permittees to designate minimum BMPs for all municipal facilities and activities as part of their ongoing pollution prevention efforts as set forth in this Permit. Such prevention measures include, but are not limited to, activities as described below. The work of municipal maintenance personnel is vital to minimize stormwater pollution, because personnel work directly on municipal storm drains and other municipal facilities. Through work such as inspecting and cleaning storm drain drop inlets and pipes and conducting municipal construction and maintenance activities upstream of the storm drain, municipal maintenance personnel are directly responsible for preventing and removing pollutants from the storm drain. Maintenance personnel also play an important role in educating the public and in reporting and cleaning up illicit discharges.

- C.2-2** Road construction and other activities can disturb the soil and drainage patterns to streams in undeveloped areas, causing excess runoff and thereby erosion and the release of sediment. In particular, poorly designed roads can act as man-made drainages that carry runoff and sediment into natural streams, impacting water quality.

Provision C.2 also requires the Permittees to implement effective BMPs for the following rural works maintenance and support activities: (a) Road design, construction, maintenance, and repairs in rural areas that prevent and control road-related erosion and sediment transport; (b) Identification and prioritization of rural roads maintenance on the basis of soil erosion potential, slope steepness, and stream habitat resources; (c) Road and culvert construction designs that do not impact creek functions. New or replaced culverts shall not create a migratory fish passage barrier, where migratory fish are present, or lead to stream instability; (d) Development and implement an inspection program to maintain roads structural integrity and prevent impacts on water quality; (e) Provide adequate maintenance of rural roads adjacent to streams and riparian habitat to reduce erosion, replace damaging shotgun culverts, re-grade roads to slope outward where consistent with road engineering safety standards, and install water bars; and (f) When replacing existing culverts or redesigning new culverts or bridge crossings use measures to reduce erosion, provide fish passage and maintain natural stream geomorphology in a stable manner.

Road construction, culvert installation, and other rural maintenance activities can disturb the soil and drainage patterns to streams in undeveloped areas, causing excess runoff and thereby erosion and the release of sediment. Poorly

designed roads can act as preferential drainage pathways that carry runoff and sediment into natural streams, impacting water quality. In addition, other rural public works activities, including those the BMP approach would address, have the potential to significantly affect sediment discharge and transport within streams and other waterways, which can degrade the beneficial uses of those waterways. This Provision would help ensure that these impacts are appropriately controlled.

### **Specific Provision C.2 Requirements**

**Provision C.2.a-f.** (Operation and Maintenance of Municipal Separate Storm Sewer Systems (MS4) facilities) requires that the Permittees implement appropriate pollution control measures during maintenance activities and to inspect and, if necessary, clean municipal facilities such as conveyance systems, pump stations, and corporation yards, before the rainy season. The requirements will assist the Permittees to prioritize tasks, implement appropriate BMPs, evaluate the effectiveness of the implemented BMPs, and compile and submit annual reports.

**Provision C.2.d.** (Stormwater Pump Stations) In late 2005, Board staff investigated the occurrence of low salinity and dissolved oxygen conditions in Old Alameda Creek (Alameda County) and Alviso Slough (Santa Clara County) in September and October of 2005. Board staff became aware of this problem in their review of receiving water and discharge sampling conducted by the U.S. Geological Survey as part of its routine monitoring on discharges associated with the former salt ponds managed by the U.S. Fish and Wildlife Service in Santa Clara County and the California Department of Fish and Game in Alameda County.

In the case of Old Alameda Creek, discharge of black-colored water from the Alvarado pump station to the slough was observed at the time of the data collection on September 7, 2005, confirming dry weather urban runoff as the source of the documented violations of the 5 mg/L dissolved oxygen water quality objective. Such conditions were measured again on September 21, 2005.

On October 17, 2005, waters in Alviso Slough were much less saline than the salt ponds and had the lowest documented dissolved oxygen of the summer, suggesting a dry weather urban runoff source. The dissolved oxygen sag was detected surface to bottom at 2.3 mg/L at a salinity of less than 1 part per thousand (ppt), mid-day, when oxygen levels should be high at the surface. The sloughs have a typical depth of 6 feet.

Board staff's investigations of these incidents, documented in a memorandum,<sup>68</sup> found that "storm water pump stations, universally operated by automatic float triggers, have been confirmed as the cause in at least one instance, and may represent an overlooked source of controllable pollution to the San Francisco Bay Estuary and its tidal sloughs. . . the discharges of dry weather urban runoff from these pump stations are not being

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<sup>68</sup> Internal Water Board Memo dated December 2, 2005: "Dry Weather Urban Weather Urban Runoff Causing or Contributing to Water Quality Violations: Low Dissolved Oxygen (DO) in Old Alameda Creek and Alviso Slough"

managed to protect water quality, and [that] surveillance monitoring has detected measurable negative water quality consequences of this current state of pump station management.”

Pump station discharges of dry weather urban runoff can cause violations of water quality objectives. These discharges are controllable point sources of pollution that are virtually unregulated. The Water Board needs a complete inventory of dry weather urban runoff pump stations and to require BMP development and implementation for these discharges now. In the long term, Water Board staff should prioritize the sites from the regional inventory for dry weather diversion to sanitary sewers and encourage engineering feasibility studies to accomplish the diversions in a cost-effective manner. Structural treatment alternatives should be explored for specific pump stations.

To address the short term goals identified in the previous paragraph, Provision C.2.g. requires the Permittees to implement the following measures to reduce pollutant discharges to stormwater runoff from Permittee-owned or operated pump stations:

1. Establish an inventory of pump stations within each Permittee’s jurisdiction, including pump station locations and key characteristics, and inspection frequencies.
2. Inspect these pump stations regularly, but at least two times a year, to address water quality problems, including trash control and sediment and debris removal.
3. Inspect trash racks and oil absorbent booms at pump stations in the first business day after ¼-inch within 24 hours and larger storm events. Remove debris in trash racks and replace oil absorbent booms, as needed.

### C.3. New Development and Redevelopment

#### Legal Authority

**Broad Legal Authority:** CWA Sections 402(p)(3)(B)(ii-iii), CWA Section 402(a), CWC Section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F), 40 CFR 131.12, and 40 CFR 122.26(d)(2)(iv).

#### Fact Sheet Findings in Support of Provision C.3

- C.3-1** Urban development begins at the land use planning phase; therefore, this phase provides the greatest cost-effective opportunities to protect water quality in new development and redevelopment. When a Permittee incorporates policies and principles designed to safeguard water resources into its General Plan and development project approval processes, it has taken a critical step toward the preservation and most of local water resources for current and future generations.
- C.3-2** Provision C.3. is based on the assumption that Permittees are responsible for considering potential stormwater impacts when making planning and land use decisions. The goal of Provision C.3. is for Permittees to use their planning authority to include appropriate source control, site design, and stormwater treatment measures to address both soluble and insoluble stormwater runoff pollutant discharges and prevent increases in runoff flow from new development and redevelopment projects. This goal is to be accomplished primarily through the implementation of low impact development (LID) techniques. Neither Provision C.3. nor any of its requirements are intended to restrict or control local land use decision-making authority.
- C.3-3** Certain control measures implemented or required by Permittees for urban runoff management might create a habitat for vectors (e.g., mosquitoes and rodents) if not properly designed or maintained. Close collaboration and cooperative efforts among Permittees, local vector control agencies, Water Board staff, and the State Department of Public Health are necessary to minimize potential nuisances and public health impacts resulting from vector breeding.
- C.3-4** The Water Board recognized in its Policy on the Use of Constructed Wetlands for Urban Runoff Pollution Control (Resolution No. 94-102) that urban runoff treatment wetlands that are constructed and operated pursuant to that Resolution and are constructed outside a creek or other receiving water are stormwater treatment systems and, as such, are not waters of the United States subject to regulation pursuant to Sections 401 or 404 of the federal Clean Water Act. Water Board staff is working with the California Department of Fish and Game (CDFG) and U.S. Fish and Wildlife Service (USFWS) to identify how maintenance for stormwater treatment controls required under permits such as this Permit can be appropriately streamlined, given CDFG and USFWS requirements, and particularly those that address special status species. This Permit requires Permittees to ensure that constructed wetlands installed by

Regulated Projects are consistent with Resolution No. 94-102 and the operation and maintenance requirements contained therein.

- C.3-5 The Permit requires Permittees to ensure that onsite, joint, and offsite stormwater treatment systems and HM controls installed by Regulated Projects are properly operated and maintained for the life of the projects. In cases where the responsible parties for the treatment systems or HM controls have worked diligently and in good faith with the appropriate state and federal agencies to obtain approvals necessary to complete maintenance activities for the treatment systems or HM controls, but these approvals are not granted, the Permittees shall be considered by the Water Board to be in compliance with Provision C.3.h.iii. of the Permit.

### **Specific Provision C.3 Requirements**

**Provision C.3.a.** (New Development and Redevelopment Performance Standard Implementation) sets forth essentially the same legal authority, development review and permitting, environmental review, training, and outreach requirements that are contained in the existing permits. This Provision also requires the Permittees to encourage all projects not regulated by Provision C.3., but that are subject to the Permittees' planning, building, development, or other comparable review, to include adequate source control and site design measures, which include discharge of appropriate wastestreams to the sanitary sewer, subject to the local sanitary agency's authority and standards. Lastly, this Provision requires Permittees to revise, as necessary, their respective General Plans to integrate water quality and watershed protection with water supply, flood control, habitat protection, groundwater recharge, and other sustainable development principles and policies. Adequate implementation time has been allocated to Provisions C.3.a.i.(6)-(8), which may be considered new requirements.

**Provision C.3.b.** (Regulated Projects) establishes the different categories of new development and redevelopment projects that Permittees must regulate under Provision C.3. These categories are defined on the basis of the land use and the amount of impervious surface created and/or replaced by the project because all impervious surfaces contribute pollutants to stormwater runoff and certain land uses contribute more pollutants. Impervious surfaces can neither absorb water nor remove pollutants as the natural, vegetated soil they replaced can. Also, urban development creates new pollution by bringing higher levels of car emissions that are aerially deposited, car maintenance wastes, pesticides, household hazardous wastes, pet wastes, and trash, which can all be washed into the storm sewer.

**Provision C.3.b.ii.(1)** lists Special Land Use Categories that are already regulated under the current stormwater permits. Therefore, extra time is not necessary for the Permittees to comply with this Provision, so the Permit Effective Date is set as the required implementation date. For these categories, the impervious surface threshold (for classification as a Regulated Project subject to Provision C.3.) will be decreased from the current 10,000 ft<sup>2</sup> to 5,000 ft<sup>2</sup> beginning two years from the Permit Effective Date. These special land use categories represent land use types

that may contribute more polluted stormwater runoff. Regulation of these special land use categories at the lower impervious threshold of 5,000 square feet is considered the maximum extent practicable and is consistent with State Board guidance, court decisions, and other Water Boards' requirements. In the precedential decision contained in its WQ Order No. 2000-11, the State Board upheld the SUSMP (Standard Urban Stormwater Mitigation Plan) requirements issued by the Los Angeles Water Board's Executive Officer on March 8, 2000, and found that they constitute MEP for addressing pollutant discharges resulting from Priority Development Projects. The State Board re-affirmed that SUSMP requirements constitute MEP in their Order WQ 2001-15. Provision C.3.b.ii.(1)'s requirement that development projects in the identified Special Land Use Categories adding and/or replacing > 5000 ft<sup>2</sup> of impervious surface shall install hydraulically sized stormwater treatment systems is consistent with the SUSMP provisions upheld by the State Board. Provision C.3.b.ii.(1) is also consistent with Order No. R9-2007-0001 issued by the San Diego Water Board, Order Nos. R4-2009-0057 and R4-2001-182 issued by the Los Angeles Water Board, Order No. 2009-0030 issued by the Santa Ana Water Board, and State Board's Order WQ 2003-0005 issued to Phase II MS4s. Under Order WQ 2003-0005, Phase II MS4s with populations of 50,000 and greater must apply the lower 5000 ft<sup>2</sup> threshold for requiring stormwater treatment systems by April 2008. The MRP allows two years from the MRP effective date for the Permittees to implement the lower 5000 ft<sup>2</sup> threshold for the special land use categories, three and half years later than the Phase II MS4s. However, the additional time is necessary for the Permittees to revise ordinances and permitting procedures and conduct training and outreach.

This Provision contains a "grandfathering" clause, which allows any private development project in a special land use category for which a planning application has been deemed complete by a Permittee on or before the Permit effective date to be exempted from the lower 5,000 square feet impervious surface threshold (for classification as a Regulated Project) as long as the project applicant is diligently pursuing the project. Diligent pursuance may be demonstrated by the project applicant's submittal of supplemental information to the original application, plans, or other documents required for any necessary approvals of the project by the Permittee. If during the time period between the Permit effective date and the required implementation date of December 1, 2011, for the 5000 square feet threshold, the project applicant has not taken any action to obtain the necessary approvals from the Permittee, the project will then be subject to the lower 5000 square feet impervious surface threshold specified in Provision C.3.b.ii.(1).

For any private development project in a special land use category with an application deemed complete after the Permit effective date, the lower 5000 square feet impervious surface threshold (for classification as a Regulated Project) shall not apply if the project applicant has received final discretionary approval for the project before the required implementation date of December 1, 2011 for the 5000 square feet threshold.

Previous stormwater permits also used the “application deemed complete” date as the date for determining Provision C.3. applicability, but it was tied to the implementation date for new requirements and not the Permit effective date. The Permit Streamlining Act requires that a public agency must determine whether a permit application is complete within 30 days after receipt; if the public agency does not make this determination, the application is automatically deemed complete after 30 days. Data we have collected from audits and file reviews as well as reported to us by Permittees confirm that in many cases, the development permit applications have indeed not been reviewed for compliance with Provision C.3. requirements and yet have automatically been deemed complete 30 days after the application submittal date. As soon as the Permit is adopted, there is certainty about any new requirements that must be implemented during the Permit term. Therefore, the “application deemed complete” date should only be used to exempt projects that have reached this milestone by the Permit effective date and not years later at a new requirement’s implementation date. However, this change requires consideration of those applications that are deemed complete after the Permit effective date. Because there is certainty with regard to new requirements as soon as the Permit becomes effective, we have tied the “final discretionary approval” date to a new requirement’s implementation date for determining whether to exempt the projects with applications deemed complete after the Permit effective date. After a project receives “final discretionary approval” it would be too late in the permitting process to implement new requirements, particularly since this type of approval requires actions by city councils or boards of supervisors. Therefore, the “grandfathering” language is a hybrid that makes use of both the “application deemed complete” date and the “final discretionary approval” date, two known and recognized milestones in development planning.

As for private projects, public projects should be far enough along in the design and approval process to warrant being grandfathered and essentially exempted from complying with the lower 5000 ft<sup>2</sup> threshold when it becomes effective. Previous stormwater permits grandfathered projects that only had funds committed by the new threshold’s effective date, which was too early because projects can be held for years before design can begin, well after funding commitments have been made. Conversely, application of the grandfathering exemption to projects that have construction scheduled to begin by the threshold effective date (or 2 years after the MRP effective date) may be too late in the permitting process to implement new threshold requirements, particularly since this type of approval requires actions by city councils or boards of supervisors. Therefore, the Permit provides the grandfathering exemption for projects that have construction set to begin within 1 year of the threshold effective date (or 3 years after the MRP effective date).

**Provisions C.3.b.ii.(2)-(3)** describe land use categories that are already regulated under the current stormwater permits; therefore, extra time is not necessary for the Permittees to comply with these Provisions and the implementation date is the Permit effective date. Because the Vallejo Permittees do not have post-



construction requirements in their current stormwater permit, the Permit allows an extra year for them to comply with these Provisions.

**Provision C.3.b.ii.(4)** applies to road projects adding and/or replacing 10,000 ft<sup>2</sup> of impervious surface, which include the construction of new roads and sidewalks and bicycle lanes built as part of the new roads; widening of existing roads with additional traffic lanes; and construction of impervious trails that are greater than 10 feet wide or are creekside (within 50 feet of the top of bank). Although widening existing roads with bike lanes and sidewalks increases impervious surface and therefore increases stormwater pollutants because of aerial deposition, they have been excluded from this Provision because we recognize the greater benefit that bike lanes and sidewalks provide by encouraging less use of automobiles. Likewise, this Provision also contains specific exclusions for: sidewalks built as part of a new road and built to direct stormwater runoff to adjacent vegetated areas; bike lanes built as part of a new road but not hydraulically connected to the new road and built to direct stormwater runoff to adjacent vegetated areas; impervious trails built to direct stormwater runoff to adjacent vegetated areas, or other non-erodible permeable areas, preferably away from creeks or towards the outboard side of levees; and sidewalks, bike lanes, or trails constructed with permeable surfaces.

In the case of road widening projects where additional lanes of traffic are added, the 50% rule also applies. That is, the addition of traffic lanes resulting in an alteration of more than 50 percent of the impervious surface of an existing street or road that was not subject to Provision C.3, the entire project, consisting of all existing, new, and/or replaced impervious surfaces, must be included in the treatment system design (i.e., stormwater treatment systems must be designed and sized to treat stormwater runoff from the entire street or road that had additional traffic lanes added).

Where the addition of traffic lanes results in an alteration of less than 50 percent of the impervious surface of an existing street or road that was not subject to Provision C.3, only the new and/or replaced impervious surface of the project must be included in the treatment system design (i.e., stormwater treatment systems must be designed and sized to treat stormwater runoff from only the new traffic lanes). However, if the stormwater runoff from the existing traffic lanes and the added traffic lanes cannot be separated, any onsite treatment system must be designed and sized to treat stormwater runoff from the entire street or road. If an offsite treatment system is installed or in-lieu fees paid in accordance with Provision C.3.e., the offsite treatment system or in-lieu fees must address only the stormwater runoff from the added traffic lanes.

Because road widening and trail projects belong to a newly added category of Regulated Projects, adequate implementation time has been included as well as “grandfathering” language. (See discussion under Provision C.3.b.ii.(1).)

**Provision C.3.b.iii.** requires that the Permittees cumulatively complete 10 pilot “green street” projects within the Permit term. This Provision was originally intended to require stormwater treatment for road rehabilitation projects on

arterial roads that added and/or replaced > 10,000 ft<sup>2</sup> of impervious surface. We acknowledge the logistical difficulties in retrofitting roads with stormwater treatment systems as well as the funding challenges facing municipalities in the Bay Area. However, we are aware that some cities have or will have funding for “green street” retrofit projects that will provide water quality benefits as well as meet broader community goals such as fostering unique and attractive streetscapes that protect and enhance neighborhood livability, serving to enhance pedestrian and bike access, and encouraging the planting of landscapes and vegetation that contribute to reductions in global warming. Therefore, instead of requiring post-construction treatment for all road rehabilitation of arterial streets, this Provision requires the completion of 10 pilot “green street” projects by the Permittees within the Permit term. These projects must incorporate LID techniques for site design and treatment in accordance with Provision C.3.c. and provide stormwater treatment pursuant to Provision C.3.d. and must be representative of the three different types of streets: arterial, collector, and local. To ensure equity and an even distribution of projects, at least two pilot projects must be located in each of the following counties: Alameda, Contra Costa, San Mateo, and Santa Clara. Parking lot projects are acceptable as pilot projects as long as both parking lot and street runoff is addressed. Because these are pilot projects, we have not specified a minimum or maximum size requirement and the details of which cities will have these projects are to be determined by the Permittees.

**Provision C.3.c** (Low Impact Development (LID)) recognizes LID as a cost-effective, beneficial, holistic, integrated stormwater management strategy<sup>69</sup>. The goal of LID is to reduce runoff and mimic a site’s predevelopment hydrology by minimizing disturbed areas and impervious cover and then infiltrating, storing, detaining, evapotranspiring, and/or biotreating stormwater runoff close to its source. LID employs principles such as preserving and recreating natural landscape features and minimizing imperviousness to create functional and appealing site drainage that treat stormwater as a resource, rather than a waste product. Practices used to adhere to these LID principles include measures such as preserving undeveloped open space, rain barrels and cisterns, green roofs, permeable pavement, and biotreatment through rain gardens, bioretention units, bioswales, and planter/tree boxes.

This Provision sets forth a three-pronged approach to LID with source control, site design, and stormwater treatment requirements. The concepts and techniques for incorporating LID into development projects, particularly for site design, have been extensively discussed in BASMAA’s Start at the Source manual (1999) and its companion document, Using Site Design Techniques to Meet Development Standards for Stormwater Quality (May 2003), as well as in various other LID reference documents.

**Provision C.3.c.i.(1)** lists source control measures that must be included in all Regulated Projects as well as some that are applicable only to certain types of

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<sup>69</sup> USEPA, *Reducing Stormwater Costs through Low Impact Development (LID) Strategies and Practices* (Publication Number EPA 841-F-07-006, December 2007) <http://www.epa.gov/owow/nps/lid/costs07>

businesses and facilities. These measures are recognized nationwide as basic, effective techniques to minimize the introduction of pollutants into stormwater runoff. The current stormwater permits also list these methods; however, they are encouraged rather than required. By requiring these source control measures, this Provision sets a consistent, achievable standard for all Regulated Projects and allows the Board to more systematically and fairly measure permit compliance. This Provision retains enough flexibility such that Regulated Projects are not forced to include measures inappropriate, or impracticable, to their projects. This Provision does not preclude Permittees from requiring additional measures that may be applicable and appropriate.

**Provision C.3.c.i.(2)(a)** lists site design elements that must be implemented at all Regulated Projects. These design elements are basic, effective techniques to minimize pollutant concentrations in stormwater runoff as well as the volume and frequency of discharge of the runoff. On the basis of the Board staff's review of the Permittees' Annual Reports and CWA section 401 certification projects, these measures are already being done at many projects. One design element requires all Regulated Projects to include at least one site design measure from a list of six which includes recycling of roof runoff, directing runoff into vegetated areas, and installation of permeable surfaces instead of traditional paving. All these measures serve to reduce the amount of runoff and its associated pollutants being discharged from the Regulated Project.

**Provision C.3.c.i.(2)(b)** requires each Regulated Project to treat 100% of the Provision C.3.d. runoff with LID treatment measures onsite or with LID treatment measures at a joint stormwater treatment facility. LID treatment measures are harvesting and re-use, infiltration, evapotranspiration, or biotreatment. A properly engineered and maintained biotreatment system may be considered only if it is infeasible to implement harvesting and re-use, infiltration, or evapotranspiration at a project site. Infeasibility may result from conditions including the following:

- Locations where seasonal high groundwater would be within 10 feet of the base of the LID treatment measure.
- Locations within 100 feet of a groundwater well used for drinking water.
- Development sites where pollutant mobilization in the soil or groundwater is a documented concern.
- Locations with potential geotechnical hazards.
- Smart growth and infill or redevelopment sites where the density and/or nature of the project would create significant difficulty for compliance with the onsite volume retention requirement.
- Locations with tight clay soils that significantly limit the infiltration of stormwater.

This Provision recognizes the benefits of harvesting and reuse, infiltration and evapotranspiration and establishes these methods at the top of the LID treatment hierarchy. This Provision also acknowledges the challenges, both institutional and technical, to providing these LID methods at all Regulated Projects. There

are certainly situations where biotreatment is a valid LID treatment measure and this Provision allows Permittees the flexibility to make this determination so that Regulated Projects are not forced to include measures inappropriate or impracticable to the project sites. However, Permittees are required to submit a report within 18 months of the Permit effective date and prior to the required implementation date on the criteria and procedures that Permittees will employ to determine when harvesting and re-use, infiltration, or evapotranspiration is feasible and infeasible at a Regulated Project site. The Permittees are also required to submit a second report two years after implementing the new LID requirements that documents their experience with determining the feasibility and infeasibility of harvesting and reuse, infiltration, and evapotranspiration at Regulated Project sites. This report shall also discuss barriers, including institutional and technical site specific constraints, to implementation of infiltration, harvesting and reuse, or evapotranspiration and proposed strategies for removing these identified barriers.

This Provision specifies minimum specifications for biotreatment systems to be considered as LID treatment and requires Permittees to develop soil media specifications. Because this Provision recognizes green roofs as biotreatment systems for roof runoff, it also requires Permittees to develop minimum specifications for green roofs.

Provision C.3.c.ii. establishes the implementation date for the new LID requirements of Provision C.3.c.i. to be two years after the Permit effective date. Grandfathering language consistent with Provision C.3.b.ii.(1) has been included in this Provision to exempt private development projects (that are far along in their permitting and approval process) and public projects (that are far along in their funding and design) from the requirements of Provision C.3.c.i.

**Provision C.3.d** (Numeric Sizing Criteria for Stormwater Treatment Systems) lists the hydraulic sizing design criteria that the stormwater treatment systems installed for Regulated Projects must meet. The volume and flow hydraulic design criteria are the same as those required in the current stormwater permits. These criteria ensure that stormwater treatment systems will be designed to treat the optimum amount of relatively smaller-sized runoff-generating storms each year. That is, the treatment systems will be sized to treat the majority of rainfall events generating polluted runoff but will not have to be sized to treat the few very large annual storms as well. For many projects, such large treatment systems become infeasible to incorporate into the projects. Provision C.3.d. also adds a new combined flow and volume hydraulic design criteria to accommodate those situations where a combination approach is deemed most efficient.

**Provision C.3.d.iv.** defines infiltration devices and establishes limits on the use of stormwater treatment systems that function primarily as infiltration devices. The intent of the Provision is to ensure that the use of infiltration devices, where feasible and safe from the standpoint of structural integrity, must also not cause or contribute to the degradation of groundwater quality at the project sites. This Provision requires infiltration devices to be located a minimum of 10 feet

(measured from the base) above the seasonal high groundwater mark and a minimum of 100 feet horizontally away from any known water supply wells, septic systems, and underground storage tanks with hazardous materials, and other measures to ensure that any potential threat to the beneficial uses of ground water is appropriately evaluated and avoided.

**Provision C.3.e** (Alternative or In-Lieu Compliance with Provision C.3.c.) recognizes that not all Regulated Projects may be able to install LID treatment systems onsite because of site conditions, such as existing underground utilities, right-of-way constraints, and limited space.

**Provision C.3.e.i.** In keeping with LID concepts and strategies, we expect new development projects to provide LID treatment onsite and to allocate the appropriate space for these systems because they do not have the site limitations of redevelopment and infill site development in the urban core. However, this Provision does not restrict alternative compliance to redevelopment and infill projects because the Permittees have requested flexibility to make the determination of when alternative compliance is appropriate. Based on the lack of offsite alternative compliance projects installed during the current stormwater permit terms, it seems that having to find offsite projects is already a great disincentive. Therefore, this Provision allows any Regulated Project to provide LID treatment for up to 100% of the required Provision C.3.d. stormwater runoff at an offsite location or pay equivalent in-lieu fees to provide LID treatment at a Regional Project, as long as the offsite and Regional Projects are in the same watershed as the Regulated Project.

For the LID Treatment at an Offsite Location alternative compliance option, offsite projects must be constructed by the end of construction of the Regulated Project. We acknowledge that a longer timeframe may be required to complete construction of offsite projects because of administrative, legal, and/or construction delays. Therefore, up to 3 years additional time is allowed for construction of the offsite project; however, to offset the untreated stormwater runoff from the Regulated Project that occurs while construction of the offsite project is taking place, the offsite project must be sized to treat an additional 10% of the calculated equivalent quantity of both stormwater runoff and pollutant loading for each year that it is delayed. Permittees have commented that for projects that are delayed, requiring treatment of an additional (10-30)% of stormwater runoff may result in costly re-design of treatment systems. In those cases, payment of in-lieu fees to provide the additional treatment at a Regional Project is a viable alternative.

For the Payment of In-Lieu Fees to a Regional Project alternative compliance option, the Regional Project must be completed within 3 years after the end of construction of the Regulated Project. We acknowledge that a longer timeframe may be required to complete construction of Regional Projects because they may involve a variety of public agencies and stakeholder groups and a longer planning and construction phase. Therefore, the timeline for completion of a Regional Project may be extended, up to 5 years after the completion of the Regulated

Project, with prior Water Board Executive Officer approval. Executive Officer approval will be granted contingent upon a demonstration of good faith efforts to implement the Regional Project, such as having funds encumbered and applying for the appropriate regulatory permits.

**Provision C.3.e.ii. (Special Projects)** When considered at the watershed scale, certain types of smart growth, high density, and transit-oriented development can either reduce existing impervious surfaces, or create less “accessory” impervious areas and auto-related pollutant impacts. Incentive LID treatment reduction credits approved by the Water Board may be applied to these types of Special Projects.

This Provision requires that by December 1, 2010, Permittees shall submit a proposal to the Water Board containing the following information:

- Identification of the types of projects proposed for consideration of LID treatment reduction credits and an estimate of the number and cumulative area of potential projects during the remaining term of this permit for each type of project..
- Identification of institutional barriers and/or technical site specific constraints to providing 100% LID treatment onsite that justify the allowance for non-LID treatment measures onsite.
- Specific criteria for each type of Special Project proposed, including size, location, minimum densities, minimum floor area ratios, or other appropriate limitations.
- Identification of specific water quality and environmental benefits provided by these types of projects that justify the allowance for non-LID treatment measures onsite.
- Proposed LID treatment reduction credit for each type of Special Project and justification for the proposed credits. The justification shall include identification and an estimate of the specific water quality benefit provided by each type of Special Project proposed for LID treatment reduction credit.
- Proposed total treatment reduction credit for Special Projects that may be characterized by more than one category and justification for the proposed total credit.

**Provision C.3.f** (Alternative Certification of Adherence to Numeric Sizing Criteria for Stormwater Treatment Systems) allows Permittees to have a third-party review and certify a Regulated Project’s compliance with the hydraulic design criteria in Provision C.3.d. Some municipalities do not have the staffing resources to perform these technical reviews. The third-party review option addresses this staffing issue. This Provision requires Permittees to make a reasonable effort to ensure that the third-party reviewer has no conflict of interest with regard to the Regulated Project being reviewed. That is, any consultant, contractor or their employees hired to design and/or construct a stormwater treatment system for a Regulated Project can not also be the certifying third party.

**Provision C.3.g.** (Hydromodification Management, HM) requires that certain new development projects manage increases in stormwater runoff flow and volume so that post-project runoff shall not exceed estimated pre-project runoff rates and durations, where such increased flow and/or volume is likely to cause increased potential for erosion of creek beds and banks, silt pollutant generation, or other adverse impacts on beneficial uses due to increased erosive force.

**Background for Provision C.3.g.** Based on Hydrograph Modification Management Plans prepared by the Permittees, the Water Board adopted hydromodification management (HM) requirements for Alameda Permittees (March 2007), Contra Costa Permittees (July 2006), Fairfield-Suisun Permittees (March 2007), Santa Clara Permittees (July 2005), and San Mateo Permittees (March 2007). Within Provision C.3.g, the major common elements of these HM requirements are restated. Attachments B–F contain the HM requirements as adopted by the Water Board, with some changes to correct minor errors and to provide consistency across the Region. Attachment F contains updated HM requirements for the Santa Clara Permittees. Permittees will continue to implement their adopted HM requirements; where Provision C.3.g. contradicts the Attachments, Provision C.3.g. shall be implemented. Additional requirements and/or options contained in the Attachments, above and beyond what is specified in Provision C.3.g., remain unaltered by Provision C.3.g. In all cases, the HM Standard must be achieved.

The Alameda, Santa Clara and San Mateo Permittees have adapted the Western Washington Hydrology Model<sup>70</sup> for modeling runoff from development project sites, sizing flow duration control structures, and determining overall compliance of such structures and other HM control structures (HM controls) in controlling runoff from the project sites to manage hydromodification impacts as described in the Permit. The adapted model is called the Bay Area Hydrology Model (BAHM).<sup>71</sup> All Permittees may use the BAHM if its inputs reflect actual conditions at the project site and surrounding area, including receiving water conditions. As Permittees gain experience in designing and operating HM controls, the Programs may make adjustments in the BAHM to improve its function in controlling excess runoff and managing hydromodification impacts. Notification of all such changes shall be given to the Water Board and the public through such mechanism as an electronic email list.

The Contra Costa Permittees have developed sizing charts for the design of flow duration control devices. Attachment C requires the Contra Costa Permittees to conduct a monitoring program to verify the performance of these devices. Following the satisfactory conclusion of this monitoring program, or conclusion of other study(s) that demonstrate devices built according to Attachment C specifications satisfactorily protect streams from excess erosive flows, the Water Board intends to allow the use of the Contra Costa sizing charts, when tailored to local conditions, by other stormwater programs and Permittees. Similarly, any other control strategies or criteria approved by the Board would be made available across the Region. This would be accomplished

<sup>70</sup> [http://www.ecy.wa.gov/programs/wq/stormwater/wwhm\\_training/wwhm/wwhm\\_v2/instructions\\_v2.html](http://www.ecy.wa.gov/programs/wq/stormwater/wwhm_training/wwhm/wwhm_v2/instructions_v2.html)

<sup>71</sup> See [www.bayareahydrologymodel.org](http://www.bayareahydrologymodel.org), Resources.

through Permit amendment or in another appropriate manner following appropriate public notification and process.

The Fairfield-Suisun Permittees have developed design procedures, criteria, and sizing factors for infiltration basins and bioretention units. These procedures, criteria, and sizing factors have been through the public review process already, and are not subject to public review at this time. Water Board staff's technical review found that the procedures, criteria, and sizing factors are acceptable in all ways except one: they are based on an allowable low flow rate that exceeds the criteria established in this Permit. Fairfield-Suisun Permittees may choose to change the design criteria and sizing factors to the allowable criterion of 20 percent of the 2-year peak flow, and seek Executive Officer approval of the modified sizing factors. This criterion, which is greater than the criterion allowed for other Bay Area Stormwater Countywide Programs, is based on data collected from Laurel and LedgeWood Creeks and technical analyses of these site-specific data. Following approval by the Executive Officer and notification of the public through such mechanism as an email list-serve, project proponents in the Fairfield-Suisun area may meet the HM Standard by using the Fairfield-Suisun Permittees' design procedures, criteria, and sizing factors for infiltration basins and/or bioretention units.

Attachments B and F allow the Alameda and Santa Clara Permittees to prepare a user guide to be used for evaluating individual receiving waterbodies using detailed methods to assess channel stability and watercourse critical flow. This user guide would reiterate and collate established stream stability assessment methods that have been presented in these Programs' HMPs, which have undergone Water Board staff review and been made available for public review. After the Programs have collated their methods into user guide format, received approval of the user guide from the Executive Officer, and informed the public through such process as an email list-serve, the user guide may be used to guide preparation of technical reports for: implementing the HM standard using in-stream or regional measures; determining whether certain projects are discharging to a watercourse that is less susceptible (from point of discharge to the Bay) to hydromodification (e.g., would have a lower potential for erosion than set forth in this Permit); and/or determining if a watercourse has a higher critical flow and project(s) discharging to it are eligible for an alternative  $Q_{cp}$ <sup>72</sup> for the purpose of designing on-site or regional measures to control flows draining to these channels (i.e., the actual threshold of erosion-causing critical flow is higher than 10 percent of the 2-year pre-project flow).

The Water Board recognizes that the collective knowledge of management of erosive flows and durations from new and redevelopment is evolving, and that the topics listed below are appropriate topics for further study. Such a study may be initiated by Water Board staff, or the Executive Officer may request that all Bay Region municipal stormwater Permittees jointly conduct investigations as appropriate. Any future

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<sup>72</sup>  $Q_{cp}$  is the allowable low flow discharge from a flow control structure on a project site. It is a means of apportioning the critical flow in a stream to individual projects that discharge to that stream, such that cumulative discharges do not exceed the critical flow in the stream.



proposed changes to the Permittees' HM provisions may reflect improved understanding of these issues:

- Potential incremental costs, and benefits to waterways, from controlling a range of flows up to the 35- or 50-year peak flow, versus controlling up to the 10-year peak flow, as required by this Permit;
- The allowable low-flow (also called Qcp and currently specified as 10–20 percent of the pre-project 2-year runoff from the site) from HM controls;
- The effectiveness of self-retaining areas for management of post-project flows and durations; and/or
- The appropriate basis for determining cost-based impracticability of treating stormwater runoff and controlling excess runoff flows and durations.

Within Attachments B-F, this Permit allows for alternative HM compliance when on-site and regional HM controls and in-stream measures are not practicable. Alternative HM compliance includes contributing to or providing mitigation at other new or existing development projects that are not otherwise required by this Permit or other regulatory requirements to have HM controls. The Permit provides flexibility in the type, location, and timing of the mitigation measure. The Board recognizes that handling mitigation funds may be difficult for some municipalities because of administrative and legal constraints. The Board intends to allow flexibility for project proponents and/or Permittees to develop new or retrofit stormwater treatment or HM control projects within a broad area and reasonable time frame. Toward the end of the Permit term, the Board will review alternative projects and determine whether the impracticability criteria and options should be broadened or made narrower.

**Provision C.3.g.i.** defines the subset of Regulated Projects that must install hydromodification controls (HM controls). This subset, called HM Projects, are Regulated Projects that create and/or replace one acre or more of impervious surface and are not specifically excluded within Attachments B–F of the Permit. Within these Attachments, the Permittees have identified areas where the potential for single-project and/or cumulative development impacts to creeks is minimal, and thus HM controls are not required. Such areas include creeks that are concrete-lined or significantly hardened (e.g., with concrete) from point of discharge and continuously downstream to their outfall into San Francisco Bay; underground storm drains discharging to the Bay; and construction of infill projects in highly developed watersheds.<sup>73</sup>

**Provision C.3.g.ii.** establishes the standard hydromodification controls must meet. The HM Standard is based largely on the standards proposed by Permittees in their Hydrograph Modification Management Plans. The method for calculating post-project runoff in regards to HM controls is standard practice in Washington State and is equally applicable in California.

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<sup>73</sup> Within the context of Provision C.3.g., “highly developed watersheds; refer to catchments or sub-catchments that are 65 percent impervious or more.

**Provision C.3.g.iii.** identifies and defines three methods of hydromodification management.

**Provision C.3.g.iv.** sets forth the information on hydromodification management to be submitted in the Permittees' Annual Reports.

**Provision C.3.g.v.** requires the Vallejo Permittees to develop a Hydromodification Management Plan (HMP), because the Vallejo Permittees have not been required to address HM impacts to date. Vallejo's current permit was issued by USEPA and does not require the Vallejo Permittees' to develop an HMP. The Vallejo Permittees may choose to adopt and implement one or a combination of the approaches in Attachments B–F.

**Provision C.3.h** (Operation and Maintenance of Stormwater Treatment Systems) establishes permitting requirements to ensure that proper maintenance for the life of the project is provided for all onsite, joint, and offsite stormwater treatment systems installed. The Provision requires Permittees to inspect at least 20% of these systems annually, at least 20% of all vault-based systems annually, and every treatment system at least once every 5 years. Requiring inspection of at least 20% of the total number of treatment and HM controls serves to prevent failed or improperly maintained systems from going undetected until the 5th year. We have the additional requirement to inspect at least 20% of all installed vault-based systems because they require more frequent maintenance and problems arise when the appropriate maintenance schedules are not followed. Also, problems with vault systems may not be as readily identified by the projects' regular maintenance crews. Neither of these inspection frequency requirements interferes with the Permittees' current ability to prioritize their inspections based on factors such as types of maintenance agreements, owner or contractor maintained systems, maintenance history, etc. This Provision also requires the development of a database or equivalent tabular format to track the operation and maintenance inspections and any necessary enforcement actions against Regulated Projects and submittal of Reporting Table C.3.h., which requires standard information that should be collected on each operation and maintenance inspection. We require this type of information to evaluate a Permittee's inspection and enforcement program and to determine compliance with the Permit. Summary data alone without facility-specific inspection findings does not allow us to determine whether Permittees are doing timely follow-up inspections at problematic facilities and taking appropriate enforcement actions.

Stormwater treatment system maintenance has been identified as a critical aspect of addressing urban runoff from Regulated Projects by many prominent urban runoff authorities, including CASQA, which states that "long-term performance of BMPs [stormwater treatment systems] hinges on ongoing and proper maintenance."<sup>74</sup> USEPA also stresses the importance of BMP [stormwater treatment system] maintenance,

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<sup>74</sup> California Stormwater Quality Association, 2003. Stormwater Best Management Practice Handbook – New Development and Redevelopment, p. 6-1.

stating that “Lack of maintenance often limits the effectiveness of stormwater structure controls such as detention/retention basins and infiltration devices.”<sup>75</sup>

**Provision C.3.i.** (Required Site Design Measures for Small Project and Detached Single-Family Homes Projects) introduces new requirements on single-family home projects that create and/or replace 2500 square feet or more of impervious surface and small development projects that create and/or replace > 2500 ft<sup>2</sup> to <10,000 ft<sup>2</sup> impervious surface (collectively over the entire project). A detached single-family home project is defined as the building of one single new house or the addition and/or replacement of impervious surface to one single existing house, which is not part of a larger plan of development.

This Provision requires these projects to select and implement one or more stormwater site design measures from a list of six. These site design measures are basic methods to reduce the amount and flowrate of stormwater runoff from projects and provide some pollutant removal treatment of the runoff that does leave the projects. Under this Provision, only projects that already require approvals and/or permits under the Permittees’ current planning, building, or other comparable authority are regulated. Hence this Provision does not require Permittees to regulate small development and single-family home projects that would not otherwise be regulated under the Permittees’ current ordinances or authorities. Water Board staff recognizes that the stormwater runoff pollutant and volume contribution from each one of these projects may be small; however, the cumulative impacts could be significant. This Provision serves to address some of these cumulative impacts in a simple way that will not be too administratively burdensome on the Permittees. To assist these small development and single-family home projects, this Provision also requires the Permittees to develop standard specifications for lot-scale site design and treatment measures.

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<sup>75</sup> USEPA. 1992. *Guidance Manual for the Preparation of Part II of the NPDES Permit Application for Discharges from Municipal Separate Storm Sewer Systems*. EPA 833-B-92-002.

## **C.4. Industrial and Commercial Site Controls**

### **Legal Authority**

**Broad Legal Authority:** CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, D, E, and F) and 40 CFR 122.26(d)(2)(iv).

**Specific Legal Authority:** Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(C) requires, “A description of a program to monitor and control pollutants in storm water discharges to municipal systems from municipal landfills, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to section 313 of title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA), and industrial facilities that the municipal permit applicant determines are contributing a substantial pollutant loading to the municipal storm sewer system.”

### **Specific Provision C.4. Requirements**

#### **Provision C.4.a (Legal Authority for Effective Site Management)**

Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(A) provides that each Permittee must demonstrate that it can control “through ordinance, permit, contract, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from site of industrial activity.” This section also describes requirements for effective follow-up and resolution of actual or threatened discharges of either polluted non-stormwater or polluted stormwater runoff from industrial/commercial sites.

#### **Provision C.4.b (Inspection Plan)**

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(C)(1) provides that Permittees must “identify priorities and procedures for inspections and establishing and implementing control measures for such discharges.” The Permit requires Permittees to implement an industrial and commercial site controls program to reduce pollutants in runoff from all industrial and commercial sites/sources.

##### **Provision C.4.b.ii.(1) (Commercial and Industrial Source Identification)**

Federal NPDES regulation 40 CFR 122.26(d)(2)(ii) provides that Permittees “Provide an inventory, organized by watershed of the name and address, and a description (such as SIC codes) which best reflects the principal products or services provided by each facility which may discharge, to the municipal separate storm sewer, storm water associated with industrial activity.”

USEPA requires “measures to reduce pollutants in storm water discharges to municipal separate storm sewers from municipal landfills, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to section 313 of title III of the Superfund Amendments and Reauthorization Act of

1986 (SARA).”<sup>76</sup> USEPA “also requires the municipal storm sewer Permittees to describe a program to address industrial dischargers that are covered under the municipal storm sewer permit.”<sup>77</sup> To more closely follow USEPA’s guidance, this Permit also includes operating and closed landfills, and hazardous waste treatment, disposal, storage and recovery facilities.

The Permit requires Permittees to identify various industrial sites and sources subject to the General Industrial Permit or other individual NPDES permit. USEPA supports the municipalities regulating industrial sites and sources that are already covered by an NPDES permit:

Municipal operators of large and medium municipal separate storm sewer systems are responsible for obtaining system-wide or area permits for their system’s discharges. These permits are expected to require that controls be placed on storm water discharges associated with industrial activity which discharge through the municipal system. It is anticipated that general or individual permits covering industrial storm water discharges to these municipal separate storm sewer systems will require industries to comply with the terms of the permit issued to the municipality, as well as other terms specific to the Permittee.<sup>78</sup>

And:

Although today’s rule will require industrial discharges through municipal storm sewers to be covered by separate permit, USEPA still believes that municipal operators of large and medium municipal systems have an important role in source identification and the development of pollutant controls for industries that discharge storm water through municipal separate storm sewer systems is appropriate. Under the CWA, large and medium municipalities are responsible for reducing pollutants in discharges from municipal separate storm sewers to the maximum extent practicable. Because storm water from industrial facilities may be a major contributor of pollutants to municipal separate storm sewer systems, municipalities are obligated to develop controls for storm water discharges associated with industrial activity through their system in their storm water management program.<sup>79</sup>

**Provision C.4.b.ii.(5) (Inspection Frequency)**

USEPA guidance<sup>80</sup> says, “management programs should address minimum frequency for routine inspections.” The USEPA Fact Sheet—Visual Inspection<sup>81</sup> says, “To be effective, inspections must be carried out routinely.”

<sup>76</sup> *Federal Register*. Vol. 55, No. 222, Friday, November 16, 1990. Rules and Regulations. P. 48056.

<sup>77</sup> *Ibid.*

<sup>78</sup> *Federal Register*. Vol. 55, No. 222, Friday, November 16, 1990, Rules and Regulations. P. 48006.

<sup>79</sup> *Ibid.* P. 48000

<sup>80</sup> USEPA. 1992. Guidance 833-8-92-002, section 6.3.3.4 “Inspection and Monitoring”.

<sup>81</sup> USEPA. 1999. 832-F-99-046, “Storm Water Management Fact Sheet – Visual Inspection”.

**Provision C.4.c (Enforcement Response Plan)** requires the Permittees to establish an Enforcement Response Plan (ERP) that ensures timely response to actual or potential stormwater pollution problems discovered in the course of industrial/commercial stormwater inspections. The ERP also provides for progressive enforcement of violations of ordinances and/or other legal authorities. The ERP will provide guidance on the appropriate use of the various enforcement tools, such as verbal and written notices of violation, when to issue a citations, and require cleanup requirements, cost recovery, and pursue administrative or and criminal penalties. All violations must be corrected in a timely manner with the goal of correcting them before the next rain event but no longer than 10 business days after the violations are discovered.

**Provision C.4.d (Staff Training)** section of the Permit requires the Permittees to conduct annual staff trainings for inspectors. Trainings are necessary to keep inspectors current on enforcement policies and current MEP BMPs for industrial and commercial stormwater runoff discharges.

## C.5. Illicit Discharge Detection and Elimination

### Legal Authority

The following legal authority applies to section C.5:

**Broad Legal Authority:** CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, D, E, and F) and 40 CFR 122.26(d)(2)(iv).

**Specific Legal Authority:** Federal NPDES regulations 40 CFR 122.26(d)(1)(iii)(B)(1) provides that the Permittee shall include in their application, “the location of known municipal storm sewer system outfalls discharging to waters of the United States.”

Federal NPDES regulations 40 CFR 122.26(d)(1)(iii)(B)(5) provides that the Permittee shall include in their application, “The location of major structural controls for storm water discharge (retention basins, detention basins, major infiltration devices, etc.”

Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B) provides that the Permittee shall have, “adequate legal authority to prohibit through ordinance, order or similar means, illicit discharges to the municipal separate storm sewer.”

Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B) provides that the Permittee shall, “Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and noncompliance with permit conditions including the prohibition on illicit discharges to the municipal separate storm sewer.”

Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B) requires, “shall be based on a description of a program, including a schedule, to detect and remove (or require the discharger to the municipal storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(1) requires, “a program, including inspections, to implement and enforce an ordinance, orders or similar means to prevent illicit discharges to the municipal storm sewer system.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(2) requires, “a description of procedures to conduct on-going field screening activities during the life of the permit, including areas or locations that will be evaluated by such field screens.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(3) requires, “procedures to be followed to investigate portions of the separate storm sewer system that, based on the results of the field screen, or other appropriate information, indicate a reasonable potential of containing illicit discharges or other sources of non-storm water.”

Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B)(4) requires, “a description of procedures to prevent, contain, and respond to spills that may discharge into the municipal separate storm sewer.”

Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B)(5) requires, “a description of a program to promote, publicize, and facilitate public reporting of the presence of illicit discharges or water quality impacts associated with discharges from municipal separate storm sewers.”

Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B)(7) requires, “a description of controls to limit infiltration of seepage from municipal sanitary sewers to municipal separate storm sewer systems where necessary.”

### **Fact Sheet Findings in Support of Provision C.5**

- C.5-1** Illicit and inadvertent connections to MS4 systems result in the discharge of waste and chemical pollutants to receiving waters. Every Permittee must have the ability to discover, track, and clean up stormwater pollution discharges by illicit connections and other illegal discharges to the MS4 system.
- C.5-2** Illicit discharges to the storm drain system can be detected in several ways. Permittee staff can detect discharges during their course of other tasks, and business owners and other aware citizens can observe and report suspect discharges. The Permittee must have a direct means for these reports of suspected polluted discharges to receive adequate documentation, tracking, and response through problem resolution.

### **Specific Provision C.5 Requirements**

**Provision C.5.a (Legal Authority)** requires each Permittee have adequate legal authority to effectuate cessation, abatement, and/or clean up of non-exempt non-stormwater discharges per Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B). Illicit and inadvertent connections to MS4 systems result in the discharge of waste and chemical pollutants to receiving waters. Every Permittee must have the ability to discover, track, and clean up stormwater pollution discharges by illicit connections and other illegal discharges to the MS4 system.

**Provision C.5.b (ERP)** requires Permittees to establish an ERP that ensures timely response to illicit discharges and connections to the MS4 and provides progressive enforcement of violations of ordinances and/or other legal authorities. This section also requires Permittees to establish criteria for triggering follow-up investigations. Additional language has been added to this section to clarify the minimum level of effort and time frames for follow-up investigations when violations are discovered. Timely investigation and follow up when action levels are exceeded is necessary to identify sources of illicit discharges, especially since many of the discharges are transitory. The requirements for all violations to be corrected before the next rain event but no longer than 10 business days when there is evidence of illegal non-stormwater discharge, dumping, or illicit connections having reached municipal storm drains is necessary to ensure timely response by Permittees.



**Provision C.5.c (Spill and Dumping Response, Complaint Response, and Frequency of Inspections)** Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B)(4) requires, “a description of procedures to prevent, contain, and respond to spills that may discharge into the municipal separate storm sewer.” This Provision of the Permit requires the Permittees to establish and maintain a central point of contact including phone numbers for spill and complaint reporting. Reports from the public are an essential tool in discovering and investigating illicit discharge activities. Maintaining contact points will help ensure that there is effective reporting to assist with the discovery of prohibited discharges. Each Permittee must have a direct means for these reports of suspected polluted discharges to receive adequate documentation, tracking, and response through problem resolution.

**Provision C.5.d (Control of Mobile Sources)** requires each Permittee to develop and implement a program to reduce the discharge of pollutants from mobile businesses. The purpose of this section is to establish oversight and control of pollutants associated with mobile business sources to the MEP.

**Provision C.5.e (Collection System Screening and MS4 Map Availability)** Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(3) requires, “procedures to be followed to investigate portions of the separate storm sewer system that, based on the results of the field screen, or other appropriate information, indicate a reasonable potential of containing illicit discharges or other sources of non-storm water.” This Provision of the Permit requires the Permittees to conduct follow up investigations and inspect portions of the MS4 for illicit discharges and connections. Permittees shall implement a program to actively seek and eliminate illicit connections and discharges during their routine collection system screening and during screening surveys at strategic check points. Additional wording has been added to this section to clarify and ensure that all appropriate municipal personnel are used in the program to observe and report these illicit discharges and connections when they are working the system.

This section also requires the Permittees to develop or obtain a map of their entire MS4 system and drainages within their jurisdictions and provide the map to the public for review. As part of the permit application process federal NPDES regulations 40 CFR 122.26(d)(1)(iii)(B)(1) and 40 CFR 122.26(d)(1)(iii)(B)(5) specify that dischargers must identify the location of any major outfall that discharges to waters of the United States, as well as the location of major structural controls for stormwater discharges. A major outfall is any outfall that discharges from a single pipe with an inside diameter of 36 inches or more or its equivalent (discharge from a single conveyance other than a circular pipe which is associated with a drainage area of more than 50 acres) or; for areas zoned for industrial activities, any pipe with a diameter of 12 inches or more or its equivalent (discharge from other than a circular pipe associated with a drainage area of 2 acres or more). The permitting agency may not process a permit until the applicant has fully complied with the application requirements.<sup>82</sup> If, at the time of application, the information is unavailable, the Permit must require implementation of a program to meet the application requirements.<sup>83</sup> The requirement in this Provision of the Permit for

<sup>82</sup> 40 CFR 124.3 (applicable to state programs, see section 123.25).

<sup>83</sup> 40 CFR. 122.26(d)(1)(iv)(E).

Permittees to prepare maps of the MS4 system will help ensure that Permittees comply with federal NPDES permit application requirements that are more than 10 years old.

**Provision C.5.f (Tracking and Case Follow-up)** section of the Permit requires Permittees to track and monitor follow-up for all incidents and discharges reported to the complaint/spill response system that could pose a threat to water quality. This requirement is included so Permittees can demonstrate compliance with the ERP requirements of Section C.5.b and to ensure that illicit discharge reports receive adequate follow up through to resolution.

## C.6. Construction Site Control

### Legal Authority

The following legal authority applies to section C.6:

**Broad Legal Authority:** CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, D, E, and F) and 40 CFR 122.26(d)(2)(iv).

**Specific Legal Authority:** Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D) requires, “A description of a program to implement and maintain structural and non-structural best management practices to reduce pollutants in storm water runoff from construction sites to the municipal storm sewer system.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(1) requires, “A description of procedures for site planning which incorporate consideration of potential water quality impacts.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(2) requires, “A description of requirements for nonstructural and structural best management practices.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(3) requires, “A description of procedures for identifying priorities for inspecting sites and enforcing control measures which consider the nature of the construction activity, topography, and the characteristics of soils and receiving water quality.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(D)(4) requires, “A description of appropriate educational and training measures for construction site operators.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(A) provides that each Permittee must demonstrate that it can control, “through ordinance, permit, contract, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from site of industrial activity.”

Federal NPDES regulation 40 CFR 122.26(b)(14) provides that, “The following categories of facilities are considered to be engaging in ‘industrial activity’ for the purposes of this subsection: [...] (x) Construction activity including cleaning, grading and excavation activities [...].”

Federal NPDES regulation 40 CFR 122.44(d)(1)(i) requires NPDES permits to include limitations to, “control all pollutants or pollutant parameters (either conventional, non-conventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have reasonable potential to cause, or contribute

to an excursion above any State water quality standard, including State narrative criteria for water quality.”

### Fact Sheet Findings in Support of Provision C.6.

- C.6-1** Vegetation clearing, mass grading, lot leveling, and excavation expose soil to erosion processes and increase the potential for sediment mobilization, runoff and deposition in receiving waters. Construction sites without adequate BMP implementation result in sediment runoff rates that greatly exceed natural erosion rates of undisturbed lands, causing siltation and impairment of receiving waters.
- C.6-2** Excess sediment can cloud the water, reducing the amount of sunlight reaching aquatic plants, clog fish gills, smother aquatic habitat and spawning areas, and impede navigation in our waterways. Sediment also transports other pollutants such as nutrients, metals, and oils and grease. Permittees are on-site at local construction sites for grading and building permit inspections, and also have in many cases dedicated construction stormwater inspectors with training in verifying that effective BMPs are in place and maintained. Permittees also have effective tools available to achieve compliance with adequate erosion control, such as *stop work* orders and citations.
- C.6-3** Mobilized sediment from construction sites can flow into receiving waters. According to the 2004 National Water Quality Inventory<sup>84</sup>, States and Tribes report that sediment is one of the top 10 causes of impairment of assessed rivers and streams, next to pathogens, habitat alteration, organic enrichment or oxygen depletion, nutrients, metals, etc.. Sediment impairs 35,177 river and stream miles (14% of the impaired river and stream miles). Sources of sedimentation include agriculture, urban runoff, construction, and forestry. Sediment runoff rates from construction sites, however, are typically 10 to 20 times greater than those of agricultural lands, and 1,000 to 2,000 times greater than those of forest lands. During a short period of time, construction sites can contribute more sediment to streams than can be deposited naturally during several decades.<sup>85</sup>

### Specific Provision C.6 Requirements

**Provision C.6.a. Legal Authority for Effective Site Management.** Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(A) requires that each Permittee demonstrate that it can control “through ordinance, permit, contract, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from site of industrial activity.” This section of the Permit requires each Permittee to have the

<sup>84</sup> [http://www.epa.gov/owow/305b/2004report/2004\\_305Breport.pdf](http://www.epa.gov/owow/305b/2004report/2004_305Breport.pdf)

<sup>85</sup> USEPA. December 2005. *Stormwater Phase II Final Rule Fact Sheet Series – Construction Site Runoff Control Minimum Control Measure*. EPA 833-F-00-008. Fact Sheet 2.6.

authority to require year-round, seasonally and phase appropriate effective erosion control, run-on and runoff control, sediment control, active treatment systems, good site management, and non stormwater management through all phases of site grading, building, and finishing of lots. All Permittees should already have this authority. Permittees shall certify adequacy of their respective legal authority in the 2010 Annual Report.

Inspectors should have the authority to take immediate enforcement actions when appropriate. Immediate enforcement will get the construction site's owner/operator to quickly implement corrections to violations, thereby minimizing and preventing threats to water quality. When inspectors are unable to take immediate enforcement actions, the threat to water quality continues until an enforcement incentive is issued to correct the violation. In its Phase II Compliance Assistance Guidance, USEPA says that, "Inspections give the MS4 operator an opportunity to provide additional guidance and education, issue warnings, or assess penalties."<sup>86</sup> To issue warnings and assess penalties during inspections, inspectors must have the legal authority to conduct enforcement.

**Provision C.6.b. Enforcement Response Plan (ERP).** This section requires each Permittee to develop and implement an escalating enforcement process that serves as reference for inspection staff to take consistent actions to achieve timely and effective corrective compliance from all public and private construction site owners/operators. Under this section, each Permittee develops its own unique ERP tailored for the specific jurisdiction; but all ERPs must make it a goal to correct all violations before the next rain event but no longer than 10 business days after the violations are discovered. In a few cases, such as slope inaccessibility, it may require longer than 10 days before crews can safely access the eroded area. The Permittees' tracking data need to provide a rationale for the longer compliance timeframe.

Water Board staff has noted deficiencies in the Permittees' enforcement procedures and implementation during inspections. The most common issues found were that enforcement was not firm and appropriate to correct the violation, and that repeat violations did not result in escalated enforcement procedures. USEPA supports enforcement of ordinances and permits at construction sites stating, "Effective inspection and enforcement requires [...] penalties to deter infractions and intervention by the municipal authority to correct violations."<sup>87</sup> In addition, USEPA expects permits issued to municipalities to address "weak inspection and enforcement."<sup>88</sup> For these reasons, the enforcement requirements in this section have been established, while providing sufficient flexibility for each Permittee's unique stormwater program.

**Provision C.6.c. Best Management Practices Categories.** This section requires all Permittees to require all construction sites to have year-round seasonally appropriate effective Best Management Practices (BMPs) in the following six categories: (1)

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<sup>86</sup> USEPA. 2000. 833-R-00-002, Storm Water Phase II Compliance Assistance Guide, P.4-31

<sup>87</sup> USEPA. 1992. Guidance 833-8-92-002. Section 6.3.2.3.

<sup>88</sup> *Federal Register*. Vol. 55, No. 222, Friday, November 16, 1990. Rules and Regulations. p. 48058.

erosion control, (2) run-on and runoff control, (3) sediment control, (4) active treatment systems, (5) good site management, and (6) non stormwater management. These BMP categories are listed in the State General NPDES Permit for Stormwater Discharges Associated with Construction Activities (General Construction Permit). The Water Board staff decided it was too prescriptive and inappropriate to require a specific set of BMPs that are to be applicable to all sites. Every site is different with regards to terrain, soil type, soil disturbance, and proximity to a waterbody. The General Construction Permit recognizes these different factors and requires site specific BMPs through the Storm Water Pollution Prevention Plan that addresses the six specified BMP categories. This Permit allows Permittees the flexibility to determine if the BMPs for each construction site are effective and appropriate. This Permit also allows the Permittees and the project proponents the necessary flexibility to make immediate decisions on appropriate, cutting-edge technology to prevent the discharge of construction pollutants into stormdrains, waterways, and right-of-ways. Appropriate BMPs for the different site conditions can be found in different handbooks and manuals. Therefore, this Permit is consistent with the General Construction Permit in its requirements for BMPs in the six specified categories.

Vegetation clearing, mass grading, lot leveling, and excavation expose soil to erosion processes and increase the potential for sediment mobilization, runoff and deposition in receiving waters. Construction sites without adequate BMP implementation result in sediment runoff rates that greatly exceed natural erosion rates of undisturbed lands, causing siltation and impairment of receiving waters. This can even occur in conjunction with unexpected rain events during the so-called *dry-season*. Although rare, significant rains can occur in the San Francisco Bay Region during the dry season. Therefore, Permittees should ensure that construction sites have materials on hand for rapid rain response during the dry season.

Normally, stormwater restrictions on grading should be implemented during the wet season from October 1<sup>st</sup> through April 30<sup>th</sup>. Section C.6.c.ii.(1).d of the Permit requires, “project proponents to minimize grading during the wet season and scheduling of grading with seasonal dry weather periods to the extent feasible.” If grading does occur during the wet season, Permittees shall require project proponents to (1) implement additional BMPs as necessary, (2) keep supplies available for rapid response to storm events, and (3) minimize wet-season, exposed, and graded areas to the absolute minimum necessary.

Slope stabilization is necessary on all active and inactive slopes during rain events regardless of the season, except in areas implementing advanced treatment. Slope stabilization is also required on inactive slopes throughout the rainy season. These requirements are needed because unstabilized slopes at construction sites are significant sources of erosion and sediment discharges during rainstorms. “Steep slopes are the most highly erodible surface of a construction site, and require special attention.”<sup>89</sup> USEPA emphasizes the importance of slope stabilization when it states, “slope length

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<sup>89</sup> Schueler, T., and H. Holland. 2000. *Muddy Water In—Muddy Water Out?* The Practice of Watershed Protection. p. 6.

and steepness are key influences on both the volume and velocity of surface runoff. Long slopes deliver more runoff to the base of slopes and steep slopes increase runoff velocity; both conditions enhance the potential for erosion to occur.”<sup>90</sup> In lieu of vegetation preservation or replanting, soil stabilization is the most effective measure in preventing erosion on slopes. Research has shown that effective soil stabilization can reduce sediment discharge concentrations up to six times, as compared to soils without stabilization.<sup>91</sup> Slope stabilization at construction sites for erosion control is already the consensus among the regulatory community and is found throughout construction BMP manuals and permits. For these reasons, Permittees must ensure that slope stabilization is implemented on sites, as appropriate.

It is also necessary that Permittees ensure that construction sites are revegetated as early as feasible. Implementation of revegetation reduces the threat of polluted stormwater discharges from construction sites. Construction sites should permanently stabilize disturbed soils with vegetation at the conclusion of each phase of construction.<sup>92</sup> A survey of grading and clearing programs found one-third of the programs without a time limit for permanent revegetation, “thereby increasing the chances for soil erosion to occur.”<sup>93</sup> USEPA states “the establishment and maintenance of vegetation are the most important factors to minimizing erosion during development.”<sup>94</sup>

To ensure the MEP standard and water quality standards are met, advanced treatment systems may be necessary at some construction sites. In requiring the implementation of advanced treatment for sediment at construction sites, Permittees should consider the site’s threat to water quality. In evaluating the threat to water quality, the following factors shall be considered: (1) soil erosion potential; (2) the site’s slopes; (3) project size and type; (4) sensitivity of receiving waterbodies; (5) proximity to receiving waterbodies; (6) non-stormwater discharges; and (7) any other relevant factors. Advanced treatment is a treatment system that employs chemical coagulation, chemical flocculation, or electro coagulation in order to reduce turbidity caused by fine suspended sediment.<sup>95</sup> Advanced treatment consists of a three part treatment train of coagulation, sedimentation, and polishing filtration. Advanced treatment has been effectively implemented extensively in the other states and in the Central Valley Region of California.<sup>96</sup> In addition, Water Board’s inspectors have observed advanced treatment being effectively implemented at both large sites greater than 100 acres, and at small, 5-acre sites. Advanced treatment is often necessary for Permittees to ensure that discharges from construction sites are not causing or contributing to a violation of water quality standards.

<sup>90</sup> USEPA. 1990. *Sediment and Erosion Control: An Inventory of Current Practices*. p. II-1.

<sup>91</sup> Schueler, T., and H. Holland. 2000. “Muddy Water In—Muddy Water Out?” *The Practice of Watershed Protection*. p. 5.

<sup>92</sup> Ibid.

<sup>93</sup> Ibid. p. 11.

<sup>94</sup> USEPA. 1990. *Sediment and Erosion Control: An Inventory of Current Practices*. p. II-1.

<sup>95</sup> SWCRB. September 2, 2009. *NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities – Order No. 2009-0009-DWQ*.

<sup>96</sup> SWRCB. 2004. Conference on Advanced Treatment at Construction Sites.

**Provision C.6.d. Plan Approval Process.** This section of the Permit requires the Permittees to review project proponents' stormwater management plans for compliance with local regulations, policies, and procedures. USEPA states that it is often easier and more effective to incorporate stormwater quality controls during the site plan review process or earlier.<sup>97</sup> In the Phase I stormwater regulations, USEPA states that a primary control technique is good site planning.<sup>98</sup> USEPA goes on to say that the most efficient controls result when a comprehensive stormwater management system is in place.<sup>99</sup> To determine if a construction site is in compliance with construction and grading ordinances and permits, USEPA states that the "MS4 operator should review the site plans submitted by the construction site operator before ground is broken."<sup>100</sup> Site plan review aids in compliance and enforcement efforts since it alerts the "MS4 operator early in the process to the planned use or non-use of proper BMPs and provides a way to track new construction activities."<sup>101</sup>

**Provision C.6.e. (Inspections)** The Water Board allows flexibility on the exact legal authority language, ERP, and BMPs required on a site. This section of the Permit pulls together the accountability of the whole Provision through regular inspections, consistent enforcement, and meaningful tracking. These three elements will help ensure that effective construction pollutant controls are in place in order to minimize construction polluted runoff to the stormdrain and waterbodies.

Currently, Annual Reports show that some Permittees provide no information on its construction inspection and enforcement programs; some Permittees only provide information on pre rainy season inspections; another group of Permittees conduct inspections through December and provide just the date each site was inspected; yet another group of Permittees provides a very brief summary of their respective overall inspection program; and there is a small group of Permittees who report meaningful inspection and enforcement information. Inspections of construction sites by Water Board staff have noted deficiencies in stormwater inspections and enforcement. Therefore, this section clearly identifies the level of effort necessary by all Permittees to minimize construction pollutant runoff into stormdrains and ultimately, waterbodies.

This section requires monthly inspections during the wet season of all construction sites disturbing one or more acre of land and at all high priority sites as determined by the Permittee or the Water Board as significant threats to water quality. Inspections shall focus on the adequacy and effectiveness of the site specific BMPs implemented for the six BMP categories. Permittees shall implement its ERP and require timely corrections of all actual and potential problems observed. All violations must be corrected in a timely manner with the goal of correcting them before the next rain event but no longer

<sup>97</sup> USEPA. 2000. *Storm Water Phase II Compliance Assistance Guide*. EPA 833-R-00-002. Section 6.3.2.1.

<sup>98</sup> *Federal Register*. Vol. 55, No. 222, Friday, November 16, 1990. Rules and Regulations. p. 48034.

<sup>99</sup> *Ibid*.

<sup>100</sup> USEPA. 2000. *Storm Water Phase II Compliance Assistance Guide*. EPA 833-R-00-002. Section 4.6.2.4, pp. 4-30.

<sup>101</sup> *Ibid*. pp. 4-31.



than 10 business days after the violations are discovered. All inspections shall be recorded on a written or electronic inspection form, and also tracked in an electronic database or tabular format. The tracked information provides meaningful data for evaluating compliance. An example tabular format is included as Table 6 – Construction Inspection Data. Submittal of this Table is not required in each Annual Report but encouraged. Each Permittee will need to use the information in the electronic database or tabular format to compile its Annual Reports. The Executive Officer may require that the tracked information be submitted electronically or in a tabular format. When required, Permittees shall submit that data within 10-working days of the requirement. The recommended submittal format is in Table 6 – Construction Inspection Data.

**Provision C.6.f. Staff Training.** This section of the Permit requires Permittees to conduct annual staff trainings for municipal staff. These trainings have been found to be extremely effective means to educate inspectors and to inform them of any changes to local ordinances and state laws. Trainings provide valuable opportunity for Permittees to network and share strategies used for effective enforcement and management of erosion control practices.

Table 6 – Construction Inspection Data

Facility/Site Inspected	Inspection Date	Weather During Inspection	Inches of Rain Since Last Inspection	Enforcement Response Level	Problem(s) Observed							Resolution			Comments/ Rationale for Longer Compliance Time			
					Erosion Control	Run-on and Runoff Control	Sediment Control	Active Treatment System	Good Site Management	Non Stormwater Management	Illicit Discharge	Problems Fixed	Need More Time	Escalate Enforcement				
Panoramic Views	9/30/08	Dry	0	Written Notice		x												
Panoramic Views	10/15/08	Dry	0.5															50' of driveway rocked.
Panoramic Views	11/15/08	Rain	3	Stop Work	x	x					x							
Panoramic Views	11/15/08	Drizzling	0.25															Lots blanketed. Storm drains pumped. Street cleaned.
Panoramic Views	12/1/08	Dry	4	Verbal Warning														Porta potty moved away from stormdrain.
Panoramic Views	1/15/08	Rain	3.25	Written Warning	x													
Panoramic Views	1/25/09	Dry	0															Fiber rolls replaced

Facility/Site Inspected	Inspection Date	Weather During Inspection	Inches of Rain Since Last Inspection	Enforcement Response Level	Problem(s) Observed							Specific Problem(s)	Resolution			Comments/ Rationale for Longer Compliance Time				
					Erosion Control	Run-on and Runoff Control	Sediment Control	Active Treatment System	Good Site Management	Non Stormwater Management	Illicit Discharge		Problems Fixed	Need More Time	Escalate Enforcement					
Panoramic Views	2/28/09	Rain	2.4	Stop Work	x		x													
Panoramic Views	2/28/09	Rain	0.1																	Fiber rolls replaced. Silt fences added. More stormdrains protected. Streets cleaned. Slope too soggy to access.
Panoramic Views	3/15/09	Dry	1	Citation with Fine					x											Street and storm drains cleaned. Slopes blanketed.
Panoramic Views	4/1/09	Dry	0.5	Citation with Fine																Concrete washout overflowed; Evidence of illicit discharge
Panoramic Views	4/15/09	Dry	0																	Concrete washout replaced; Storm drain and line cleaned.

## C.7. Public Information and Outreach

### Legal Authority

The following legal authority applies to section C.7:

**Broad Legal Authority:** CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

**Specific Legal Authority:** Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(A)(6) requires, "A description of a program to reduce to the maximum extent practicable, pollutants in discharges from municipal separate storm sewers associated with the application of pesticides, herbicides, and fertilizer which will include, as appropriate, controls such as educational activities, permits, certifications, and other measures for commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(5) requires, "a description of a program to promote, publicize, and facilitate public reporting of the presence of illicit discharges or water quality impacts associated with discharges from municipal separate storm sewers."

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(6) requires, "A description of educational activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials."

### Fact Sheet Finding in Support of Provision C.7.

- C.7-1 An informed and knowledgeable community is critical to the success of a stormwater program since it helps ensure greater support for the program as the public gains a greater understanding of stormwater pollution issues.
- C.7-2 An informed community also ensures greater compliance with the program as the public becomes aware of the personal responsibilities expected of them and others in the community, including the individual actions they can take to protect or improve the quality of area waters.
- C.7-3 The public education programs should use a mix of appropriate local strategies to address the viewpoints and concerns of a variety of audiences and communities, including minority and disadvantaged communities, as well as children.<sup>102</sup>

<sup>102</sup> USEPA. 2000. Storm Water Phase II Compliance Assistance Guide. EPA 833-R-00-002.

- C.7-4 Target audiences should include (1) government agencies and official to achieve better communication, consistency, collaboration, and coordination at the federal, state, and local levels and (2) K-12/Youth Groups.<sup>103</sup>
- C.7-5 Citizen involvement events should make every effort to reach out and engage all economic and ethnic groups.<sup>104</sup>

### **Specific Provision C.7 Requirements**

**Provision C.7.a. Storm Drain Inlet Marking.** Storm drain inlet marking is a long-established program of outreach to the public on the nature of the storm drain system, providing the information that the storm drain system connects directly to creeks and the Bay and does not receive treatment. Past public awareness surveys have demonstrated that this BMP has achieved significant impact in raising awareness in the general public and meets the MEP standard as a required action. Therefore, it is important to set a goal of ensuring that all municipally-maintained inlets are legible labeled with a no dumping message. If storm drain marking can be conducted as a volunteer activity, it has additional public involvement value.

**Provision C.7.b. Advertising Campaigns.** Use of various electronic and/or print media on trash/litter in waterways and pesticides. Advertising campaigns are long-established outreach management practices. Specifically, the Bay Area Management Agencies Association (BASMAA) already implements an advertising campaign on behalf of the Permittees. While the Permittees have been successful at reaching certain goals for its Public Information/Participation programs, it must continue to increase public awareness of specific stormwater issues. This Permit also requires a pre-campaign survey and a post-campaign survey. These two surveys will help identify and quantify the audiences' knowledge, trends, and attitudes and/or practices; and to measure the overall population awareness of the messages and behavioral changes.

**Provision C.7.c. Media Relations.** Public service media time is available and allows the Permittees to leverage expensive media purchases to achieve broader outreach goals.

**Provision C.7.d. Stormwater Point of Contact.** As the public has become more aware, citizens are more frequently calling their local jurisdictions to report spills and other polluting behavior impacting stormwater runoff and causing non-stormwater prohibited discharges. Permittees are required to have a centralized, easily accessible point of contact both for citizen reports and to coordinate reports of problems identified by Permittee staff, permitting follow-up and pollution cleanup or prevention. Often the follow-up, cleanup, and/or prevention provide the opportunity to educate the immediate neighborhood through established public outreach mechanisms such as distributing door hangers in the neighborhood describing the remedy for the problem discovered. Permittees already have existing published stormwater point of contacts.

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<sup>103</sup> State Water Board. 1994. Urban Runoff Technical Advisory Committee Report and Recommendations. Nonpoint Source Management Program.

<sup>104</sup> USEPA. 2000. Storm Water Phase II Compliance Assistance Guide. EPA 833-R-00-002.

**Provision C.7.e. Public Outreach Events.** Staffing tables or booths at fairs, street fairs or other community events are a long-established outreach mechanism employed by Permittees to reach large numbers of citizens with stormwater pollution prevention information in an efficient and convenient manner. These have been ongoing in the Region for several municipal stormwater permit cycles and are MEP outreach actions. Permittees shall continue with such outreach events utilizing appropriate outreach materials, such as printed materials, newsletter/journal articles, and videos. Permittees shall also utilize existing community outreach events such as the Bringing Back the Natives Garden Tour.

**Provision C.7.f. Watershed Stewardship Collaborative Efforts.** Watershed and Creek groups are comprised of active citizens, but they often need support from the local jurisdiction and certainly need to coordinate actions with Permittees such as flood districts and cities.

**Provision C.7.g. Citizen Involvement Events.** Citizen involvement and volunteer efforts both accomplish needed creek cleanups and restorations, and serve to raise awareness and provide outreach opportunities. These have been ongoing in the Region for several municipal stormwater permit cycles and are MEP outreach actions.

In previous municipal stormwater permits, Public Information/Participation encompassed both Citizen Involvement Events and Public Outreach Events. Citizen Involvement Events are important because they provide the community opportunities to actively practice being good stewards of our environment. Therefore, this Permit separates out the Public Outreach Events from the Citizen Involvement Events to ensure that citizens in all Bay Area communities are given the opportunity to be involved. In addition, the Permit allows Permittees to claim both Public Outreach and Citizen Involvement credits if the event contains significant elements of both. The combined specified number of events for Public Outreach and Citizen Involvement are very close to current performance standards and/or level of effort for respective Public Information/Participation Programs.

**Provision C.7.h. School-Age Children Outreach.** Outreach to school children has proven to be a particularly successful program with an enthusiastic audience who are efficient to reach. School children also take the message home to their parents, neighbors, and friends. In addition, they are the next generation of decision makers and consumers.

**Provision C.7.i. Outreach to Municipal Officials.** It is important for Permittee staff to periodically inform Municipal Officials of the permit requirements and also future planning and resource needs driven by the permit and stormwater regulations.

## C.8. Water Quality Monitoring

### Legal Authority

**Broad Legal Authority:** CWA sections 402(p)(3)(B)(ii-iii); CWC section 13377; Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)

**Specific Legal Authority:** Permittees must conduct a comprehensive monitoring program as required under Federal NPDES regulations 40 CFR 122.48, 40 CFR 122.44(i), 40 CFR 122.26.(d)(1)(iv)(D), and 40 CFR 122.26(d)(2)(ii)-(iv).

### Fact Sheet Findings in Support of Provision C.8

**C.8-1** In response to questions regarding the type of water quality-based effluent limitations that are most appropriate for NPDES stormwater permits, and because of the nature of stormwater discharges, USEPA established the following approach to stormwater monitoring:

Each storm water permit should include a coordinated and cost-effective monitoring program to gather necessary information to determine the extent to which the permit provides for attainment of applicable water quality standards and to determine the appropriate conditions or limitations for subsequent permits. Such a monitoring program may include ambient monitoring, receiving water assessment, discharge monitoring (as needed), or a combination of monitoring procedures designed to gather necessary information.<sup>105</sup>

According to USEPA, the benefits of stormwater runoff monitoring include, but are not limited to, the following:

- Providing a means for evaluating the environmental risk of stormwater discharges by identifying types and amounts of pollutants present;
- Determining the relative potential for stormwater discharges to contribute to water quality impacts or water quality standard violations;
- Identifying potential sources of pollutants; and
- Eliminating or controlling identified sources more specifically through permit conditions.<sup>106</sup>

**C.8-2** Provision C.8 requires Permittees to conduct water quality monitoring, including monitoring of receiving waters, in accordance with 40 CFR 122.44(i) and 122.48. One purpose of water quality monitoring is to demonstrate the effectiveness of the Permittees' stormwater management

<sup>105</sup> USEPA. 1996. Interim Permitting Approach for Water Quality-Based Effluent Limitations in Stormwater Permits. Sept. 1, 1996. <http://www.epa.gov/npdes/pubs/swpol.pdf>

<sup>106</sup> USEPA. 1992. NPDES Storm Water Sampling Guidance Document. EPA/833-B-92-001.

actions pursuant to this Permit and, accordingly, demonstrate compliance with the conditions of the Permit. Other water quality monitoring objectives under this Permit include:

- Assess the chemical, physical, and biological impacts of urban runoff on receiving waters;
- Characterize stormwater discharges;
- Assess compliance with Total Maximum Daily Loads (TMDLs) and Wasteload Allocations (WLAs) in impaired waterbodies;
- Assess progress toward reducing receiving water concentrations of impairing pollutants;
- Assess compliance with numeric and narrative water quality objectives and standards;
- Identify sources of pollutants;
- Assess stream channel function and condition, as related to urban stormwater discharges;
- Assess the overall health and evaluate long-term trends in receiving water quality; and
- Measure and improve the effectiveness of the Permittees' urban runoff control programs and the Permittees' implemented BMPs.

**C.8-3** Monitoring programs are an essential element in the improvement of urban runoff management efforts. Data collected from monitoring programs can be assessed to determine the effectiveness of management programs and practices, which is vital for the success of the iterative approach, also called the "continuous improvement" approach, used to meet the MEP standard. When water quality data indicate that water quality standards or objectives are not being met, particular pollutants, sources, and drainage areas can be identified and targeted for urban runoff management efforts. The iterative process in Provision C.1, Water Quality Standards Exceedances, could potentially be triggered by monitoring results. Ultimately, the results of the monitoring program must be used to focus actions to reduce pollutant loadings to comply with applicable WLAs, and protect and enhance the beneficial uses of the receiving waters in the Permittees' jurisdictions and the San Francisco Bay.

**C.8-4** Water quality monitoring requirements in previous permits were less detailed than the requirements in this Permit. Under previous permits, each program could design its own monitoring program, with few permit guidelines. A decision by the California Superior Court<sup>107</sup> regarding two of the programs' permits stated:

Federal law requires that all NPDES permits specify "[r]equired monitoring including type, intervals, and frequency sufficient to yield

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<sup>107</sup> San Francisco Baykeeper vs. Regional Water Quality Control Board, San Francisco Bay Region, Consolidated Case No. 500527, filed Nov. 14, 2003.



data which are representative of the monitored activity.” 40 C.F.R. § 122.48(b). Here, there is no monitoring program set forth in the Permit. Instead, an annual Monitoring Program Plan is to be prepared by the dischargers to set forth the monitoring program that will be used to demonstrate the effectiveness of the Stormwater Management Plan. This does not meet the regulatory requirements that a monitoring program be set forth including the types, intervals, and frequencies of the monitoring.

The water quality monitoring requirements in Provision C.8 comply with 40 CFR 122.44(i) and 122.48(b), and the Superior Court decision.

**C.8-5** The Water Quality Monitoring Provision is intended to provide answers to five fundamental management questions, outlined below. Monitoring is intended to progress as iterative steps toward ensuring that the Permittees’ can fully answer, through progressive monitoring actions, each of the five management questions:

- Are conditions in receiving waters protective, or likely to be protective, of beneficial uses?
- What is the extent and magnitude of the current or potential receiving water problems?
- What is the relative urban runoff contribution to the receiving water problem(s)?
- What are the sources of urban runoff that contribute to receiving water problem(s)?
- Are conditions in receiving waters getting better or worse?

**C.8-6** On April 15, 1992, the Water Board adopted Resolution No. 92-043 directing the Executive Officer to implement the Regional Monitoring Program for San Francisco Bay. Subsequent to a public hearing and various meetings, Board staff requested major permit holders in the Region, under authority of CWC section 13267, to report on the water quality of the Estuary. These permit holders, including the Permittees, responded to this request by participating in a collaborative effort through the San Francisco Estuary Institute. This effort has come to be known as the San Francisco Estuary Regional Monitoring Program for Trace Substances (RMP). The RMP involves collection and analysis of data on pollutants and toxicity in water, sediment and biota of the Estuary. The Permittees are required to continue to report on the water quality of the Estuary, as presently required. Compliance with the requirement through participation in the RMP is considered to be adequate compliance.

**C.8-7** The Surface Water Ambient Monitoring Program (SWAMP) is a statewide monitoring effort, administered by the State Water Board, designed to assess the conditions of surface waters throughout California. One purpose of SWAMP is to integrate existing water quality monitoring activities of the State Water Board and the Regional Water Quality Control Boards, and to coordinate with other monitoring programs. Provision C.8 contains a

framework, referred to as a regional monitoring collaborative, within which Permittees can elect to work cooperatively with SWAMP to maximize the value and utility of both the Permittees' and SWAMP's monitoring resources.

- C.8-8** In 1998 BASMAA published *Support Document for Development of the Regional Stormwater Monitoring Strategy*,<sup>108</sup> a document describing a possible strategy for coordinating the monitoring activities of BASMAA member agencies. The document states:

BASMAA's member agencies are connected not only by geography but also by an overlapping set of environmental issues and processes and a common regulatory structure. It is only natural that the evolution of their individual stormwater management programs has led toward increasing amounts of information sharing, cooperation, and coordination.

This same concept is found in the optional provision for Permittees to form a regional monitoring collaborative. Such a group is meant to provide efficiencies and economies of scale by performing certain tasks (e.g., planning, contracting, data quality assurance, data management and analysis, and reporting) at the regional level. Further benefits are expected from closer cooperation between this group, the Regional Monitoring Program, and SWAMP.

- C.8-9** This Permit includes monitoring requirements to verify compliance with adopted TMDL WLAs and to provide data needed for TMDL development and/or implementation. This Permit incorporates the TMDLs' WLAs adopted by the Water Board as required under CWA section 303(d).
- C.8-10** SB1070 (California Legislative year 2005/2006) found that there is no single place where the public can go to get a look at the health of local waterbodies. SB1070 also states that all information available to agencies shall be made readily available to the public via the Internet. This Permit requires water quality data to be submitted in a specified format and uploaded to a centralized Internet site so that the public has ready access to the data.

### **Specific Provision C.8 Requirements**

Each of the components of the monitoring provision is necessary to meet the objectives and answer the questions listed in the findings above. Justifications for each monitoring component are discussed below.

**Provision C.8.a. Compliance Options.** Provision C.8.a. provides Permittees options for obtaining monitoring data through various organizational structures, including use of data obtained by other parties. This is intended to

<sup>108</sup> EcoAnalysis, Inc. & Michael Drennan Assoc., Inc., *Support Document for Development of the Regional Stormwater Monitoring Strategy*, prepared for Bay Area Stormwater Management Agencies Association, March 2, 1998.

- Promote cost savings through economies of scale and elimination of redundant monitoring by various entities;
- Promote consistency in monitoring methods and data quality;
- Simplify reporting; and
- Make data and reports readily publicly available.

In the past, each Stormwater Countywide Program has conducted water quality monitoring on behalf of its member Permittees, and some data were collected by wider collaboratives, such as the Regional Monitoring Program. In this Permit, all the Stormwater Countywide Programs are encouraged to work collaboratively to conduct all or most of the required monitoring and reporting on a region-wide basis. For each monitoring component that is conducted collaboratively, one report would be prepared on behalf of all contributing Permittees; separate reports would not be required from each Program. Cost savings could result also from reduced contract and oversight hours, fewer quality assurance/quality control samples, shared sampling labor costs, and laboratory efficiencies.

**Provision C.8.b. San Francisco Estuary Receiving Water Monitoring.** The San Francisco Estuary is the ultimate receiving water for most of the urban runoff in this region. For this reason and because of the high value of its beneficial uses, Provision C.8.b requires focused monitoring on the Estuary to continue. Since the mid-1990s, Permittees have caused this monitoring to be conducted by contributing financially and with technical expertise, to the San Francisco Estuary Regional Monitoring Program for Trace Substances. Provision C.8.b requires such monitoring to continue.

**Provisions C.8.c. & C.8.e.ii. Status Monitoring and Long-Term Monitoring.** Status Monitoring and Long-Term Monitoring serve as surrogates to monitoring the discharge from all major outfalls, of which the Permittees have many. By sampling the sediment and water column in urban creeks, the Permittees can determine where water quality problems are occurring in the creeks, then work to identify which outfalls and land uses are causing or contributing to the problem. In short, Status and Long-Term Monitoring are needed to identify water quality problems and assess the health of streams; they are the first step in identifying sources of pollutants and an important component in evaluating the effectiveness of an urban runoff management program.

**Provisions C.8.c.i. and C.8.e.iii. Parameters and Methods**

Status & Long-Term parameters and methods reflect current accepted practices, based on the knowledge and experience of personnel responsible for water quality monitoring, including state and Regional SWAMP managers, Permittee representatives, and citizen monitors. Many Status and Long-Term Monitoring parameters are consistent with parameters the Permittees have been monitoring to date. The following parameters are new for some of the Permittees:

- Biological Assessment—to provide site-specific information about the health and diversity of freshwater benthic communities within a specific reach of a creek, using standard procedures developed and/or used by the State Water

Resources Control Board Surface Water Ambient Monitoring Program.<sup>109</sup> It consists of collecting samples of benthic communities and conducting a taxonomic identification to measure community abundance and diversity, which is then compared to a reference creek to assess benthic community health. This monitoring can also provide information on cumulative pollutant exposure/impacts because pollutant impacts to the benthic community accumulate and occur over time.

- Chlorine—to detect a release of potable water or other chlorinated water sources, which are toxic to aquatic life.
- Nutrients—recent monitoring data indicate nutrients, which can increase algal growth and decrease dissolved oxygen concentrations, are present in significant concentrations in Bay area creeks.
- Toxicity and Pollutants in Bedded Sediment—to determine the presence of, and identify, chemicals and compounds that bind to sediment in a creek bed and are toxic to aquatic life.
- Pathogen Indicators—to detect pathogens in waterbodies that could be sources of impairment to recreational uses at or downstream of the sampling location.
- Stream Survey (stream walk and mapping)—to assess the overall physical health of the stream and to gain information potentially useful in interpreting monitoring results.

In consideration of economic impacts to Permittees, the minimum number of Status & Long-Term samples (“Minimum # Sample Sites” columns in Tables 8.1 and 8.3) reflects the Programs’ populations, not waterbody size. Permittees must select exact sample locations that will yield adequate information on the status of their waterbodies; in some cases, additional sampling above the minimum might be necessary.

#### **Provisions C.8.c.ii. and C.8.e.iii. Frequency**

Status Monitoring continues to be an annual requirement for the Permittees, except for two much smaller Permittees, Fairfield-Suisun and Vallejo. In considering costs, the frequency of Status Monitoring is established at twice per Permit term for Fairfield-Suisun, and once per Permit term for Vallejo. It is common for Permit terms to be extended through a lengthy Permit reissuance process. Thus, these frequencies are considered the minimum; costs are minimized while data necessary for successful stormwater management are obtained.

Long-Term Monitoring is required every second year (biennially), rather than annually, in order to balance data needs and Permittee costs. To further reduce costs, the Fairfield-Suisun and Vallejo Permittees have no Long-Term Monitoring requirements.

#### **Provisions C.8.c.iii. and C.8.e.ii. Locations**

Status Monitoring is to be conducted on a rotating-watershed basis, in similar fashion to the Statewide SWAMP. Provision C.8.c.iii. identifies the major waterbodies, and Permittees are to select which of these waterbodies will be sampled during the Permit

<sup>109</sup> Ode, P.R. 2007. Standard Operating Procedures for Collecting Macroinvertebrate Samples and Associated Physical and Chemical Data for Ambient Bioassessments in California, California State Water Resources Control Board Surface Water Ambient Monitoring Program (SWAMP), as subsequently revised.

term. The exact sample locations within each waterbody are critical in terms of determining the monitoring program's effectiveness. If correctly sited, the stations are expected to be very useful in answering the monitoring program's management questions and meeting its goals. For this reason, Provision C.8.c.iii. requires sample locations to be based on surrounding land use, likelihood of urban runoff impacts, existing data gaps, and similar considerations. This will help maximize the utility of the sample locations, while also providing the Permittees with adequate flexibility to ultimately choose practical Status Monitoring locations.

Long-Term Monitoring is to be conducted at fixed stations, which are intended to be lower reaches of urban creeks. This monitoring is intended to help assess progress toward reducing receiving water concentrations of impairing pollutants, among other purposes. Provision C.8.e.ii. establishes the waterbodies on which to locate fixed stations, and suggests that fixed stations be co-located with SWAMP fixed stations so that Permittees can use SWAMP data to fulfill some of their monitoring requirements. However, Permittees may select alternate locations based on their knowledge of such factors as site access and stream characteristics and provided that similar data types, data quality, and data quantity are collected.

**Provision C.8.d. Monitoring Projects.** Monitoring Projects are necessary to meet several water quality monitoring objectives under this Permit, including characterize stormwater discharges; identify sources of pollutants; identify new or emerging pollutants; assess stream channel function and condition; and measure and improve the effectiveness of Stormwater Countywide Programs and implemented BMPs. In consideration of economic impacts to Permittees, the number of Monitoring Projects required reflects the Permittees' populations.

**Provision C.8.d.i. Stressor/Source Identification**

Minimizing sources of pollutants that could impair water quality is a central purpose of urban runoff management programs. Monitoring which enables the Permittees to identify sources of water quality problems aids the Permittees in focusing their management efforts and improving their programs. In turn, the Permittees' programs can abate identified sources, which will improve the quality of urban runoff discharges and receiving waters. This monitoring is needed to address the management question, "What are the sources to urban runoff that contribute to receiving water problems?"

When Status or Long-Term Monitoring results indicate an exceedance of a water quality objective, toxicity threshold, or other "trigger", Permittees must identify the source of the problem and take steps to reduce any pollutants discharged from or through their municipal storm sewer systems. This requirement conforms to the process, outlined in Provision C.1., of complying with the Discharge Prohibition and Receiving Water Limitations. If multiple "triggers" are identified through monitoring, Permittees must focus on the highest priority problems; a cap on the total number of source identification projects conducted within the Permit term is provided to cap Permittees' potential costs.

**Provision C.8.d.ii. BMP Effectiveness Investigation**

U.S. EPA's stated approach to NPDES stormwater permitting uses BMPs in first-round permits, and expanded or better-tailored BMPs in subsequent permits, where necessary, to provide for the attainment of water quality standards.<sup>110</sup> The purpose of this monitoring project is to investigate the effectiveness of one currently in-use BMP to determine how it might be improved. Permittees may choose the particular stormwater treatment or hydromodification control BMP to investigate. As with other monitoring requirements, Permittees may work collaboratively to conduct one investigation on a region-wide basis, or each stormwater countywide program may conduct an investigation.

**Provision C.8.d.iii. Geomorphic Project**

The physical integrity of a stream's bed, bank and riparian area is integral to the stream's capacity to withstand the impacts of discharged pollutants, including chemical pollutants, sediment, excess discharge volumes, increased discharge velocities, and increased temperatures. At present, various efforts are underway to improve geomorphic conditions in creeks, primarily through local watershed partnerships. In addition, local groups are undertaking *green stormwater projects* with the goal of minimizing the physical and chemical impacts of stormwater runoff on the receiving stream. Such efforts ultimately seek to improve the integrity of the waterbodies that receive urban stormwater runoff.

The purpose of the Geomorphic Project is to contribute to these ongoing efforts in each Stormwater Countywide Program area. Permittees may select the geomorphic project from three categories specified in the Permit.

**C.8.e. Pollutants of Concern<sup>111</sup> Monitoring.** Federal CWA section 303(d) TMDL requirements, as implemented under the CWC, require a monitoring plan designed to measure the effectiveness of the TMDL point and nonpoint source control measures and the progress the waterbody is making toward attaining water quality objectives. Such a plan necessarily includes collection of water quality data. Provision C.8.e. establishes a monitoring program to measure of the effectiveness of TMDL control measures in progressing toward WLAs. Locations, parameters, methods, protocols, and sampling frequencies for this monitoring are specified. A sediment delivery estimate/budget is also required to improve the Permittees' estimates of their loading estimates. In addition, a workplan is required for estimating loads and analyzing sources of emerging pollutants, which are likely to be present in urban runoff, in the next Permit term.

**C.8.f. Citizen Monitoring and Participation.** CWA section 101(e) and 40 CFR Part 25 broadly require public participation in all programs established pursuant to the CWA, to foster public awareness of environmental issues and decision-making processes. Provision C.8.f. is intended to do the following:

<sup>110</sup> USEPA. 1996. *Interim Permitting Approach for Water Quality-Based Effluent Limitations in Stormwater Permits*. Sept. 1, 1996. <http://www.epa.gov/npdes/pubs/swpol.pdf>

<sup>111</sup> See section C.9, C.11, C.12, and C.13 of this Fact Sheet for more information on Pollutants of Concern.

- Support current and future creek stewardship efforts by providing a framework for citizens and Permittees to share their collective knowledge of creek conditions; and
- Encourage Permittees to use and report data collected by creek groups and other third-parties when the data are of acceptable quality.

**C.8.g. Reporting.** CWC section 13267 provides authority for the Water Board to require technical water quality reports. Provision C.8.g. requires Permittees to submit electronic and comprehensive reports on their water quality monitoring activities to (1) determine compliance with monitoring requirements; (2) provide information useful in evaluating compliance with all Permit requirements; (3) enhance public awareness of the water quality in local streams and the Bay; and (4) standardize reporting to better facilitate analyses of the data, including for the CWA section 303(d) listing process.

## **C.9 – C.14. Pollutants of Concern including Total Maximum Daily Loads**

Provisions C.9 through C.14 pertain to pollutants of concern, including those for which TMDLs are being developed or implemented.

### **Legal Authority**

The following legal authority applies to provisions C.9 through C.14:

**Broad Legal Authority:** CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, E, and F) and 40 CFR 122.26(d)(2)(iv).

**Specific Legal Authority:** Federal NPDES regulation 40 CFR 122.44(d)(1) requires municipal stormwater permits to include any requirements necessary to, “[a]chieve water quality standards established under section 303 of the CWA, including State narrative criteria for water quality.”

Federal NPDES regulation 40 CFR 122.44(d)(1)(i) requires NPDES permits to include limitations to, “control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which are or may be discharged at a level which will cause, have reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.”

**Basin Plan Requirements:** Section 4.8 of the Region’s Water Quality Control Plan (Basin Plan) requires that stormwater permits include requirements to prevent or reduce discharges of pollutants that cause or contribute to violations of water quality objectives. In the first phase, the Water Board requires implementation of technically and economically feasible control measures to reduce pollutants in stormwater to the MEP. If this first phase does not result in attainment of water quality objectives, the Water Board will consider permit conditions that might require implementation of additional control measures. For example, the control measures required as a result of TMDLs may go beyond the measures required in the first phase of the program.

### **General Strategy for Sediment-Bound Pollutants (Mercury, PCBs, legacy pesticides, PBDEs)**

The control measures for mercury are intended to implement the urban runoff requirements stemming from TMDLs for this pollutant. The control measures required for PCBs are intended to implement those that are consistent with control measures in the PCBs TMDL implementation plan that has been approved by the Water Board and is pending approval by the State Board, the Office of Administrative Law, and U.S. EPA. The urban runoff management requirements in the PCBs TMDL implementation plan call for permit-term requirements based on an assessment of controls to reduce



PCBs to the MEP, and that is the intended approach of the required provisions for all pollutants of concern. Many of the control actions addressing PCBs and mercury will result in reductions of a host of sediment-bound pollutants, including legacy pesticides, mercury, PBDEs, and PCBs. The strategy for these pollutants is to use PCBs control guide decisions concerning where to focus effort, but implementation of the control efforts would taken into account the benefits for controlling other pollutants of concern. Further, because many of the control strategies addressing these pollutants of concern are relatively untested, the Water Board will implement control measures in the following modes:

1. Full-scale implementation throughout the region.
2. Focused implementation in areas where benefits are most likely to accrue.
3. Pilot-testing in a few specific locations.
4. Other: This may refer to experimental control measures, Research and Development, desktop analysis, laboratory studies, and/or literature review.

The logic of such categorization is that, as actions are tested and confidence is gained regarding level of experience and confidence in the control measure's effectiveness, the control measure may be implemented with a greater scope. For example, an untested control measure for which the effectiveness is uncertain may be implemented as a pilot project in a few locations during this permit term. If benefits result, and the action is deemed effective, it will be implemented in subsequent permit terms in a focused fashion in more locations or perhaps fully implemented throughout the Region, depending upon the nature of the measure. On the other hand there may be some control measures in which there is sufficient confidence, on the basis of prior experience, that the control action should be implemented in all applicable locations and/or situations. By conducting actions in this way and gathering information about effectiveness and cost, we will advance our understanding and be able to perform an updated assessment of the suite of actions that will constitute MEP for the following permit term. In fact, in addition to implementing control measures, gathering the necessary information about control measure effectiveness is a vital part of what needs to be accomplished by Permittees during this permit term. In the next permit term, control measures will be implemented on the basis of what we learn in this term, and we will, thus, achieve iterative refinement and improvement through time.

**Background on Specific Provisions:** Provisions C.9 through C.14 contain both technology-based requirements to control pollutants to the MEP and water quality based requirements to prevent or reduce discharges of pollutants that may cause or contribute to violations of water quality standards. Provisions C.9 and C.11 of the Permit incorporate requirements for the two TMDLs that have been fully approved and are effective for the Permittees. These TMDLs are for pesticide-related toxicity in urban creeks and mercury in San Francisco Bay. Additionally, Provision C.12 contains measures that address PCBs. The Regional Water Board has adopted a PCB TMDL, but it is still pending approval by State Board, the Office of Administrative Law, and U.S. EPA. This PCBs TMDL includes requirements that would be consistent with this

provision. Finally, Provision C.13 contains measures to implement the copper site-specific objective in San Francisco Bay.

Where a TMDL has been approved, NPDES permits must contain effluent limitations and conditions consistent with the requirements and assumptions in the TMDL.<sup>112</sup> Effluent limitations are generally expressed in numerical form. However, USEPA recommends that for NPDES-regulated municipal and small construction stormwater discharges, effluent limitations should be expressed as BMPs or other similar requirements rather than as numeric effluent limitations.<sup>113</sup> Consistent with USEPA's recommendation, this section implements WQBELs expressed as an iterative BMP approach capable of meeting the WLAs in accordance with the associated compliance schedule. The Permit's WQBELs include the numeric WLA as a performance standard and not as an effluent limitation. The WLA can be used to assess if additional BMPs are needed to achieve the TMDL Numeric Target in the waterbody.

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<sup>112</sup> 40 CFR 122.44(d)(1)(vii)(B)

<sup>113</sup> USEPA, 2002. Establishing Total Maximum Daily Load (TMDL) Wasteload Allocations (WLAs) for Storm Water Sources and NPDES Permit Requirements Based on Those WLAs. P. 4.

## C.9. Pesticides Toxicity Control

### Fact Sheet Findings in Support of Provision C.9.

- C.9-1** This Permit fulfills the Basin Plan amendments the Water Board adopted that establish a Water Quality Containment Strategy and TMDL for diazinon and pesticide-related toxicity for Bay Area urban creeks on November 16, 2005, and approved by the State Water Board on November 15, 2006. The Water Quality Containment Strategy requires urban runoff management agencies to minimize their own pesticide use, conduct outreach to others, and lead monitoring efforts. Control measures implemented by urban runoff management agencies and other entities (except construction and industrial sites) shall reduce pesticides in urban runoff to the MEP.
- C.9-2 (Allocations):** The TMDL is allocated to all urban runoff, including urban runoff associated with MS4s, Caltrans facilities, and industrial, construction, and institutional sites. The allocations are expressed in terms of toxic units and diazinon concentrations.

### Specific Provision C.9 Requirements

C.9 provisions fully implement the TMDL for Urban Creeks Pesticide Toxicity. All C.9 provisions are stated explicitly in the implementation plan for this TMDL. Permittees are encouraged to coordinate activities with the Urban Pesticide Pollution Prevention Project, the Urban Pesticide Committee, and other agencies and organizations. The Urban Pesticide Pollution Prevention (UP3) Project has been funded by a grant from the State Water Board and its goal is to prevent water pollution from urban pesticide use. The Urban Pesticides Committee serves as an information clearinghouse and as a forum for coordinating pesticide TMDL implementation.

The UP3 Project provides resources and information on integrated pest management (IPM) and tools to municipalities to support their efforts to reduce municipal pesticide use and to conduct outreach to their communities on less-toxic methods of pest control. In addition, it provides technical assistance to municipalities to encourage the U.S. Environmental Protection Agency and the California Department of Pesticide Regulation to prevent water quality problems from pesticides. It also maintains and manages the Urban Pesticides Committee, a statewide network of agencies, nonprofits, industry, and other stakeholders that are working to solve water quality problems from pesticides.

Specific tools provided by the UP3 Project that relate to permit requirements include:

- Guidance and resources to help agencies create contracts and bid documents for structural pest management services that help them meet their integrated pest management goals
- IPM policies and ordinances
- IPM training workshops and materials

- Outreach program design resources
- Resources for evaluating effectiveness

Provisions C.9.a through C.9.d are designed to insure that integrated pest management (IPM) is adopted and implemented as policy by all municipalities. IPM is a pest control strategy that uses an array of complementary methods: natural predators and parasites, pest-resistant varieties, cultural practices, biological controls, various physical techniques, and pesticides as a last resort. If implemented properly, it is an approach that can significantly reduce or eliminate the use of pesticides. The implementation of IPM will be assured through training of municipal employees and the requirement that municipalities only hire IPM-certified contractors.

**Provision C.9.e** requires that municipalities (through cooperation or participation with BASMAA) track and participate in pesticide regulatory processes like the USEPA pesticide evaluation and registration activities related to surface water quality, and the California Department of Pesticide Regulation (DPR) pesticide evaluation activities. The goal of these efforts is to encourage both the state and federal pesticide regulatory agencies to accommodate water quality concerns within the pesticide regulation or registration process. Through these efforts, it could be possible to prevent pesticide-related water quality problems from happening by affecting which products are brought to market.

**Provision C.9.g** is critical to the success of municipal efforts to control pesticide-related toxicity. Future permits must be based on an updated assessment of what is working and what is not. With every provision comes the responsibility to assess its effectiveness and report on these findings through the permit. The particulars of assessment will depend on the nature of the control measure.

**Provision C.9.h** directs the municipalities to conduct outreach to consumers at point of purchase and provide targeted information on proper pesticide use and disposal, potential adverse impacts on water quality, and less toxic methods of pest prevention and control. One way in which this can be accomplished is for the Permittees to participate in and provide resources for the "Our Water, Our World" program ([www.ourwaterourworld.org](http://www.ourwaterourworld.org)) or a functionally equivalent pesticide use reduction outreach program. The "Our Water, Our World" program has developed a Web site with many resources, "to assist consumers in managing home and garden pests in a way that helps protect" the environment.

## C.10. Trash Load Reduction

### Legal Authority

The following legal authority applies to section C.10:

**Broad Legal Authority:** CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and Federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, D, E, and F) and 40 CFR 122.26(d)(2)(iv).

**Specific Legal Authority:** Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B) requires, “shall be based on a description of a program, including a schedule, to detect and remove (or require the discharger to the municipal storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(2) requires, “a description of procedures to conduct on-going field screening activities during the life of the permit, including areas or locations that will be evaluated by such field screens.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(3) requires, “a description of procedures to be followed to investigate portions of the separate storm sewer system that, based on the results of the field screen, or other appropriate information, indicate a reasonable potential of containing illicit discharges or other sources of non-storm water.”

Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B)(4) requires, “a description of procedures to prevent, contain, and respond to spills that may discharge into the municipal separate storm sewer.”

San Francisco Bay Basin Plan, Chapter 4 – Implementation, Table 4-1 Prohibitions, Prohibition 7, which is consistent with the State Water Board’s Enclosed Bays and Estuaries Policy, Resolution 95-84, prohibits the discharge of rubbish, refuse, bark, sawdust, or other solid wastes into surface waters or at any place where they would contact or where they would be eventually transported to surface waters, including flood plain areas. This prohibition was adopted by the Water Board in the 1975 Basin Plan, primarily to protect recreational uses such as boating.

### Fact Sheet Findings in Support of Provision C.10

- C.10-1** Trash and litter are a pervasive problem near and in creeks and in San Francisco Bay. Controlling trash is one of the priorities for this Permit reissuance not only because of the trash discharge prohibition, but also because trash and litter cause particularly major impacts on our enjoyment of creeks and the Bay. There are also significant impacts on aquatic life and habitat in those waters and eventually to the global ocean ecosystem, where plastic often floats, persists in the environment for hundreds of years, if not

forever, concentrates organic toxins, and is ingested by aquatic life. There are also physical impacts, as aquatic species can become entangled and ensnared and can ingest plastic that looks like prey, losing the ability to feed properly.

For the purposes of this provision, trash is defined to consist of litter and particles of litter. Man made litter is defined in California Government Code section 68055.1 (g): *Litter* means all improperly discarded waste material, including, but not limited to, convenience food, beverage, and other product packages or containers constructed of steel, aluminum, glass, paper, plastic, and other natural and synthetic materials, thrown or deposited on the lands and waters of the state, but not including the properly discarded waste of the primary processing of agriculture, mining, logging, sawmilling, or manufacturing.

**C.10-2** Data collected by Water Board staff using the SWAMP Rapid Trash Assessment (RTA) Protocol,<sup>114</sup> over the 2003–2005 period,<sup>115</sup> suggest that the current approach to managing trash in waterbodies is not reducing the adverse impact on beneficial uses. The levels of trash in the waters of the San Francisco Bay Region are alarmingly high, considering the Basin Plan prohibits discharge of trash and that littering is illegal with potentially large fines. Even during dry weather conditions, a significant quantity of trash, particularly plastic, is making its way into waters and being transported downstream to San Francisco Bay and the Pacific Ocean. On the basis of 85 surveys conducted at 26 sites throughout the Bay Area, staff have found an average of 2.93 pieces of trash for every foot of stream, and all the trash was removed when it was surveyed, indicating high return rates of trash over the 2003–2005 study period. There did not appear to be one county within the Region with higher trash in waters—the highest wet weather deposition rates were found in western Contra Costa County, and the highest dry weather deposition was found in Sonoma County. Results of the trash in waterbodies assessment work by staff show that rather than adjacent neighborhoods polluting the sites at the bottom of the watershed, these areas, which tend to have lower property values, are subject to trash washing off with urban stormwater runoff cumulatively from the entire watershed.

**C.10-3** A number of key conclusions can be made on the basis of the trash measurement in streams:

- Lower watershed sites have higher densities of trash.
- All watersheds studied in the San Francisco Bay Region have high levels of trash.
- There are trash source hotspots, usually associated with parks, schools, or poorly kept commercial facilities, near creek channels, that appear to contribute a significant portion of the trash deposition at lower watershed sites.

<sup>114</sup> SWAMP Rapid Trash Assessment Protocol, Version 8

<sup>115</sup> SWAMP S.F. Bay Region Trash Report, January 23, 2007

- Dry season deposition of trash, associated with wind and dry season runoff, contributes measurable levels of trash to downstream locations.
  - The majority of trash is plastic at lower watershed sites where trash accumulates in the wet season. This suggests that urban runoff is a major source of floatable plastic found in the ocean and on beaches as marine debris.
  - Parks that have more evident management of trash by city staff and local volunteers, including cleanup within the creek channel, have measurably less trash pieces and higher RTA scores.
- C.10-4** The ubiquitous, unacceptable levels of trash in waters of the San Francisco Bay Region warrant a comprehensive and progressive program of education, warning, and enforcement, and certain areas warrant consideration of structural controls and treatment.
- C.10-5** Trash in urban waterways of coastal areas can become *marine debris*, known to harm fish and wildlife and cause adverse economic impacts.<sup>116</sup> Trash is a regulated water pollutant that has many characteristics of concern to water quality. It accumulates in streams, rivers, bays, and ocean beaches throughout the San Francisco Bay Region, particularly in urban areas.
- C.10-6** Trash adversely affects numerous beneficial uses of waters, particularly recreation and aquatic habitat. Not all litter and debris delivered to streams are of equal concern with regards to water quality. Besides the obvious negative aesthetic effects, most of the harm of trash in surface waters is imparted to wildlife in the form of entanglement or ingestion.<sup>117,118</sup> Some elements of trash exhibit significant threats to human health, such as discarded medical waste, human or pet waste, and broken glass.<sup>119</sup> Also, some household and industrial wastes can contain toxic batteries, pesticide containers, and fluorescent light bulbs that contain mercury. Large trash items such as discarded appliances can present physical barriers to natural stream flow, causing physical impacts such as bank erosion. From a management perspective, the persistent accumulation of trash in a waterbody is of particular concern, and signifies a priority for prevention of trash discharges. Also of concern are trash *hotspots* where illegal dumping, littering, and/or accumulation of trash occur.
- C.10-7** The narrative water quality objectives applicable to trash are Floating Material (Waters shall not contain floating material, including solids, liquids, foams, and scum, in concentrations that cause nuisance or adversely

<sup>116</sup> Moore, S.L., and M.J. Allen. 2000. Distribution of anthropogenic and natural debris on the mainland shelf of the Southern California Bight. *Mar. Poll. Bull.* 40:83-88.

<sup>117</sup> Laist, D. W. and M. Liffmann. 2000. *Impacts of marine debris: research and management needs*. Issue papers of the International Marine Debris Conference, Aug. 6-11, 2000. Honolulu, HI, pp. 16-29.

<sup>118</sup> McCauley, S.J. and K.A. Bjorndahl. 1998. Conservation implications of dietary dilution from debris ingestion: sublethal effects in post-hatchling loggerhead sea turtles. *Conserv. Biol.* 13(4):925-929.

<sup>119</sup> Sheavly, S.B. 2004. *Marine Debris: an Overview of a Critical Issue for our Oceans*. 2004 International Coastal Cleanup Conference, San Juan, Puerto Rico. The Ocean Conservancy.

affect beneficial uses), Settleable Material (Waters shall not contain substances in concentrations that result in the deposition of material that cause nuisance or adversely affect beneficial uses), and Suspended Material (Waters shall not contain suspended material in concentrations that cause nuisance or adversely affect beneficial uses).

- C.10-8** The Water Board, at its February 11, 2009 hearing, adopted a resolution proposing that 26 waterbodies in the region be added to the 303(d) list for the pollutant trash. The adopted Resolution and supporting documents are contained in Attachment 10.1 – 303(d) Trash Resolution and Staff Report Feb 2009.

### **Specific Provision C.10 Requirements**

**Provision C.10.** Permittees shall demonstrate compliance with Discharge Prohibition A.2 and trash-related Receiving Water Limitations through the timely implementation of control measures and other actions to reduce trash loads from municipal separate storm sewer systems (MS4s) by 40% by 2014, 70% by 2017, and 100% by 2022 as further specified below.

#### **C.10.a.i. Short-Term Trash Load Reduction Plan**

The Short-Term Trash Load Reduction Plan is intended to describe actions to incrementally reduce trash loads toward the 2014 requirement of a 40% reduction and eventual abatement of trash loads to receiving waters.

#### **C.10.a.ii. Baseline Trash Load and Trash Load Reduction Tracking Method**

In order to achieve the incremental trash load reductions in an accountable manner, the Permittees will propose Baseline Trash Loads and a Trash Load Reduction Tracking Method. The Tracking will account for additional trash load reducing actions and BMPs the Permittees implement. Permittees are also able to propose, with documentation, areas for exclusion from the Tracking Method accounting, by demonstrating that these areas already meet the Discharge Prohibition A.2 and have no trash loads.

#### **C.10.a.iii. Minimum Full Trash Capture**

Installation of full trash capture systems to prevent trash loads through the MS4 is MEP as demonstrated by the significant implementation of these systems occurring in the Los Angeles region. The minimum full trash capture installation requirements in this permit represent a moderate initial step toward employing this tool for trash load reduction.

#### **C.10.b.i, ii. Trash Hot Spot Selection and Clean Up**

Trash Hot Spots must be cleaned up as an interim measure until complete abatement of trash loads occurs. Eventually, with adequate source controls and trash loading abatement, trash hot spots will not occur in the receiving waters. In addition, Permittees will be credited for trash volume removed from hot spots in the trash load reduction tracking.



**C.10.b.iii. Hot Spot Assessments**

Trash Hot Spot assessments have been simplified and streamlined. Rather than counting individual trash items, which can vary in size from small plastic or glass particles to shopping carts, volume of material removed is measured, along with dominant types of trash removed. Photographs are recorded both before and after cleanup, to add to the record and verify cleanup.

**C.10.c. Long Term Trash Load Reduction**

Each Permittee will submit a Plan to achieve the incremental progress of 70% trash load reduction by 2017 during the following permit term, and the 100% reduction of trash loading by 2022.

**C.10.d. Reporting**

This sub-provision sets forth the reporting required in this provision, including the specific submittals and reports, and the annual reporting requirements.

**Costs of Trash Control**

Costs for either enhanced trash management measure implementation or installation and maintenance of trash capture devices are significant, but when spread over several years, and when viewed on a per-capita basis, are reasonable. Also, Trash capture devices have been installed by cities in California and in the Bay Region.

Trash and litter are costly to remove from our aquatic resource environments. Staff from the California Coastal Commission report that the Coastal Cleanup Day budget statewide: \$200,000-250,000 for staff Coastal Commission staff, and much more from participating local agencies. The main component of this event is the 18,000 volunteer-hours which translates to \$3,247,200 in labor, and so is equivalent to \$3,250,000-3,500,000 per year to clean up 903,566 pounds of trash and recyclables at \$3.60 to \$3.90 per pound. This is one of the most cost-effective events because of volunteer labor and donations. The County of Los Angeles spends \$20 million per year to sweep beaches for trash, according to Coastal Commission staff.

In Oakland, the Lake Merritt Institute is currently budgeted at \$160,000 per year, with trash and litter removal from the Lake as a major task. The budget has increased from about \$45,000 in 1996 to current levels. In the period of 1996-2005 the Lake Merritt Institute staff, utilizing significant volunteer resources, and accomplishing other education tasks, removed 410,859 pounds of trash from the Lake at cost of \$951,725 at \$2.3 per pound.

The City of Oakland reports that installation of two vortex and screen separators, titled by their brand name of CDS units, which cost, according to the table below, \$821,000 for installations that treat tributary catchments of 192 acres before discharge to Lake Merritt at \$4,276 per acre.

City of Oakland—CDS Unit Overview 9-07

Existing CDS unit location	Outfall number	Treatment area (acres)	Cost of implementation	Sizing	Maintenance requirements	Comments
Intersection of 27 <sup>th</sup> and Valdez Streets	56*	71	\$203,000 to contactor; plus ~\$100,000 City costs	73 cfs peak flow; 36" stormdrain; Unit sizing: 18'6'6" box with 10'11"diam x 9'6" long cylinder	Visually inspect CDS Unit; remove trash and debris with Hydro Flusher bi-monthly	Installed in 2006. Required relocation of electrical conduit. Water main and gas line were also in the way; the box was adjusted to accommodate these conflicts.
Intersection of 22 <sup>nd</sup> and Valley Streets	56*	121	\$368,000 to contactor; plus ~\$150,000 City costs	115 cfs peak flow; 54" stormdrain; Unit sizing: 18'8.5'6" box with 12'diam x 9'6" long cylinder	Visually inspect CDS Unit; remove trash and debris with Hydro Flusher bi-monthly	Installed in 2006. Installation costs were higher than anticipated. Sewer lines and PGE facilities were exposed that were not known before. Unit had to be modified and poured-in-place.

\* The city is treating 192 acres or 72 percent of the 252 acres draining to outfall 56.

Mr. Morad Sedrak, the TMDL Implementation Program Manager, Bureau of Sanitation, Department of Public Works, City of Los Angeles, reports that the City plans to invest \$72 million dollars for storm drain catch basin based capture device installation primarily, for a City of 4 million population, for a per-capita cost of \$18 dollars. This effort is occurring over a span of over five years, for an annual per-capita cost of under \$4.

Mr. Sedrak reports that O&M costs are not anticipated to increase, as the City of L.A. is already budgeted for 3 catch basin cleanings per year. He also states that catch basin inserts installed inside the catch basin in front of the lateral pipe, which have been certified by the Los Angeles Regional Water Board as total capture trash control devices, cost approximately \$800 to \$3,000 depending on the depth of the catch basin. The price quoted includes installation and the insert is made of Stainless Steel 316.

Furthermore, the price for catch basin opening screen covers, which are designed to retain trash at the street level for removal by sweepers, and also to open if there is a potential flooding blockage, ranges roughly from \$800 to \$4,500, depending on the opening size of the catch basin.

The City of Los Angeles has currently spent 27 million dollars on a retrofit program to install catch basin devices in approximately 30% of its area, with either inserts or screens

or both. Mr. Sedrak states that Los Angeles plans to spend \$45 million over the next 3 years to retrofit the remaining catch basins within the City. The total number of catch basins within the City is approximately 52,000.

Here are some links to information about the Los Angeles trash control approach:

<http://www.lastormwater.org/Siteorg/program/TMDLs/trashtmdl.htm>

[http://www.lastormwater.org/Siteorg/download/pdfs/general\\_info/Request-Certification-10-06.pdf](http://www.lastormwater.org/Siteorg/download/pdfs/general_info/Request-Certification-10-06.pdf)

[http://www.lastormwater.org/Siteorg/download/pdfs/general\\_info/Request-Certification-10-06.pdf](http://www.lastormwater.org/Siteorg/download/pdfs/general_info/Request-Certification-10-06.pdf)  
[http://www.lastormwater.org/Siteorg/program/poll\\_abate/cbscreens.htm](http://www.lastormwater.org/Siteorg/program/poll_abate/cbscreens.htm)

[http://www.lastormwater.org/Siteorg/program/poll\\_abate/cbinserts.htm](http://www.lastormwater.org/Siteorg/program/poll_abate/cbinserts.htm)

[http://www.lastormwater.org/Siteorg/program/poll\\_abate/cbscreens.htm](http://www.lastormwater.org/Siteorg/program/poll_abate/cbscreens.htm)

Additional cost information on various trash capture devices are included in the Santa Clara Valley Urban Runoff Pollution Prevention Program (SCVURPPP) BMP Trash Toolbox (July 2007). The Toolbox contains cost information for both trash capture devices and enhanced trash management measure implementation, covers a broad range of options and also discusses operation and maintenance costs. Catch basin screens are included with an earlier estimate by the City of Los Angeles of \$44 million over 10 years to install devices in 34,000 inlets.

Litter booms are also discussed with an example from the City of Oakland. The Damon Slough litter boom or sea curtain cost \$36,000 for purchase and installation, including slough side access improvements for maintenance and trash removal. Annual maintenance costs have been \$77,000 for weekly maintenance, which includes use of a crane for floating trash removal.

The costs of the full trash capture device installation required in the Order is significantly less than the previous tentative orders requirements for trash capture, as set forth in the table below.

**Trash Capture Cost Estimates – Final TO versus previous TOs**

Trash Capture Device Requirement	Acres of Capture	Cost for Trash Capture Installation	Percent of Retail/Wholesale Commercial (ABAG 2005)	Per capita \$, Population = 4,533,634
<b>Final TO:</b> Implemented in Year 4 – 30% of Retail/Wholesale Commercial	5527	\$ 27,635,000	30%	\$6.06
<b>Previous TOs:</b> Implement in Year 4, 5% of Urban/suburban land	0.05 X 529,712 = 26,485 (BASMAA) or ABAG 0.05 X 655,015 = 32,750	\$132,425,000 or \$163,750,000	5% of Urban/suburban land	\$29 or \$36

30% X 18,426 acres = 5527 acres X \$5000/acre = **\$27,635,000** for four counties for installation; maintenance will add an additional cost. The Permittees may work cooperatively to achieve this capture installation requirement, and there is the potential for Regional revenue development. The previous requirement was 5% of (.05 X 655,015) (529,712 by BASMAA's count) acres of urban land (from ABAG 2005 table) = 32,750 acres, ((26,486 according to BASMAA) X \$5000 = \$132,000,000).

## C.11. Mercury Controls

### Fact Sheet Findings in Support of Provision C.11

- C.11-1** On August 9, 2006, the Water Board adopted a Basin Plan amendment including a revised TMDL for mercury in San Francisco Bay, two new water quality objectives, and an implementation plan to achieve the TMDL. The State Water Board has approved this Basin Plan amendment, and USEPA approval is pending. C.11-2 through C.11-6 are components of the Mercury TMDL implementation plan relevant to implementation through the municipal stormwater permit.
- C.11-2** The 2003 load of mercury from urban runoff is 160 kg/yr, and the aggregate WLAs for urban runoff is 80 kg/yr and shall be implemented through the NPDES stormwater permits issued to urban runoff management agencies and Caltrans. The urban stormwater runoff allocations implicitly include all current and future permitted discharges, not otherwise addressed by another allocation, and unpermitted discharges within the geographic boundaries of urban runoff management agencies (collectively, *source category*) including, but not limited to, Caltrans roadway and non-roadway facilities and rights-of-way, atmospheric deposition, public facilities, properties proximate to stream banks, industrial facilities, and construction sites.
- C.11-3** The allocations for this source category shall be achieved within 20 years, and, as a way to measure progress, an interim loading milestone of 120 kg/yr, halfway between the current load and the allocation, should be achieved within 10 years. If the interim loading milestone is not achieved, NPDES-permitted entities shall demonstrate reasonable and measurable progress toward achieving the 10-year loading milestone.
- C.11-4** The NPDES permits for urban runoff management agencies shall require the implementation of BMPs and control measures designed to achieve the allocations or accomplish the load reductions derived from the allocations. In addition to controlling mercury loads, BMPs or control measures shall include actions to reduce mercury-related risks to humans and wildlife. Requirements in the permit issued or reissued and applicable for the term of the permit shall be based on an updated assessment of control measures intended to reduce pollutants in stormwater runoff to the MEP and remain consistent with the section of this chapter titled, *Surface Water Protection and Management—Point Source Control—Stormwater Discharges*.
- C.11-5** The following additional requirements are or shall be incorporated into NPDES permits issued or reissued by the Water Board for urban runoff management agencies.
- a. Evaluate and report on the spatial extent, magnitude, and cause of contamination for locations where elevated mercury concentrations exist;
  - b. Develop and implement a mercury source control program;

- c. Develop and implement a monitoring system to quantify either mercury loads or loads reduced through treatment, source control, and other management efforts;
- d. Monitor levels of methylmercury in discharges;
- e. Conduct or cause to be conducted studies aimed at better understanding mercury fate, transport, and biological uptake in San Francisco Bay and tidal areas;
- f. Develop an equitable allocation-sharing scheme in consultation with Caltrans (see below) to address Caltrans roadway and non-roadway facilities in the program area, and report the details to the Water Board;
- g. Prepare an Annual Report that documents compliance with the above requirements and documents either mercury loads discharged, or loads reduced through ongoing pollution prevention and control activities; and
- h. Demonstrate progress toward (a) the interim loading milestone, or (b) attainment of the allocations shown in Individual WLAs (see Table 4-w of the Basin Plan amendment), by using one of the following methods:
  - (1) Quantify the annual average mercury load reduced by implementing
    - i. Pollution prevention activities, and
    - ii. Source and treatment controls. The benefit of efforts to reduce mercury-related risk to wildlife and humans should also be quantified. The Water Board will recognize such efforts as progress toward achieving the interim milestone and the mercury-related water quality standards upon which the allocations and corresponding load reductions are based. Loads reduced as a result of actions implemented after 2001 (or earlier if actions taken are not reflected in the 2001 load estimate) may be used to estimate load reductions.
  - (2) Quantify the mercury load as a rolling 5-year annual average using data on flow and water column mercury concentrations.
  - (3) Quantitatively demonstrate that the mercury concentration of suspended sediment that best represents sediment discharged with urban runoff is below the suspended sediment target.

**C.11-6** Urban runoff management agencies have a responsibility to oversee various discharges within the agencies' geographic boundaries. However, if it is determined that a source is substantially contributing to mercury loads to the Bay or is outside the jurisdiction or authority of an agency, the Water Board will consider a request from an urban runoff management agency that may include an allocation, load reduction, and/or other regulatory requirements for the source in question.

### Specific Provision C.11 Requirements

The C.11 provisions implement the mercury TMDL and follow the general approach for sediment-bound pollutants discussed above where we seek to build our understanding and level of certainty concerning control actions by implementing actions in a phased approach. We then expand implementation of those actions that prove effective, and perhaps scale back or discontinue those that are not effective. Accordingly, there are some provisions that will be implemented throughout the Region, some that will be tested on a limited basis first before making the decision to expand region-wide in the next permit term. Some of the measures are companion measures for efforts targeting PCBs.

**Provision C.11.a.** Mercury is found in a wide variety of consumer products (e.g., fluorescent bulbs) that are subject to recycling requirements. These recycling efforts are already happening throughout the Region, and Provision C.11.a requires promotion, facilitation and/or participation in these region-wide recycling efforts to increase effectiveness and public participation.

**Provision C.11.b.** The remand resolution of the SF Bay Mercury TMDL made it clear that methyl mercury monitoring must be required of all NPDES Permittees. Methyl mercury is the most toxic form of mercury, and there is very little information, if any, regarding the concentrations of methyl mercury found in urban runoff. The purpose of the monitoring required through this provision is to obtain seasonal information and to assess the magnitude and spatial/temporal patterns of methylmercury concentrations in urban runoff.

**Provisions C.11.c through Provision C.11.f** relate to identical C.12 Provisions for PCBs. For each of these, sites for pilot studies will primarily be chosen on the basis of the potential for reducing PCB loads, but consideration will be given to mercury removal in the final design and implementation of the studies. For more information, see the fact sheet discussions for Provisions C.12.c, d, e, and f and Provision C.2.g.

**Provision C.11.g** implements the TMDL requirement that Permittees measure mercury loads and loads reduced from program activities. There are three options for accomplishing this requirement: quantifying mercury loads reduced through implemented control measures, quantify mercury loading into the Bay from urban runoff, or demonstrating that the concentration of mercury on suspended sediment particles is below the sediment target of 0.2 ppm. It is likely that the first option will be chosen, and this will require development of an accounting system to establish what load reductions result from program activities. This will not be difficult for those measures that involve capture and measurement of mercury-containing sediment, but it will be more challenging for efforts that do not involve direct measurement.

**Provision C.11.h** is equivalent to Provision C.12.h for PCBs and is motivated by the same remaining technical uncertainties.

**Provision C.11.i** requires actions that manage human health risk due to mercury and PCBs. These may include efforts to communicate the health risks of eating Bay fish and other efforts aimed at high risk-communities.

**Provision C.11.j** requires an allocation sharing scheme to be developed in cooperation with Caltrans. The urban runoff TMDL allocation implicitly includes loads from Caltrans facilities.



## C.12. PCBs Controls

The C.12 provisions are consistent with the regulatory approach and implementation plan of the San Francisco Bay PCBs TMDL adopted by the Water Board. They follow the general approach for sediment-bound pollutants discussed above where we seek to build our understanding and level of certainty concerning control actions by implementing actions in a phased approach. We then expand implementation of those actions that prove effective, and perhaps scale back or discontinue those that are not effective. Accordingly, there are some provisions that will be implemented throughout the region, some that will be tested on a limited basis first before making the decision to expand region-wide in the next permit term.

### Fact Sheet Findings in Support of Provision C.12

**C.12-2** On February 13, 2008, the Water Board adopted a Basin Plan amendment establishing a TMDL for PCBs in San Francisco Bay and an implementation plan to achieve the TMDL. Approval by the State Water Board and USEPA is pending. The following excerpts from the TMDL implementation plan are relevant to implementation of the municipal stormwater permit.

“Stormwater runoff wasteload allocations shall be achieved within 20 years and shall be implemented through the NPDES stormwater permits issued to stormwater runoff management agencies and the California Department of Transportation (Caltrans). The urban stormwater runoff wasteload allocations implicitly include all current and future permitted discharges, not otherwise addressed by another allocation, and unpermitted discharges within the geographic boundaries of stormwater runoff management agencies including, but not limited to, Caltrans roadway and non-roadway facilities and rights-of-way, atmospheric deposition, public facilities, properties proximate to stream banks, industrial facilities, and construction sites.

Requirements in each NPDES permit issued or reissued shall be based on an updated assessment of best management practices and control measures intended to reduce PCBs in urban stormwater runoff. Control measures implemented by stormwater runoff management agencies and other entities (except construction and industrial sites) shall reduce PCBs in stormwater runoff to the maximum extent practicable. Control measures for construction and industrial sites shall reduce discharges based on best available technology economically achievable. All permits shall remain consistent with Section 4.8 - Stormwater Discharges.

In the first five-year permit term, stormwater Permittees will be required to implement control measures on a pilot scale to determine their effectiveness and technical feasibility. In the second permit term, stormwater Permittees will be required to implement effective control measures, that will not cause significant adverse environmental impacts, in strategic locations, and to develop a plan to fully implement control measures that will result in

attainment of allocations, including an analysis of costs, efficiency of control measures and an identification of any significant environmental impacts. Subsequent permits will include requirements and a schedule to implement technically feasible, effective and cost efficient control measures to attain allocations. If, as a consequence, allocations cannot be attained, the Water Board will take action to review and revise the allocations and these implementation requirements as part of adaptive implementation.

In addition, stormwater Permittees will be required to develop and implement a monitoring system to quantify PCBs urban stormwater runoff loads and the load reductions achieved through treatment, source control and other actions; support actions to reduce the health risks of people who consume PCBs-contaminated San Francisco Bay fish; and conduct or cause to be conducted monitoring, and studies to fill critical data needs identified in the adaptive implementation section.

Stormwater runoff management agencies have a responsibility to oversee various discharges within the agencies' geographic boundaries. However, if it is determined that a source is substantially contributing to PCBs loads to the Bay or is outside the jurisdiction or authority of an agency the Water Board will consider a request from an stormwater runoff management agency which may include an allocation, load reduction, and/or other regulatory requirements for the source in question."

- C.12-3 Some PCB congeners have dioxin-like properties.** Dioxins are persistent, bioaccumulative, toxic compounds that are produced from the combustion of organic materials in the presence of chlorine. Dioxins enter the air through fuel and waste emissions, including diesel and other motor vehicle exhaust fumes and trash incineration, and are carried in rain and contaminate soil. Dioxins bioaccumulate in fat, and most human exposure occurs through the consumption of animal fats, including those from fish. Therefore, the actions targeting PCBs will likely have the simultaneous benefit of addressing a portion of the dioxin impairment resulting from dioxin-like PCBs.

### **Specific Provision C.12 Requirements**

**Provision C.12.a.** PCBs were used in a variety of electrical devices and equipment, some of which still can be found during industrial inspections. Provision C.12.a requires the stormwater management agencies to ensure that industrial inspectors can identify PCBs or PCB-containing equipment during their inspections and make sure appropriate agencies are notified if they are found. There is enough experience and/or background knowledge about the presence of such PCB-containing equipment that this measure should be implemented region-wide during this permit term.

**Provision C.12.b.** PCBs are used in a variety of building materials like caulks and adhesives. PCBs contained in such materials can be liberated and transported in runoff during and after demolition and renovation activities. At this point, it is not known how extensive this type of PCB contamination is in the region. Therefore, the expectation for

this permit term is that Permittees conduct pilot studies (Provision C.12.b) that includes evaluation of the presence of PCBs in such materials, sampling and analysis, and BMP development to prevent PCBs in these materials from being released into the environment during demolition and renovation. Conducting these pilot tests and reporting results will help determine if control measures for PCBs from these sources should be implemented in a more widespread fashion in the next permit term.

**Provisions C.12.c and C.12.d** form the core of PCB-related efforts for this permit term, and these efforts are crucial for the iterative development of effective control measures for PCBs and other sediment-bound pollutants in future permit terms. The overarching purpose of these two provisions is to conduct five comprehensive pilot studies in locations known to contain high levels of PCBs. The pilot studies will involve a combination of efforts including abatement of the on-land PCB contamination (Provision C.12.c) as well as exploration of sediment management practices (C.12.d) that can be implemented by municipalities to control migration of the PCBs away from the source of contamination. We expect that a suite of control measures will be applied in these five pilot regions to determine the optimum suite of measures for controlling PCB contamination and preventing its transport through the storm drain system. The lessons learned through these pilot efforts will inform the direction of future efforts targeting contaminated zones throughout the Region in subsequent permit terms.

**Provision C.12.e.** One promising management practice for addressing a wide range of sediment-bound contaminants, including PCBs is on-site treatment. Provision C.12.e requires selection of 10 locations for pilot studies spanning treatment types as described in the Provision. This effort can be conducted in conjunction with Provision C.12.d such that on-site treatment efforts conducted as part of C.12.d can be counted toward accomplishing C.12.e requirements.

**Provision C.12.f.** Another promising management practice is the diversion of certain flows to the sanitary sewers to be treated by the local POTWs. Provision C.12.f requires an evaluation of locations for diversion pilot studies and implementation of pilot studies at five pump stations. This effort can be conducted in conjunction with Provision C.12.d such that POTW diversion efforts conducted as part of C.12.d can be counted toward accomplishing C.12.f requirements. Also see discussion under Provision C.2.g.

**Provision C.12.g** requires, consistent with the approach taken in the PCBs TMDL, development of a monitoring system to quantify PCBs loads and loads reduced through source control, treatment and other management measures. This monitoring system will be used to determine progress toward meeting TMDL load allocations. This system should establish the baseline loading or loads reduced against which to compare future loading and load reductions.

**Provision C.12.h.** There are still uncertainties surrounding the magnitude and nature of PCBs reaching the Bay in urban runoff and the ultimate fate of such PCBs, including biological uptake. Provision C.12.h requires that Permittees ensure that fate and transport studies of PCBs in urban runoff are completed.

**Provision C.12.i.** requires actions that manage human health risk due to mercury and PCBs. These may include efforts to communicate the health risks of eating Bay fish and other efforts aimed at high risk-communities.

### **C.13. Copper Controls**

Chronic and acute site-specific objectives (SSOs) for dissolved copper have been established in all segments of San Francisco Bay. The plan to implement the SSOs and ensure the achievement and ongoing maintenance of the SSOs in the entire Bay includes two types of actions for urban runoff management agencies. These actions from the SSO implementation are implemented through this permit as provisions to control urban runoff sources of copper as well as measures to resolve remaining technical uncertainties for copper fate and effects in the Bay.

The control measures for urban runoff target significant sources of copper identified in a report produced in 2004 for the Clean Estuary Partnership.<sup>120</sup> This report updated information on sources of copper in urban runoff, loading estimates and associated level of uncertainty, and summarized feasible control measures and priorities for further investigation. Accordingly, the permit provisions target major sources of copper including vehicle brake pads, architectural copper, copper pesticides, and industrial copper use.

#### **Fact Sheet Findings in Support of Provision C.13.**

- C.13-1** Urban runoff is a conveyance mechanism by which copper reaches San Francisco Bay.
- C.13-2** Copper has the reasonable potential to cause or contribute to exceedances of copper water quality standards in San Francisco Bay.
- C.13-3** Site specific water quality objectives for dissolved copper have already been adopted for South San Francisco Bay will soon be adopted for the rest of the Bay.
- C.13-4** The Permit requirements to control copper to the MEP are necessary to implement and support ongoing achievement of the site-specific water quality objectives.

#### **Specific Provision C.13. Requirements**

**Provision C.13.a.** Copper is used as an architectural feature in roofs, gutters and downspouts. When these roofs are cleaned with aggressive cleaning solutions, substantial amounts of copper can be liberated. The provision C.13.a for architectural copper involves a variety of strategies ranging from BMPs to prohibition against discharge of these cleaning wastes to the storm drain.

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<sup>120</sup> TDC (TDC Environmental). 2004. *Copper Sources in Urban Runoff and Shoreline Activities*. Prepared for the Clean Estuary Partnership.

**Provision C.13.b.** Copper is commonly used as an algacide in pools, spas, and fountains. The provision C.13.b prohibits discharge to the storm drain of copper-containing wastewater from such amenities.

**Provision C.13.c.** Vehicle brake pads are a large source of copper to the urban environment. There are cooperative efforts (e.g., the Brake Pad Partnership) evaluating the potential effects of brake wear debris on water quality. This cooperative effort could result in voluntary actions to reduce the amount of copper in automobile brake pads. However, this voluntary reduction is uncertain, and some aftermarket brake pads are possibly unaffected by the voluntary action. Moreover, the benefits of copper content reduction might be slowly realized because there is a great deal of wear debris already deposited on watersheds, and this wear debris will continue to be deposited as long as copper-containing brake pads are in use. Therefore, there might need to be additional measures addressing copper-containing wear debris on the part of urban stormwater management agencies. Provision C.13.c requires ongoing participation in the cooperative efforts of the Partnership.

**Provision C.13.d** Some industrial facilities likely use copper or have sources of copper (e.g., plating facilities, metal finishers, auto dismantlers). This control measure requires municipalities to include these facilities in their inspection program plans.

The most recent Staff Report<sup>121</sup> for the SSOs north of the Dumbarton Bridge also describes several areas of remaining technical uncertainty, and **Provision C.13.e** requires studies to address these uncertainties. Two of these areas are of particular concern, and urban runoff management agencies are required to conduct or cause to be conducted studies to help resolve these two uncertainties.

The first uncertainty concerns copper's tendency, even at low concentrations, to cause a variety of sublethal (not resulting in death, but in impaired function) effects. The studies documenting such effects have, so far, been conducted in the laboratory in experiments modeling freshwater systems, and many of them have not yet been published. A number of uncertainties need to be resolved before interpretation and extension to marine or estuarine systems can be attempted.<sup>122</sup>

The second uncertainty is that surface sediment samples have exhibited toxicity to test organisms at a number of sites throughout the Bay. Research has shown that sediment toxicity to bivalve embryos is caused by "elevated concentrations of divalent cations....with copper as the most probable cause of toxicity." Additional studies are needed to further examine whether water and sediment toxicity tests used in the RMP are accurate predictors of impacts on the Bay's aquatic and benthic communities.

<sup>121</sup> SFBRWQCB (San Francisco Bay Regional Water Quality Control Board). 2007. *Copper Site-Specific Objectives in San Francisco Bay: Proposed Basin Plan Amendment and Draft Staff Report*. June.

<sup>122</sup> *Ibid.*

#### **C.14. Polybrominated Diphenyl Ethers (PBDE), Legacy Pesticides and Selenium**

This section is predicated on the fact that legacy pesticides, PBDEs, and selenium are either known to impair or potentially impair Bay and tributary beneficial uses. Further, urban stormwater is a likely or potential cause or contributor to such impairment. The requirements for this permit term are primarily information gathering consistent with Provision C.1. Namely, this provision requires that Permittees gather information on a number of pollutants of concern (e.g., PBDEs, DDT, dieldrin, chlordane, selenium) for which TMDLs are planned or are in the early stages of development.

The goals of the provisions in this section are the following: One goal is to determine the concentrations and distribution of these pollutants and if urban runoff is a conveyance mechanism associated with their possible impairment of San Francisco Bay.

A second goal is to gather and provide information to allow calculation of PBDEs, legacy pesticides, and selenium loads to San Francisco Bay from urban runoff conveyance systems. A third goal is to identify control measures and/or management practices to eliminate or reduce discharges of PBDEs, legacy pesticides, or selenium conveyed by urban runoff conveyance systems. The Permittees are encouraged to work with the other municipal stormwater management agencies in the Bay Region to implement a plan to identify, assess, and manage controllable sources of these pollutants in urban runoff. The control actions initiated for PCBs will form the core of initial actions targeting sediment bound pollutants like these. It is very likely that some of these PCB control measures (see Provision C.12) warrant consideration for the control of sediment bound pollutants like PBDEs, legacy pesticides, and possibly others as well.

## C.15. Exempted and Conditionally Exempted Discharges

### Legal Authority

**Broad Legal Authority:** CWA section 402(p)(3)(B)(ii-iii), CWC section 1337, and Federal NPDES regulation 40 CFR 122.26(d)(2)(i)(B, C, D, E, and F) and 40 CFR 122.26(d)(2)(iv).

**Specific Legal Authority:** Federal NPDES regulations 40 CFR 122.26(d)(2)(iv)(B) requires MS4 operators, “to detect and remove (or require the discharger to the municipal separate storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer.”

Federal NPDES regulation 40 CFR 122.26(d)(2)(iv)(B)(1) provides that the Permittees shall prevent all types of illicit discharges into the MS4 except for certain non-stormwater discharges.

### Fact Sheet Findings in Support of Provision C.15.

Prohibition A.1. effectively prohibits the discharge of non-stormwater discharges into the storm sewer system. However, we recognize that certain types of non-stormwater discharges may be exempted from this prohibition if they are unpolluted and do not violate water quality standards. Other types of non-stormwater discharges may be conditionally exempted from Prohibition A.1. if the discharger employs appropriate control measures and BMPs prior to discharge, and monitors and reports on the discharge.

### Specific Provision C.15. Requirements

**Provision C.15.a. Exempted Non-Stormwater Discharges.** This section of the Permit identifies the types of non-stormwater discharges that are exempted from Discharge Prohibition A.1. if such discharges are unpolluted and do not violate water quality standards. If any exempted non-stormwater discharge is identified as a source of pollutants to receiving waters, the discharge shall be addressed as a conditionally exempted discharge and must meet the requirements of Provision C.15.b.

**Provision C.15.b. Conditionally Exempted Non-Stormwater Discharges.** This section of the Permit identifies the types of non-stormwater discharges that are conditionally exempted from Discharge Prohibition A.1. if they are identified by Permittees or the Executive Officer as not being sources of pollutants to receiving waters. To eliminate adverse impacts from such discharges, project proponents shall develop and implement appropriate pollutant control measures and BMPs, and where applicable, shall monitor and report on the discharges in accordance with the requirements specified in Provision C.15.b. The intent of Provision C.15.b.’s requirements is to facilitate Permittees in regulating these non-stormwater discharges to the storm drains since the Permittees have ultimate responsibility for what flows in those storm drains to receiving waters. For all planned discharges, the nature and characteristic of the discharge must be verified prior to the discharge so that effective



pollution control measures are implemented, if deemed necessary. Such preventative measures are cheaper by far than post-discharge cleanup efforts.

**Provision C.15.b.i.(1). Pumped Groundwater from Non Drinking Water Aquifers.** These aquifers tend to be shallower than drinking water aquifers and more subject to contamination. The wells must be purged prior to sample collection. Since wells are purged regularly, this section of the Permit requires twice a year monitoring of these aquifers. Pumped groundwater from non drinking water aquifers, which are owned and/or operated by Permittees who pump groundwater as drinking water, are conditionally exempted as long as the discharges meet the requirements in this section of the Permit.

**Provision C.15.b.i.(2). Pumped Groundwater, Foundation Drains, and Water from Crawl Space Pumps and Footing Drains.** This section of the Permit encourages these types of discharges to be directed to landscaped areas or bioretention units, when feasible. If the discharges cannot be directed to vegetated areas, it requires testing to determine if the discharge is uncontaminated. Uncontaminated discharges shall be treated, if necessary, to meet specified discharge limits for turbidity and pH.

**Provision C.15.b.ii. Air Conditioning Condensate.** Small air conditioning units are usually operated during the warm weather months. The condensate from these units are uncontaminated and unlikely to reach a storm drain or waters of the State because they tend to be low in volume and tend to evaporate or percolate readily. Therefore, condensate from small air conditioning units should be discharged to landscaped areas or the ground. Commercial and industrial air conditioning units tend to produce year-round continuous flows of condensate. It may be difficult to direct a continuous flow to a landscaped area large enough to accommodate the volume. While the condensate tends to be uncontaminated, it picks up contaminants on its way to the storm drain and/or waters of the State and can contribute to unnecessary dry weather flows. Therefore, discharges from new commercial and industrial air conditioning units should be discharged to landscaped areas, if they can accommodate the continuous volume, or to the sanitary sewer, with the local sanitary sewer agency's approval. If none of these options are feasible, air conditioning condensate can be directly discharged into the storm drain. If descaling or anti-algal agents are used to treat the air conditioning units, residues from these agents must be properly disposed of.

**Provision C.15.b.iii. Planned, Unplanned, and Emergency Discharges of the Potable Water System..** Potable water discharges contribute pollution to water quality in receiving waters because they contain chlorine or chloramines, two very toxic chemicals to aquatic life. Potable water discharges can cause erosion and scouring of stream and creek banks, and sedimentation can result if effective BMPs are not implemented. Therefore, appropriate dechlorination and monitoring of chlorine residual, pH and turbidity, particularly for planned discharges of potable water, are crucial to prevent adverse impacts in the receiving waters.

This section of the Permit requires Permittees to notify Water Board staff at least one week in advance for planned discharges of potable water with a flowrate of 250,000 gpd or more or a total 500,000 gallons or more. These planned discharges must meet specified discharge benchmarks for chlorine residual, pH, and turbidity.

To address unplanned discharges of potable water such as non-routine water line breaks, leaks, overflows, fire hydrant shearing, and emergency flushing, this section of the Permit requires Permittees to implement administrative BMPs such as source control measures, managerial practices, operations and maintenance procedures or other measures to reduce or prevent potential pollutants from being discharged during these events. This Provision also contains specific notification and monitoring requirements to assess immediate and continued impacts to water quality when these events happen.

This section of the Permit acknowledges that in cases of emergency discharge, such as from firefighting and disasters, priority of efforts shall be directed toward life, property, and the environment, in that order. Therefore, Permittees are required to implement BMPs that do not interfere with immediate emergency response operations or impact public health and safety. Reporting requirements for such events shall be determined by Water Board staff on a case-by-case basis.

**Provision C.15.b.iv. Individual Residential Car Washing.** Soaps and automotive pollutants such as oil and metals can be discharged into storm drains and waterbodies from individual residential car washing activities. However, it is not feasible to prohibit individual residential car washing because it would require too much resources for the Permittees to regulate the prohibition. This section of the Permit requires Permittees to encourage residents to implement BMPs such as directing car washwaters to landscaped areas, using as little detergent as possible, and washing cars at commercial car washing facilities.

**Provision C.15.b.v. Swimming Pool, Hot tub, Spa, and Fountain Water Discharges.** These types of discharges can potentially contain high levels of chlorine and copper. Permittees shall prohibit the discharge of such waters that contain chlorine residual, copper algacide, filter backwash, or other pollutants to the storm drains or to waterbodies. High flow rates into the storm drain or waterbody could cause erosion and scouring of the stream or creek banks. These types of discharges should be directed to landscaped areas large enough to accommodate the volume or to the sanitary sewer, with the local sanitary sewer's approval. If these discharge options are not feasible and the swimming pool, hot tub, spa, or fountain water discharges must enter the storm drain, they must be dechlorinated to non-detectable levels of chlorine and they must not contain copper algacide. Flow rate should be regulated to minimize downstream erosion and scouring. We strongly encourage local sanitary sewer agencies to accept these types of non-stormwater discharges, especially for new and rebuilt ones where a connection could be achieved with marginal effort. This Provision also requires Permittees to coordinate with local sanitary agencies in these efforts.

**Provision C.15.b.v.i. Irrigation Water, Landscape Irrigation, and Lawn or Garden Watering.** Fertilizers and pesticides can be washed off of landscaping and discharged into storm drains and waterbodies. However, it is not feasible to prohibit excessive irrigation because it would require too much resource for the Permittees to regulate such a prohibition. It is also not feasible for individual Permittees to ban the use fertilizers and pesticides. This section of the Permit requires Permittees to promote and/or work with potable water purveyors to promote measures that minimize runoff and pollutant loading from excess irrigation, such as conservation programs, outreach regarding overwatering and less toxic options for pest control and landscape management, the use of drought tolerant and native vegetation, and to implement appropriate illicit discharge response and enforcement for ongoing, large-volume landscape irrigation runoff to the storm drains.

**Provision C.15.b.vii.** requires Permittees to identify and describe additional types and categories of discharges not listed in Provision C.15.b., that they propose to conditionally exempt from Prohibition A.1., in periodic submittals to the Executive Officer.

**Provision C.15.b.viii.** establishes a mechanism to authorize under the Permit non-stormwater discharges owned or operated by the Permittees.

## **Attachment J: Standard NPDES Stormwater Permit Provisions**

**The following legal authority applies to Attachment J:**

**Broad Legal Authority:** CWA sections 402(p)(3)(B)(ii-iii), CWC section 13377, and federal NPDES regulations 40 CFR 122.26(d)(2)(i)(B, C, D, E, and F) and 40 CFR 122.26(d)(2)(iv).

**Specific Legal Authority:** Standard provisions, reporting requirements, and notifications are consistent to all NPDES permits and are generally found in federal NPDES regulation 40 CFR 122.41.

**Attachment J** includes Standard Provisions. These Standard Provisions ensure that NPDES stormwater permits are consistent and compatible with USEPA's federal regulations. Some Standard Provision sections specific to publicly owned sewage treatment works are not included in Attachment J.

# **Fact Sheet Attachment 6.1**

## **Construction Inspection Data**

Construction Inspection Data

Facility/Site Inspected	Inspection Date	Weather During Inspection	Inches of Rain Since Last Inspection	Enforcement Response Level	Problem(s) Observed							Specific Problem(s)	Resolution			Comments/ Rationale for Longer Compliance Time		
					Erosion Control	Runoff Control	Runon and Control	Sediment Control	Active Treatment System	Good Site Management	Non Stormwater Management		Illicit Discharge	Problems Fixed	Need More Time		Escalate Enforcement	
Panoramic Views	9/30/08	Dry	0	Written Notice		x							Driveway not stabilized					
Panoramic Views	10/15/08	Dry	0.5															50' of driveway rocked.
Panoramic Views	11/15/08	Rain	3	Stop Work	x	x						x	Uncovered graded lots eroding; Sediment entering a stormdrain that didn't have adequate protection.					
Panoramic Views	11/15/08	Drizzling	0.25															Lois blanketed. Storm drains pumped. Street cleaned.
Panoramic Views	12/1/08	Dry	4	Verbal Warning						x			Porta potty next to stormdrain.					Porta potty moved away from stormdrain.
Panoramic Views	1/15/08	Rain	3.25	Written Warning									Fiber rolls need maintenance; Tire wash water flowing into street					
Panoramic Views	1/25/09	Dry	0															Fiber rolls replaced.

Facility/Site Inspected	Inspection Date	Weather During Inspection	Inches of Rain Since Last Inspection	Enforcement Response Level	Problem(s) Observed							Resolution			Comments/ Rationale for Longer Compliance Time			
					Erosion Control	Runon and Runoff Control	Sediment Control	Active Treatment System	Good Site Management	Non Stormwater Management	Illicit Discharge	Problems Fixed	Need More Time	Escalate Enforcement				
Panoramic Views	2/28/09	Rain	2.4	Stop Work	x		x											
Panoramic Views	2/28/09	Rain	0.1											x				Fiber rolls replaced. Silt fences added. More stormdrains protected. Streets cleaned. Slope too soggy to access.
Panoramic Views	3/15/09	Dry	1	Citation with Fine				x							x			Street and storm drains cleaned. Slopes blanketed.
Panoramic Views	4/1/09	Dry	0.5	Citation with Fine												x		Concrete washout overflowed; Evidence of illicit discharge
Panoramic Views	4/15/09	Dry	0													x		Concrete washout replaced; Storm drain and line cleaned.

## **Fact Sheet Attachment 10.1**

### **303(d) Trash Resolution and Staff Report February 2009**

Available at

[http://www.waterboards.ca.gov/sanfranciscobay/board\\_decisions/adopted\\_orders/2009/R2-2009-0008.pdf](http://www.waterboards.ca.gov/sanfranciscobay/board_decisions/adopted_orders/2009/R2-2009-0008.pdf)



# ATTACHMENT A

## Provision C.3.b. Sample Reporting Table

**Provision C.3.b. Sample Reporting Table  
Regulated Projects Approved During the Reporting Period 07/08 to 06/09  
City of Eden Annual Report FY 2008-09**

Project Name, Project Number, Location, Street Address,	Name of Developer, Project Phase No., <sup>1</sup> Project Type & Description	Project Watershed <sup>2</sup>	Total Site Area, Total Area of Land Disturbed	Total New and/or Replaced Impervious Surface Area <sup>3</sup>	Total Pre- and Post- Project Impervious Surface Area <sup>4</sup>	Status of Project <sup>5</sup>	Source Control Measures	Site Design Measures	Treatment Systems Installed <sup>6</sup>	Operation & Maintenance Responsibility Mechanism	Hydraulic Sizing Criteria	Alternative Compliance Measures <sup>7,8</sup>	HM Controls <sup>9,10</sup>
<b>Private Projects</b>													
Nirvana Estates; Project #05-122; Property bounded by Paradise Lane, Serenity Drive, and Eternity Circle; Eden, CA	Heavenly Homes; Phase 1; Construction of 156 single-family homes and 45 townhomes with commercial shops and underground parking.	Runoff from site drains to Babbling Brook	25 acres site area, 21 acres disturbed	20 acres new	20 acres post-project	Application submitted 12/29/07, Application deemed complete 1/30/08, Project approved 7/16/08	Stenciled inlets, street sweeping, covered parking, car wash pad drains to sanitary sewer	Pervious pavement for all driveways, sidewalks, and commercial plaza	vegetated swales, detention basins,	Conditions of Approval require Homeowners Association to perform regular maintenance. Written record will be made available to City inspectors.	WEF Method	n/a	Contra Costa sizing charts used to design detention basin at Peace Park. Also contributed to in-stream projects in Babbling Brook
Barter Heaven; Project #05-345; Shoppers Lane & Bargain Avenue; 14578 Shoppers Lane, Eden, CA	Deals Galore Development Co.; Demolition of strip mall and parking lot and construction of 500-unit 5-story shopping mall with underground parking and limited outdoor parking.	Runoff from site drains to Bargain River	5 acres site area, 3 acres disturbed	1 acre new, 2 acres replaced	3.5 acres pre-project, 4.5 acres post-project	Application submitted 7/9/08, Application deemed complete 8/2/08, Project approved 12/12/08	Stenciled inlets, trash enclosures, underground parking, street sweeping	One-way aisles to minimize outdoor parking footprint; roof drains to planter boxes	tree wells with bioretention; planter boxes with bioretention	Conditions of Approval require property owner (landlord) to perform regular maintenance. Written record will be made available to City inspectors.	BMP Handbook Method	\$ 250,000 paid to Renew Regional Project sponsored by Riverworks Foundation, 243 Water Way, Eden, CA 408-345- 6789	Renew Project includes treatment and HM Controls

**Provision C.3.b. Sample Reporting Table  
Regulated Projects Approved During the Reporting Period 07/08 to 06/09  
City of Eden Annual Report FY 2008-09**

Project Name, Project Number, Location, Street Address,	Name of Developer, Project Phase No., <sup>1</sup> Project Type & Description	Project Watershed <sup>2</sup>	Total Site Area, Total Area of Land Disturbed	Total New and/or Replaced Impervious Surface Area <sup>3</sup>	Total Pre- and Post- Project Impervious Surface Area <sup>4</sup>	Status of Project <sup>5</sup>	Source Control Measures	Site Design Measures	Treatment Systems Installed <sup>6</sup>	Operation & Maintenance Responsibility Mechanism	Hydraulic Sizing Criteria	Alternative Compliance Measures <sup>7,8</sup>	HiM Controls <sup>9,10</sup>
New Beginnings; Project No. #05-456; Hope Street & Chance Road; 567 Hope Boulevard, Eden, CA	Fresh Start Corporation; Demolition of abandoned warehouse and construction of a 5-story building with 250 low-income rental housing units.	Runoff from site drains to Poor Man Creek	5 acres site area, 100,000 ft <sup>2</sup> disturbed	1 acre replaced	2 acres pre-project, 1 acre post-project	Application submitted 2/9/09, Application deemed complete 4/10/09; Project approved 6/30/09	Trash enclosures, underground parking, street sweeping, car wash pad drains to sanitary sewer	roof drains to landscaping	parking runoff flows to six bioretention units/gardens	Conditions of Approval require property owner (landlord) to perform regular maintenance. Written record will be made available to City inspectors.	BMP Handbook Method	n/a	n/a
<b>Public Projects</b>													
Gridlock Relief, Project No. #05-99, ABC Blvd between Main and Huett Streets, Eden, CA	City of Eden. Widening of ABC Blvd from 4 to 6 lanes	Runoff from site drains to Congestion River	6 acres site area, 3 acres disturbed	2 acres new, 1 acre replaced	4 acres pre-project, 6 acres post-project	Application submitted 7/9/06, Application deemed complete 10/6/08, Project approved 12/9/08, Construction scheduled to begin 7/10/09	none	ABC Blvd sloped to drain runoff into landscaped areas in median	Runoff leaving underdrain system of landscaped median is pumped to bioretention gardens along either side of ABC Blvd	Signed statement from City of Eden assuming post-construction responsibility for treatment BMP maintenance.	WEF Method	n/a	BAHM used to design and size stormwater treatment units so that increased runoff is detained.

**Sample Reporting Table C.3.b. Footnotes**

1. If a project is being constructed in Phases, use a separate row entry for each Phase.
2. State the watershed(s) that the Regulated Project drains to. Optional but recommended: Also state the downstream watershed(s).
3. State both the total new impervious surface area and the total replaced impervious surface area, as applicable.
4. For redevelopment projects state both the pre-project impervious surface area and the post-project impervious surface area.
5. State project application date; application deemed complete date; and final, major, staff-level discretionary review and approval date.
6. List stormwater treatment system(s) installed onsite or at a joint stormwater treatment system facility.
7. For Alternative Compliance at an offsite location in accordance with Provision C.3.e.i.(1), on a separate page, give a discussion of the alternative compliance site including the information specified in Provision C.3.b.v.(1)(m)(i) for the offsite project.
8. For Alternative Compliance by paying in-lieu fees in accordance with Provision C.3.e.i.(2), on a separate page, provide the information specified in Provision C.3.b.v.(1)(m)(ii) for the Regional Project.
9. If HM control is not required, state why not.
10. If HM control is required, state control method used (e.g., method to design and size device(s) or method(s) used to meet the HIM Standard, and description of device(s) or method(s) used, such as detention basin(s), biodetention unit(s), regional detention basin, or in-stream control).

## Instructions for Provision C.3.b. Sample Reporting Table

1. **Project Name, Number, Location, and Street Address** – Include the following information:
  - Name of the project
  - Number of the project (if applicable)
  - Location of the project with cross streets
  - Street address of the project (if available)
2. **Name of Developer, Project Phase Number, Project Type, and Project Description** – Include the following information:
  - Name of the developer
  - Project phase name and/or number (only if the project is being developed in phases) – each phase should have a separate row entry
  - Type of development (i.e., new and/or redevelopment)
  - Description of development (e.g., 5-story office building, residential with 160 single-family homes with five 4-story buildings to contain 200 condominiums, 100 unit 2-story shopping mall, mixed use retail and residential development (apartments), industrial warehouse)
3. **Project Watershed**
  - State the watershed(s) that the Project drains into
  - Optional but recommended: Also state the downstream watershed(s)
4. **Total Site Area and Total Area of Land Disturbed** – State the total site area and the total area of land disturbed.
5. **Total New and/or Replaced Impervious Surface Area**
  - State the total new impervious surface area
  - State the total replaced impervious surface area, as applicable
6. **Total Pre- and Post-Project Impervious Surface Area** – For redevelopment projects, state both the pre-project impervious surface area and the post-project impervious surface area.
7. **Status of Project** – Include the following information:
  - Project application submittal date
  - Project application deemed complete date
  - Final, major, staff-level discretionary review and approval date
8. **Source Control Measures** – List all source control measures that have been or will be included in the project.

9. **Site Design Measures** – List all site design measures that have been or will be included in the project.
10. **Treatment Systems Installed** – List all post-construction stormwater treatment system(s) installed onsite and/or at a joint stormwater treatment system facility.
11. **Operation and Maintenance Responsibility Mechanism** – List the legal mechanism(s) that have been or will be used to assign responsibility for the maintenance of the post-construction stormwater treatment systems.
12. **Hydraulic Sizing Criteria Used** – List the hydraulic sizing criteria used for the Project.
13. **Alternative Compliance Measures**
  - **Option 1: LID Treatment at an Offsite Location (Provision C.3.e.i.(1))** – On a separate page, give a discussion of the alternative compliance project including the information specified in Provision C.3.b.v.(1)(m)(i) for the offsite project.
  - **Option 2: Payment of In-Lieu Fees (Provision C.3.e.i.(2))** – On a separate page, provide the information specified in Provision C.3.b.v.(1)(m)(ii).
14. **HM Controls**
  - If HM control is not required, state why not
  - If HM control is required, state control method used (e.g., method to design and size device(s), method(s) used to meet the HM Standard, and description of device(s) or method(s) used, such as detention basin(s), bioretention unit(s), regional detention basins, or in-stream control)

# ATTACHMENT B

## Provision C.3.g. Alameda Permittees Hydromodification Management Requirements

## Alameda Permittees Hydromodification Management Requirements

### 1. On-site and Regional Hydromodification Management (HM) Control Design Criteria

- a. *Range of flows to control:* Flow duration controls shall be designed such that post-project stormwater discharge rates and durations match pre-project discharge rates and durations from 10 percent of the pre-project 2-year peak flow<sup>123</sup> up to the pre-project 10-year peak flow, except where the lower endpoint of this range is modified as described in Section 6 of this Attachment.
- b. *Goodness of fit criteria:* The post-project flow duration curve shall not deviate above the pre-project flow duration curve by more than 10 percent over more than 10 percent of the length of the curve corresponding to the range of flows to control.
- c. *Allowable low flow rate:* Flow control structures may be designed to discharge stormwater at a very low rate that does not threaten to erode the receiving waterbody. This flow rate (also called  $Q_{cp}$ <sup>124</sup>) shall be no greater than 10 percent of the pre-project 2-year peak flow unless a modified value is substantiated by analysis of actual channel resistance in accordance with an approved User Guide as described in Section 6 of this Attachment.
- d. *Standard HM modeling:* On-site and regional HM controls designed using the Bay Area Hydrology Model (BAHM<sup>125</sup>) and site-specific input data shall be considered to meet the HM Standard. Such use must be consistent with directions and options set forth in the most current BAHM User's Manual.<sup>126</sup> Permittees shall demonstrate to the satisfaction of the Executive Officer that any modifications of the BAHM made are consistent with the requirements of this Attachment and Provision C.3.f.
- e. *Alternate HM modeling and design:* The project proponent may use a continuous simulation hydrologic computer model<sup>127</sup> to simulate pre-project and post-project runoff and to design HM controls. To use this method, the project proponent shall compare the

<sup>123</sup> Where referred to in this Order, the 2-year peak flow is determined using a flood frequency analysis procedure based on USGS Bulletin 17 B to obtain the peak flow statistically expected to occur at a 2-year recurrence interval. In this analysis, the appropriate record of hourly rainfall data (e.g., 35–50 years of data) is run through a continuous simulation hydrologic model, the annual peak flows are identified, rank ordered, and the 2-year peak flow is estimated. Such models include USEPA's Hydrologic Simulation Program—Fortran (HSPF), U.S. Army Corps of Engineers' Hydrologic Engineering Center-Hydrologic Modeling System (HEC-HMS), and USEPA's Storm Water Management Model (SWMM).

<sup>124</sup>  $Q_{cp}$  is the allowable low flow discharge from a flow control structure on a project site. It is a means of apportioning the critical flow in a stream to individual projects that discharge to that stream, such that cumulative discharges do not exceed the critical flow in the stream.

<sup>125</sup> *The Bay Area Hydrology Model – A Tool for Analyzing Hydromodification Effects of Development Projects and Sizing Solutions*, Bicknell, J., D. Beyerlein, and A. Feng, September 26, 2006. Available at [http://www.scvurppp-w2k.com/permit\\_c3\\_docs/Bicknell-Beyerlein-Feng\\_CASQA\\_Paper\\_9-26-06.pdf](http://www.scvurppp-w2k.com/permit_c3_docs/Bicknell-Beyerlein-Feng_CASQA_Paper_9-26-06.pdf)

<sup>126</sup> *The Bay Area Hydrology Model – A Tool for Analyzing Hydromodification Effects of Development Projects and Sizing Solutions*, Bicknell, J., D. Beyerlein, and A. Feng, September 26, 2006. Available at [http://www.scvurppp-w2k.com/permit\\_c3\\_docs/Bicknell-Beyerlein-Feng\\_CASQA\\_Paper\\_9-26-06.pdf](http://www.scvurppp-w2k.com/permit_c3_docs/Bicknell-Beyerlein-Feng_CASQA_Paper_9-26-06.pdf)

<sup>127</sup> Such models include US EPA's Hydrologic Simulation Program—Fortran (HSPF), U.S. Army Corps of Engineers Hydrologic Engineering Center-Hydrologic Modeling System (HEC-HMS), and USEPA's Surface Water Management Model (SWMM).



pre-project and post-project model output for a rainfall record of at least 30 years, and shall show that all applicable performance criteria in 1.a-e above are met.

## 2. Impracticability Provision

Where conditions (e.g., extreme space limitations) prevent a project from meeting the HM Standard for a reasonable cost, *and* where the project's runoff cannot be directed to a regional HM control within a reasonable time frame, *and* where an in-stream measure is not practicable, the project shall use (1) site design for hydrologic source control, *and* (2) stormwater treatment measures that collectively minimize, slow, and detain<sup>128</sup> runoff to the maximum extent practicable. In addition, the project proponent shall provide for or contribute financially to an alternative HM project as set forth below:

- a. *Reasonable cost:* To show that the HM Standard cannot be met at a reasonable cost, the project proponent must demonstrate that the total cost to comply with both the HM Standard and the Provision C.3.d treatment requirement exceeds 2 percent of the project construction cost, excluding land costs. Costs of HM and treatment control measures shall not include land costs, soil disposal fees, hauling, contaminated soil testing, mitigation, disposal, or other normal site enhancement costs such as landscaping or grading that are required for other development purposes.
- b. *Regional HM controls:* A regional HM control shall be considered available if there is a planned location for the regional HM control and if an appropriate funding mechanism for a regional HM control is in place by the time of project construction.
- c. *In-stream measures practicability:* In-stream measures shall be considered practicable when an in-stream measure for the project's watershed is planned and an appropriate funding mechanism for an in-stream measure is in place by the time of project construction.
- d. *Financial contribution to an alternative HM project:* The difference between 2 percent of the project construction costs and the cost of the treatment measures at the site (both costs as described in Section 2.a of this Attachment) shall be contributed to an alternative HM project, such as a stormwater treatment retrofit, HM retrofit, regional HM control, or in-stream measure that is not otherwise required by the Water Board or other regulatory agency. Preference shall be given to projects discharging, in this order, to the same tributary, mainstem, watershed, then in the same municipality or county.

## 3. Record Keeping

Permittees shall collect and retain the following information for all projects subject to HM requirements:

- a. Site plans identifying impervious areas, surface flow directions for the entire site, and location(s) of HM measures;
- b. For projects using standard sizing charts, a summary of sizing calculations used;
- c. For projects using the BAHM, a listing of model inputs;

<sup>128</sup> Stormwater treatment measures that detain runoff are generally those that filter runoff through soil or other media and include bioretention units, bioswales, basins, planter boxes, tree wells, media filters, and green roofs.

- d. For projects using custom modeling, a summary of the modeling calculations with corresponding graph showing curve matching (existing, post-project, and post-project with HM controls curves);
- e. For projects using the Impracticability Provision, a listing of all applicable costs and a brief description of the alternative HM Project (name, location, date of start up, entity responsible for maintenance); and
- f. A listing, summary, and date of modifications made to the BAHM, including technical rationale. Permittees shall submit this list and explanation annually with the Annual Report. This may be prepared at the Countywide Program level and submitted on behalf of participating Permittees.

#### 4. HM Control Areas

Applicable projects shall be required to meet the HM Standard when such projects are in areas of HM applicability shown in the Alameda Permittees' HM Map.<sup>129</sup> (available at [http://www.waterboards.ca.gov/sanfranciscobay/water\\_issues/programs/stormwater/muni/mrp/Final%20TO%20HM%20Maps.pdf](http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/stormwater/muni/mrp/Final%20TO%20HM%20Maps.pdf)). Plans to restore a creek reach may reintroduce the applicability of HM requirements; in these instances, Permittees may add, but shall not delete, areas of applicability accordingly.

To assist in location and evaluation of project applicability, the Alameda Permittees' HM Map depicts a number of features including the following:

- Hardened channels and culverts at least 24 inches in diameter (green solid or dashed lines);
- Natural channels (red lines);
- Boundaries of major watersheds (light blue lines); and
- Surface streets and highways (gray or black lines).

These data are of varying age, precision and accuracy and are not intended for legal description or engineering design. Watersheds extending beyond the County boundaries are shown for illustration purposes only. Project proponents are responsible for verifying and describing actual conditions of site location and drainage.

#### 5. Alameda Permittees' HM Map is color-coded as follows:

- a. **Solid pink areas** – Solid pink designates hilly areas, where high slopes (greater than 25 percent) occur. The HM Standard and all associated requirements apply in areas shown in solid pink on the map. In this area, the HM Standard does *not* apply if a project proponent demonstrates that all project runoff will flow through enclosed storm drains, existing concrete culverts, or fully hardened (with bed and banks continuously concrete-lined) channels to the tidal area shown in light gray.
- b. **Purple/red hatched areas** – These are upstream of areas where hydromodification impacts are of concern because of factors such as bank instability, sensitive habitat, or restoration projects. The HM Standard and all associated requirements apply in areas

<sup>129</sup> The watercourses potentially susceptible to hydromodification impacts are identified based on an assessment approach developed by Balance Hydrologics (2003).

shown in purple/red (printer-dependant) hatch marking on the map. Projects in these areas may be subject to additional agency reviews related to hydrologic, habitat or other watershed-specific concerns.

- c. **Solid white areas** – Solid white designates the land area between the hills and the tidal zone. This area may be susceptible to hydromodification unless the site is connected to storm drains that discharge to the tidal area. The HM Standard and all associated requirements apply to projects in solid white areas *unless* a project proponent demonstrates that all project runoff will flow through fully hardened channels.<sup>130</sup> Short segments of engineered earthen channels (length less than 10 times the maximum width of trapezoidal cross-section) can be considered resistant to erosion if located downstream of a concrete channel of similar or greater length and comparable cross-sectional dimensions. Plans to restore a hardened channel may affect the HM Standard applicability in this area.
- d. **Solid gray areas** – Solid gray designates areas where streams or channels are tidally influenced or primarily depositional near their outfall in San Francisco Bay. The HM Standard does not apply to projects in this area. Plans to restore a hardened channel may affect the HM Standard applicability in this area.
- e. **Dark gray, Eastern County area** – Dark gray designates the portion of eastern Alameda County that lies outside the discharge area of this NPDES permit. This area is in the Central Valley Regional Water Quality Control Board's jurisdiction.

## 6. Potential Exceptions to Alameda Permittees' HM Map Designations

The Program may choose to prepare a User Guide<sup>131</sup> to be used for evaluating individual receiving waterbodies using detailed methods to assess channel stability and watercourse critical flow. This User Guide would reiterate and collate established stream stability assessment methods that have been presented in the Program's HMP.<sup>132</sup> After the Program has collated its methods into a User Guide format, received approval of the User Guide from the Executive Officer,<sup>133</sup> and informed the public through such process as an electronic mailing list, the Permittees may use the User Guide to guide preparation of technical reports for the following: implementing the HM Standard using in-stream or regional HM controls; determining whether certain projects are discharging to a watercourse that is less susceptible (from point of discharge to the Bay) to hydromodification (e.g., would have a lower potential for erosion than set forth in these requirements); and/or determining if a watercourse has a higher critical flow and project(s) discharging to it are eligible for an alternative Qcp for the purpose of designing on-site or regional measures to control flows draining to these channels (i.e., the actual threshold of erosion-causing critical flow is higher than 10 percent of the 2-year pre-project flow). In no case shall the design value of Qcp exceed 50 percent of the 2-year pre-project flow.

<sup>130</sup> In this paragraph, *fully hardened channels* include enclosed storm drains, existing concrete culverts, or channels whose bed and banks are continuously concrete-lined to the tidal area shown in light gray on the map.

<sup>131</sup> The User Guide may be offered under a different title.

<sup>132</sup> The Program's HMP has undergone Water Board staff review and been subject to public notice and comment.

<sup>133</sup> The User Guide shall not introduce a new concept, but rather reformat existing methods; therefore, Executive Officer approval is appropriate.

## ATTACHMENT C

### Provision C.3.g. Contra Costa Permittees Hydromodification Management Requirements

#### Contra Costa Permittees Hydromodification Management Requirements

##### 1. Demonstrating Compliance with the Hydromodification Management (HM) Standard

Contra Costa Permittees shall ensure that project proponents shall demonstrate compliance with the HM Standard by demonstrating that any one of the following four options is met:

- a. *No increase in impervious area.* The project proponent may compare the project design to the pre-project condition and show that the project will not increase impervious area and also will not facilitate the efficiency of drainage collection and conveyance.
- b. *Implementation of hydrograph modification IMPs.* The project proponent may select and size IMPs to manage hydrograph modification impacts, using the design procedure, criteria, and sizing factors specified in the Contra Costa Clean Water Program's *Stormwater C.3 Guidebook*. The use of flow-through planters shall be limited to upper-story plazas, adjacent to building foundations, on slopes where infiltration could impair geotechnical stability, or in similar situations where geotechnical issues prevent use of IMPs that allow infiltration to native soils. Limited soil infiltration capacity in itself does not make use of other IMPs infeasible.
- c. *Estimated post-project runoff durations and peak flows do not exceed pre-project durations and peak flows.* The project proponent may use a continuous simulation hydrologic computer model such as USEPA's Hydrograph Simulation Program—Fortran (HSPF) to simulate pre-project and post-project runoff, including the effect of proposed IMPs, detention basins, or other stormwater management facilities. To use this method, the project proponent shall compare the pre-project and post-project model output for a rainfall record of at least 30 years, using limitations and instructions provided in the Program's *Stormwater C.3 Guidebook*, and shall show that the following criteria are met:
  - i. For flow rates from 10 percent of the pre-project 2-year runoff event (0.1Q2) to the pre-project 10-year runoff event (Q10), the post-project discharge rates and durations shall not deviate above the pre-project rates and durations by more than 10 percent over more than 10 percent of the length of the flow duration curve.
  - ii. For flow rates from 0.5Q2 to Q2, the post-project *peak flows* shall not exceed pre-project peak flows. For flow rates from Q2 to Q10, post-project peak flows may exceed pre-project flows by up to 10 percent for a 1-year frequency interval. For example, post-project flows could exceed pre-project flows by up to 10 percent for the interval from Q9 to Q10 or from Q5.5 to Q6.5, but not from Q8 to Q10.

d. *Projected increases in runoff peaks and durations will not accelerate erosion of receiving stream reaches.* The project proponent may show that, because of the specific characteristics of the stream receiving runoff from the project site, or because of proposed stream restoration projects, or both, there is little likelihood that the cumulative impacts from new development could increase the net rate of stream erosion to the extent that beneficial uses would be significantly impacted. To use this option, the project proponent shall evaluate the receiving stream to determine the relative risk of erosion impacts and take the appropriate actions as described below and in Table A-1. Projects 20 acres or larger in total area shall not use the medium risk methodology in (d)ii below.

i. **Low Risk.** In a report or letter report, signed by an engineer or qualified environmental professional, the project proponent shall show that all downstream channels between the project site and the Bay/Delta fall into one of the following *low-risk* categories.

(1) Enclosed pipes.

(2) Channels with continuous hardened beds and banks engineered to withstand erosive forces and composed of concrete, engineered riprap, sackcrete, gabions, mats, and such. This category excludes channels where hardened beds and banks are not engineered continuous installations (i.e., have been installed in response to localized bank failure or erosion).

(3) Channels subject to tidal action.

(4) Channels shown to be aggrading (i.e., consistently subject to accumulation of sediments over decades) and to have no indications of erosion on the channel banks.

ii. **Medium Risk.** Medium risk channels are those where the boundary shear stress could exceed critical shear stress as a result of hydrograph modification but where either the sensitivity of the boundary shear stress to flow is low (e.g., an oversized channel with high width to depth ratios) or where the resistance of the channel materials is relatively high (e.g., cobble or boulder beds and vegetated banks). In *medium-risk* channels, accelerated erosion due to increased watershed imperviousness is not likely but is possible, and the uncertainties can be more easily and effectively addressed by mitigation than by additional study.

In a preliminary report, the project proponent's engineer or qualified environmental professional shall apply the Program's *Basic Geomorphic Assessment*<sup>134</sup> methods and criteria to show each downstream reach between the project site and the Bay/Delta is either at *low-risk* or *medium-risk* of accelerated erosion due to watershed development. In a following, detailed report, a qualified stream geomorphologist<sup>135</sup> shall use the Program's Basic Geomorphic Assessment methods and criteria, available information, and current field data to evaluate each *medium-risk* reach. For each *medium-risk* reach, the detailed report shall show one of the following:

<sup>134</sup> Contra Costa Clean Water Program *Hydrograph Modification Management Plan*, May 15, 2005, Attachment 4, pp. 6-13. This method must be made available in the Program's *Stormwater C.3 Guidebook*.

<sup>135</sup> Typically, detailed studies will be conducted by a stream geomorphologist retained by the lead agency (or, on the lead agency's request, another public agency such as the Contra Costa County Flood Control and Water Conservation District) and paid for by the project proponent.

- (1) A detailed analysis, using the Program's criteria, showing the particular reach may be reclassified as *low-risk*.
- (2) A detailed analysis, using the Program's criteria, confirming the *medium-risk* classification, and:
  - (a) A preliminary plan for a mitigation project for that reach to stabilize stream beds or banks, improve natural stream functions, and/or improve habitat values, and
  - (b) A commitment to implement the mitigation project timely in connection with the proposed development project (including milestones, schedule, cost estimates, and funding), and
  - (c) An opinion and supporting analysis by one or more qualified environmental professionals that the expected environmental benefits of the mitigation project substantially outweigh the potential impacts of an increase in runoff from the development project, and
  - (d) Communication, in the form of letters or meeting notes, indicating consensus among staff representatives of regulatory agencies having jurisdiction that the mitigation project is feasible and desirable. In the case of the Regional Water Board, this must be a letter, signed by the Executive Officer or designee, specifically referencing this requirement. (This is a preliminary indication of feasibility required as part of the development project's Stormwater Control Plan. All applicable permits must be obtained before the mitigation project can be implemented.)

iii. **High Risk.** High-risk channels are those where the sensitivity of boundary shear stress to flow is high (e.g., incised or entrenched channels, channels with low width-to-depth ratios, and narrow channels with levees) or where channel resistance is low (e.g., channels with fine-grained, erodible beds and banks, or with little bed or bank vegetation). In a *high-risk* channel, it is presumed that increases in runoff flows will accelerate bed and bank erosion.

To implement this option (i.e., to allow increased runoff peaks and durations to a high-risk channel), the project proponent must perform a comprehensive analysis to determine the design objectives for channel restoration and must propose a comprehensive program of in-stream measures to improve channel functions while accommodating increased flows. Specific requirements are developed case-by-case in consultation with regulatory agencies having jurisdiction. The analysis will typically involve watershed-scale continuous hydrologic modeling (including calibration with stream gauge data where possible) of pre-project and post-project runoff flows, sediment transport modeling, collection and/or analysis of field data to characterize channel morphology including analysis of bed and bank materials and bank vegetation, selection and design of in-stream structures, and project environmental permitting.

## 2. IMP Model Calibration and Validation

The Program shall monitor flow from Hydrograph Modification Integrated Management Practices (IMPs) to determine the accuracy of its model inputs and assumptions. Monitoring

shall be conducted with the aim of evaluating flow control effectiveness of the IMPs. The Program shall implement monitoring where feasible at future new development projects to gain insight into actual versus predicted rates and durations of flow from IMP overflows and underdrains.

At a minimum, Permittees shall monitor five locations for a minimum of two rainy seasons. If two rainy seasons are not sufficient to collect enough data to determine the accuracy of model inputs and assumptions, monitoring shall continue until such time as adequate data are collected.

Permittees shall conduct the IMP monitoring as described in the IMP Model Calibration and Validation Plan in Section 5 of this Attachment. Monitoring results shall be submitted to the Executive Officer by June 15 of each year following collection of monitoring data. If the first year's data indicate IMPs are not effectively controlling flows as modeled in the HMP, the Executive Officer may require the Program to make adjustments to the IMP sizing factors or design, or otherwise take appropriate corrective action. The Permittees shall submit an IMP Monitoring Report by August 30 of the second year<sup>136</sup> of monitoring. The IMP Monitoring Report shall contain, at a minimum, all the data, graphic output from model runs, and a listing of all model outputs to be adjusted, with full explanation for each. Board staff will review the IMP Monitoring Report and require the Program to make any appropriate changes to the model within a 3-month time frame.

### **3. Stormwater C.3 Guidebook and IMP Design Criteria**

The Current Contra Costa Clean Water Program C.3 Guidebook, 4<sup>th</sup> Edition (September 2008) shall be implemented until the expiration of this permit (November 2014). Any significant changes in the designs of the IMPs, their sizing factors or manner of implementation shall be approved by the Water Board.

### **4. IMP Model Calibration and Validation Plan Objective**

Monitoring shall be conducted with the aim of evaluating flow control effectiveness of the IMPs. The IMPs were redesigned in 2008 to meet a low flow criterion of 0.2Q2, not 0.1Q2, which is current HMP standard for Contra Costa County. The Program shall implement monitoring at future new development projects at a minimum of five locations and for a minimum of two rainy seasons to gain insight into actual versus predicted rates and durations of flow from IMP overflows and underdrains. If two rainy seasons are not sufficient to collect enough data to determine the accuracy of model inputs and assumptions, monitoring shall continue until such time as adequate data are collected.

- a. The Dischargers Shall Identify and Establish Monitoring Sites** – Program staff shall work with municipal Co-Permittees to identify potential monitoring sites on development projects that implement IMPs. Proposed sites shall be identified during review of planning and zoning applications so that monitoring stations can be designed and constructed as part of the development project. Monitoring shall begin after the development project is complete and the site is in use.

Criteria for appropriate sites include, but are not limited to, the following:

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<sup>136</sup> If the monitoring extends beyond 2 years, an IMP Monitoring Report shall be submitted by August 30 annually until model calibration and validation is complete.

- To ensure applicability of results, the development project and IMPs should be typical of development sites and types of IMPs foreseen throughout the County. In particular, at least one each of the infiltration planter, flow-through planter, and *dry* swale shall be selected for monitoring.
  - The area tributary to the IMP should be clearly defined, should contain and direct runoff at all rainfall intensities to the IMP. Two monitoring locations shall contain tributary areas that are a mix of pervious and impervious areas to test the pervious area simplifying assumptions used in the HMP, Table 14, Attachment 2, page 49. If no such locations are constructed by the monitoring period, modeling of mixed (pervious and impervious) tributary areas can substitute for direct monitoring of this type of location.
  - The site shall be easily accessible at all times of day and night to allow inspection and maintenance of measurement equipment.
  - Hourly rain gauge data representative of the site's location shall be available.
- b. Documentation of Monitoring Sites** – The Dischargers shall record and report (i.e., document) pertinent information for each monitoring site. Documentation of each monitoring site shall include the following:
- Amount of tributary area;
  - Condition of roof or paving;
  - Grading and drainage to the IMP, including calculated time of concentration.
  - Locations and elevations of inlets and outlets;
  - As-built measurements of the IMP including depth of soil and gravel layers, height of underdrain pipe above the IMP floor or native soil;
  - Detailed specifications of soil and gravel layers and of filter fabric and other appurtenances; and
  - Condition of IMP surface soils and vegetation.
- c. Design, Construction, and Operation of Monitoring Sites** – The Dischargers shall ensure that IMPs selected for monitoring are equipped with a manhole, vault, or other means to install and access equipment for monitoring flows from IMP overflows and underdrains.
- Development of suitable methods for monitoring the entire range of flows may require experiment. The Program and Water Board are interested in the timing and duration of very low flows from underdrains, as well as higher flows from IMP overflows. The Dischargers shall ensure that equipment is configured to measure the entire range of flows and to avoid potential clogging of orifices used to measure low flows.
- The Dischargers shall ensure that construction of IMPs is inspected carefully to ensure that IMPs are installed as designed and to avoid potential operational problems. For example, gravel used for underdrain layers should be washed free of fines, and filter fabric should be installed without breaks.



The Dischargers shall ensure that, following construction, artificial flows are applied to the IMP to verify the IMP and monitoring equipment are operating correctly and to resolve any operational problems prior to measuring flows from actual rain storms.

The Dischargers shall ensure that monitoring equipment is properly maintained. Maintenance of monitoring equipment will require, initially, inspections during and after storms that produce runoff. The inspection and maintenance schedule may be adjusted as additional experience is gained.

- d. **Data to be Obtained** – The Dischargers shall collect the following data for each IMP, during the monitoring period:
- Hourly rainfall and more frequent rainfall data where available;
  - Hourly IMP outflow and 15-minute outflow for all time periods in which sub-hourly rainfall data are available;
  - Hourly IMP inflow (if possible) and more frequent inflow (if possible) when sub-hourly rainfall data are available; and
  - Notes and observations.
- e. **Evaluation of Data** – The principal use of the monitoring data shall be a comparison of predicted to actual flows. The Dischargers shall ensure that the HSPF model is set up as it was to prepare the curves in Attachment 2 of the HMP, with appropriate adjustments for the drainage area of the IMP to be monitored and for the actual sizing and configuration of the IMP. Hourly rainfall data from observed storms shall be input to the model, and the resulting hourly predicted output recorded. Where sub-hourly rainfall data are available, the model shall be run with, and output recorded for, 15-minute time steps.
- The Dischargers shall compare predicted hourly outflows to the actual hourly outflows. As more data are gathered, the Dischargers may examine aggregated data to characterize deviations from predicted performance at various storm intensities and durations.
- Because high-intensity storms are rare, it will take many years to obtain a suitable number of events to evaluate IMP performance under overflow conditions. Underdrain flows will occur more frequently, but possibly only a few times a year, depending on rainfall and IMP characteristics (e.g., extent to which the IMP is oversized, and actual, rather than predicted, permeability of native soils). However, evaluating a range of rainfall events that do *not* produce underflow will help demonstrate the effectiveness of the IMP.

## 5. Record Keeping and Reporting

Permittees shall collect and retain the following information for all projects subject to HM requirements:

- a. Site plans identifying impervious areas, surface flow directions for the entire site, and location(s) of HM measures;
- b. For projects using standard sizing charts, a summary of sizing calculations used;
- c. For projects using the BAHM, a listing of model inputs;

- d. For projects using custom modeling, a summary of the modeling calculations with corresponding graph showing curve matching (existing, post-project, and post-project with HM controls curves);
  - e. For projects using the Impracticability Provision, a listing of all applicable costs and a brief description of the alternative HM project (name, location, date of start up, entity responsible for maintenance); and
  - f. A list and thorough technical explanation of any changes in design criteria for HM Controls, including IMPs. Permittees shall submit this list and explanation annually with the Annual Report.
6. The current Contra Costa Clean Water Program C.3 Guidebook, 4<sup>th</sup> Edition (C.3 Guidebook) (September 2008) design approach and IMPs shall be used to comply with Provision C.3.g flow requirements until this permit expires and is reissued, pending model verification studies as described below. The IMPs shall be an implementation option as the flow control implementation for development projects up to a footprint of 30 acres

By April 1, 2014, the Contra Costa Clean Water Program shall submit a proposal containing one or a combination of the following three options (a.-c.) for implementation after the expiration and reissuance of this permit:

- a. Present model verification monitoring results demonstrating that the IMPs are sufficiently oversized and perform to meet the 0.1Q2 low flow design criteria; or
- b. Present study results of Contra Costa County streams geology and other factors that support the low flow design criteria of 0.2Q2 as the limiting HMP design low flow; or
- c. Propose redesigns of the IMPs to meet the low flow design criteria of 0.1Q2 to be implemented during the next permit term.

## ATTACHMENT D

### Provision C.3.g. Fairfield-Suisun Permittees Hydromodification Management Requirements

#### Fairfield-Suisun Permittees Hydromodification Management Requirements

##### 1. On-site and Regional Hydromodification Management (HM) Control Design Criteria

- a. *Range of flows to control:* Flow duration controls shall be designed such that post-project stormwater discharge rates and durations match pre-project discharge rates and durations from 20 percent of the pre-project 2-year peak flow<sup>137</sup> up to the pre-project 10-year peak flow.
- b. *Goodness of fit criteria:* The post-project flow duration curve shall not deviate above the pre-project flow duration curve by more than 10 percent over more than 10 percent of the length of the curve corresponding to the range of flows to control.
- c. *Allowable low flow rate:* Flow control structures may be designed to discharge stormwater at a very low rate that does not threaten to erode the receiving waterbody. This flow rate (also called  $Q_{cp}$ <sup>138</sup>) shall be no greater than 20 percent of the pre-project 2-year peak flow.
- d. *Standard HM modeling:* On-site and regional HM controls designed using the Bay Area Hydrology Model (BAHM<sup>139</sup>) and site-specific input data shall be considered to meet the HM Standard. Such use must be consistent with directions and options set forth in the most current BAHM User Manual.<sup>140</sup> Permittees shall demonstrate to the satisfaction of the Executive Officer that any modifications of the BAHM made are consistent with this Attachment and Provision C.3.g.

<sup>137</sup> Where referred to in this Order, the 2-year peak flow is determined using a flood flow frequency analysis procedure based on USGS Bulletin 17 B to obtain the peak flow statistically expected to occur at a 2-year recurrence interval. In this analysis, the appropriate record of hourly rainfall data (e.g., 35–50 years of data) is run through a continuous simulation hydrologic model, the annual peak flows are identified, rank ordered, and the 2-year peak flow is estimated. Such models include USEPA's Hydrologic Simulation Program—Fortran (HSPF), U.S. Army Corps of Engineers' Hydrologic Engineering Center-Hydrologic Modeling System (HEC-HMS), and USEPA's Storm Water Management Model (SWMM).

<sup>138</sup>  $Q_{cp}$  is the allowable low flow discharge from a flow control structure on a project site. It is a means of apportioning the critical flow in a stream to individual projects that discharge to that stream, such that cumulative discharges do not exceed the critical flow in the stream.

<sup>139</sup> See [www.bayareahydrologymodel.org](http://www.bayareahydrologymodel.org), Resources

<sup>140</sup> *The Bay Area Hydrology Model User Manual* is available at <http://www.bayareahydrologymodel.org/downloads.html>.

- e. *Alternate HM modeling and design:* The project proponent may use a continuous simulation hydrologic computer model<sup>141</sup> to simulate pre-project and post-project runoff and to design HM controls. To use this method, the project proponent shall compare the pre-project and post-project model output for a rainfall record of at least 30 years, and shall show that all applicable performance criteria in 1.a–c above are met.
- f. *Sizing Charts:* The Program developed design procedures, criteria, and sizing factors for infiltration basins and bioretention units, based on a low flow rate that exceeds the allowable low flow rate. After the Program has modified its sizing factors<sup>142</sup> to the allowable criteria, received approval of the modified sizing factors from the Executive Officer,<sup>143</sup> and informed the public through such mechanism as an electronic mailing list, project proponents may meet the HM Standard by using the Program's design procedures, criteria, and sizing factors for infiltration basins and/or bioretention units.

## 2. Impracticability Provision

Where conditions (e.g., extreme space limitations) prevent a project from meeting the HM Standard for a reasonable cost, *and* where the project's runoff cannot be directed to a regional HM control within a reasonable time frame, *and* where an in-stream measure is not practicable, the project shall use (1) site design for hydrologic source control, *and* (2) stormwater treatment measures that collectively minimize, slow, and detain<sup>144</sup> runoff to the maximum extent practicable. In addition, if the cost of providing site design for hydrologic source control and treatment measures to the maximum extent practicable does not exceed 2% of the project cost (as defined in "2.a." below), the project proponent shall provide for or contribute financially to an alternative HM project as set forth below:

- a. *Reasonable cost:* To show that the HM Standard cannot be met at a reasonable cost, the project proponent must demonstrate that the total cost to comply with both the HM Standard and the Provision C.3.d. treatment requirement exceeds 2 percent of the project construction cost, excluding land costs. Costs of HM and treatment control measures shall not include land costs, soil disposal fees, hauling, contaminated soil testing, mitigation, disposal, or other normal site enhancement costs such as landscaping or grading that are required for other development purposes.
- b. *Regional HM controls:* A regional HM control shall be considered available if there is a planned location for the regional HM control and if an appropriate funding mechanism for a regional HM control is in place by the time of project construction.
- c. *In-stream measures practicability:* In-stream measures shall be considered practicable when an in-stream measure for the project's watershed is planned and an appropriate funding mechanism for an in-stream measure is in place by the time of project construction.

<sup>141</sup> Such models include USEPA's Hydrologic Simulation Program—Fortran (HSPF), U.S. Army Corps of Engineers Hydrologic Engineering Center-Hydrologic Modeling System (HEC-HMS), and USEPA's Storm Water Management Model (SWMM).

<sup>142</sup> Current sizing factors and design criteria are shown in Appendix D of the FSURMP HMP.

<sup>143</sup> The modified sizing factors will not introduce a new concept but rather make an existing compliance mechanism more stringent; therefore, Executive Officer approval is appropriate.

<sup>144</sup> Stormwater treatment measures that detain runoff are generally those that filter runoff through soil or other media, and include bioretention units, bioswales, basins, planter boxes, tree wells, media, filters, and green roofs.

- d. *Financial contribution to an alternative HM project:* The difference between 2 percent of the project construction costs and the cost of the treatment measures at the site (both costs as described in Section 2.a of this Attachment) shall be contributed to an alternative HM project, such as a stormwater treatment retrofit, HM retrofit, regional HM control, or in-stream measure. Preference shall be given to projects discharging, in this order, to the same tributary, mainstem, watershed, then in the same municipality or county.

### 3. Record Keeping

Permittees shall collect and retain the following information for all projects subject to HM requirements:

- a. Site plans identifying impervious areas, surface flow directions for the entire site, and location(s) of HM measures;
- b. For projects using standard sizing charts, a summary of sizing calculations used;
- c. For projects using the BAHM, a listing of model inputs;
- d. For projects using custom modeling, a summary of the modeling calculations with corresponding graph showing curve matching (existing, post-project, and post-project with HM controls curves);
- e. For projects using the Impracticability Provision, a listing of all applicable costs and a brief description of the alternative HM project (name, location, date of start up, entity responsible for maintenance); and
- f. A listing, summary, and date of modifications made to the BAHM, including technical rationale. Permittees shall submit this list and explanation annually with the Annual Report.

### 4. HM Control Areas

Applicable projects shall be required to meet the HM Standard when such projects discharge into the upstream reaches of Laurel or LedgeWood Creeks, as delineated in the Fairfield-Suisun Permittees' HM Maps (available at [http://www.waterboards.ca.gov/sanfranciscobay/water\\_issues/programs/stormwater/muni/mrp/Final%20TO%20HM%20Maps.pdf](http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/stormwater/muni/mrp/Final%20TO%20HM%20Maps.pdf)). Plans to restore a creek reach may reintroduce the applicability of HM requirements; in these instances, Permittees may add, but shall not delete, areas of applicability accordingly.

## ATTACHMENT E

### Provision C.3.g. San Mateo Permittees Hydromodification Management Requirements

#### San Mateo Permittees Hydromodification Management Requirements

##### 1. On-site and Regional Hydromodification Management (HM) Control Design Criteria

- a. *Range of flows to control:* Flow duration controls shall be designed such that post-project stormwater discharge rates and durations match pre-project discharge rates and durations from 10 percent of the pre-project 2-year peak flow<sup>145</sup> up to the pre-project 10-year peak flow.
- b. *Goodness of fit criteria:* The post-project flow duration curve shall not deviate above the pre-project flow duration curve by more than 10 percent over more than 10 percent of the length of the curve corresponding to the range of flows to control.
- c. *Allowable low flow rate:* Flow control structures may be designed to discharge stormwater at a very low rate that does not threaten to erode the receiving waterbody. This flow rate (also called  $Q_{cp}$ <sup>146</sup>) shall be no greater than 10 percent of the pre-project 2-year peak flow.
- d. *Standard HM modeling:* On-site and regional HM controls designed using the Bay Area Hydrology Model (BAHM<sup>147</sup>) and site-specific input data shall be considered to meet the HM Standard. Such use must be consistent with directions and options set forth in the

<sup>145</sup> Where referred to in this Order, the 2-year peak flow is determined using a flood flow frequency analysis procedure based on USGS Bulletin 17 B to obtain the peak flow statistically expected to occur at a 2-year recurrence interval. In this analysis, the appropriate record of hourly rainfall data (e.g., 35–50 years of data) is run through a continuous simulation hydrologic model, the annual peak flows are identified, rank ordered, and the 2-year peak flow is estimated. Such models include USEPA's Hydrologic Simulation Program—Fortran (HSPF), U.S. Army Corps of Engineers' Hydrologic Engineering Center-Hydrologic Modeling System (HEC-HMS), and USEPA's Storm Water Management Model (SWMM).

<sup>146</sup>  $Q_{cp}$  is the allowable low flow discharge from a flow control structure on a project site. It is a means of apportioning the critical flow in a stream to individual projects that discharge to that stream, such that cumulative discharges do not exceed the critical flow in the stream.

<sup>147</sup> See [www.bayareahydrologymodel.org](http://www.bayareahydrologymodel.org), Resources

most current BAHM User Manual.<sup>148</sup> Permittees shall demonstrate to the satisfaction of the Executive Officer that any modifications of the BAHM made are consistent with the requirements of Provision C.3.g.

- e. *Alternate HM modeling and design:* The project proponent may use a continuous simulation hydrologic computer model<sup>149</sup> to simulate pre-project and post-project runoff and to design HM controls. To use this method, the project proponent shall compare the pre-project and post-project model output for a rainfall record of at least 30 years, and shall show that all applicable performance criteria in 1.a.–c. above are met.

## 2. Impracticability Provision

Where conditions (e.g., extreme space limitations) prevent a project from meeting the HM Standard for a reasonable cost, *and* where the project's runoff cannot be directed to a regional HM control within a reasonable time frame, *and* where an in-stream measure is not practicable, the project shall use (1) site design for hydrologic source control, *and* (2) stormwater treatment measures that collectively minimize, slow, and detain<sup>150</sup> runoff to the maximum extent practicable. In addition, , if the cost of providing site design for hydrologic source control and treatment measures to the maximum extent practicable does not exceed 2% of the project cost (as defined in "2.a." below), the project proponent shall provide for or contribute financially to an alternative HM project as set forth below:

- a. *Reasonable cost:* To show that the HM Standard cannot be met at a reasonable cost, the project proponent must demonstrate that the total cost to comply with both the HM Standard and the Provision C.3.d treatment requirement exceeds 2 percent of the project construction cost, excluding land costs. Costs of HM and treatment control measures shall not include land costs, soil disposal fees, hauling, contaminated soil testing, mitigation, disposal, or other normal site enhancement costs such as landscaping or grading that are required for other development purposes.
- b. *Regional HM controls:* A regional HM control shall be considered available if there is a planned location for the regional HM control and if an appropriate funding mechanism for a regional HM control is in place by the time of project construction.
- c. *In-stream measures practicability:* In-stream measures shall be considered practicable when an in-stream measure for the project's watershed is planned and an appropriate funding mechanism for an in-stream measure is in place by the time of project construction.
- d. *Financial contribution to an alternative HM project:* The difference between 2 percent of the project construction costs and the cost of the treatment measures at the site (both costs as described in Section 2.a of this Attachment shall be contributed to an alternative HM project, such as a stormwater treatment retrofit, HM retrofit, regional HM control, or

<sup>148</sup> The Bay Area Hydrology Model User Manual is available at <http://www.bayareahydrologymodel.org/downloads.html>

<sup>149</sup> Such models include USEPA's Hydrologic Simulation Program—Fortran (HSPF), U.S. Army Corps of Engineers Hydrologic Engineering Center-Hydrologic Modeling System (HEC-HMS), and USEPA's Storm Water Management Model (SWMM).

<sup>150</sup> Stormwater treatment measures that detain runoff are generally those that filter runoff through soil or other media, and include bioretention units, bioswales, basins, planter boxes, tree wells, media filters, and green roofs.

in-stream measure. Preference shall be given to projects discharging, in this order, to the same tributary, mainstem, watershed, then in the same municipality, or county.

### 3. Record Keeping

Permittees shall collect and retain the following information for all projects subject to HM requirements:

- a. Site plans identifying impervious areas, surface flow directions for the entire site, and location(s) of HM measures;
- b. For projects using standard sizing charts, a summary of sizing calculations used;
- c. For projects using the BAHM, a listing of model inputs;
- d. For projects using custom modeling, a summary of the modeling calculations with corresponding graph showing curve matching (existing, post-project, and post-project with HM controls curves);
- e. For projects using the Impracticability Provision, a listing of all applicable costs and a brief description of the alternative HM project (name, location, date of startup, entity responsible for maintenance); and
- f. A listing, summary, and date of modifications made to the BAHM, including technical rationale. Permittees shall submit this list and explanation annually with the Annual Report. This may be prepared at the Countywide Program level and submitted on behalf of participating Permittees.

### 4. HM Control Areas

Applicable projects shall be required to meet the HM Standard when such projects are in the HM control areas shown in the San Mateo Permittees' HM Map (available at [http://www.waterboards.ca.gov/sanfranciscobay/water\\_issues/programs/stormwater/muni/mrp/Final%20TO%20HM%20Maps.pdf](http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/stormwater/muni/mrp/Final%20TO%20HM%20Maps.pdf)). Plans to restore a creek reach may reintroduce the applicability of HM requirements; in these instances, Permittees may add, but shall not delete, areas of applicability accordingly.

The HM Standard and all associated requirements apply in areas that are shown in green on the map and noted in the map's key as *areas subject to HMP*. The other areas are exempt from the HM Standard because they drain to hardened channels or low gradient channels (a characteristic applicable to San Mateo County's particular shoreline properties), or are in highly developed areas. Plans to restore a hardened channel may affect areas of applicability.

Areas shown in the San Mateo Permittees' HM Map may be modified as follows:

- b. **Street Boundary Interpretation** – Streets are used to mark the boundary between areas where the HM Standard must be met and exempt areas. Parcels on the boundary street are considered within the area exempted from the hydromodification requirements. Nonetheless, there might be cases where the drainage from a particular parcel(s) on the boundary street drains westward into the hydromodification required area and, as such, any applicable project on such a parcel(s) would be subject to the hydromodification requirements.



- c. **Hardened Channel/Drainage to Exempt Area** – If drainage leaving a proposed project subject to the HM Standard is determined to flow only through a hardened channel and/or enclosed pipe along its entire length before directly discharging into a waterway in the exempt area or into tidal waters, the project would be exempted from the HM Standard and its associated requirements. The project proponent must demonstrate, in a statement signed by an engineer or qualified environmental professional, that this condition is met.
- d. **Boundary Re-Opener** – If the municipal regional permit or future permit reissuances or amendments modify the types of projects subject to the hydromodification requirements, the appropriate location for an HMP boundary or boundaries will be reevaluated at the same time.

## ATTACHMENT F

### Provision C.3.g. Santa Clara Permittees Hydromodification Management Requirements

#### Santa Clara Permittees Hydromodification Management Requirements

##### 1. On-site and Regional Hydromodification Management (HM) Control Design Criteria

- a. *Range of flows to control:* Flow duration controls shall be designed such that post-project stormwater discharge rates and durations match pre-project discharge rates and durations from 10 percent of the pre-project 2-year peak flow<sup>151</sup> up to the pre-project 10-year peak flow, except where the lower endpoint of this range is modified as described in Section 5 of this Attachment.
- b. *Goodness of fit criteria:* The post-project flow duration curve shall not deviate above the pre-project flow duration curve by more than 10 percent over more than 10 percent of the length of the curve corresponding to the range of flows to control.
- c. *Allowable low flow rate:* Flow control structures may be designed to discharge stormwater at a very low rate that does not threaten to erode the receiving waterbody. This flow rate (also called  $Q_{cp}$ <sup>152</sup>) shall be no greater than 10 percent of the pre-project 2-year peak flow unless a modified value is substantiated by analysis of actual channel resistance in accordance with an approved User Guide as described in Section 5 of this Attachment.
- d. *Standard HM modeling:* On-site and regional HM controls designed using the Bay Area Hydrology Model (BAHM<sup>153</sup>) and site-specific input data shall be considered to meet the HM Standard. Such use must be consistent with directions and options set forth in the

<sup>151</sup> Where referred to in this Order, the 2-year peak flow is determined using a flood flow frequency analysis procedure based on USGS Bulletin 17B to obtain the peak flow statistically expected to occur at a 2-year recurrence interval. In this analysis, the appropriate record of hourly rainfall data (e.g., 35–50 years of data) is run through a continuous simulation hydrologic model, the annual peak flows are identified, rank ordered, and the 2-year peak flow is estimated. Such models include USEPA's Hydrologic Simulation Program—Fortran (HSPF), U.S. Army Corps of Engineers' Hydrologic Engineering Center-Hydrologic Modeling System (HEC-HMS), and USEPA's Storm Water Management Model (SWMM).

<sup>152</sup>  $Q_{cp}$  is the allowable low flow discharge from a flow control structure on a project site. It is a means of apportioning the critical flow in a stream to individual projects that discharge to that stream, such that cumulative discharges do not exceed the critical flow in the stream.

<sup>153</sup> See [www.bayareahydrologymodel.org](http://www.bayareahydrologymodel.org), Resources.

most current BAHM User Manual.<sup>154</sup> Permittees shall demonstrate to the satisfaction of the Executive Officer that any modifications of the BAHM made are consistent with this attachment and Provision C.3.g.

- e. *Alternate HM modeling and design:* The project proponent may use a continuous simulation hydrologic computer model<sup>155</sup> to simulate pre-project and post-project runoff and to design HM controls. To use this method, the project proponent shall compare the pre-project and post-project model output for a rainfall record of at least 30 years, and shall show that all applicable performance criteria in 1.a. – c. above are met.

## 2. Impracticability Provision

Where conditions (e.g., extreme space limitations) prevent a project from meeting the HM Standard for a reasonable cost, *and* where the project's runoff cannot be directed to a Regional HM control<sup>156</sup> within a reasonable time frame, *and* where an in-stream measure is not practicable, the project shall use (1) site design for hydrologic source control, *and* (2) stormwater treatment measures that collectively minimize, slow, and detain<sup>157</sup> runoff to the maximum extent practicable. In addition, if the cost of providing site design for hydrologic source control and treatment measures to the maximum extent practicable does not exceed 2% of the project cost (as defined in "2.a." below), the project shall contribute financially to an alternative HM project as set forth below:

- a. *Reasonable cost:* To show that the HM Standard cannot be met at a reasonable cost, the project proponent must demonstrate that the total cost to comply with both the HM Standard and the Provision C.3.d treatment requirement exceeds 2 percent of the project construction cost, excluding land costs. Costs of HM and treatment control measures shall not include land costs, soil disposal fees, hauling, contaminated soil testing, mitigation, disposal, or other normal site enhancement costs such as landscaping or grading that are required for other development purposes.
- b. *Regional HM control:* A regional HM control shall be considered available if there is a planned location for the regional HM control and if an appropriate funding mechanism for a regional control is in place by the time of project construction.
- c. *In-stream measures practicability:* In-stream measures shall be considered practicable when an in-stream measure for the project's watershed is planned and an appropriate funding mechanism for an in-stream measure is in place by the time of project construction.
- d. *Financial contribution to an alternative HM project:* The difference between 2 percent of the project construction costs and the cost of the treatment measures at the site (both costs as described in Section 2.a of this Attachment) shall be contributed to an alternative

<sup>154</sup> *The Bay Area Hydrology Model User Manual* is available at <http://www.bayareahydrology.com/downloads.html>.

<sup>155</sup> Such models include USEPA's Hydrologic Simulation Program—Fortran (HSPF), U.S. Army Corps of Engineers Hydrologic Engineering Center-Hydrologic Modeling System (HEC-HMS), and USEPA's Storm Water Management Model (SWMM).

<sup>156</sup> *Regional HM controls* are flow duration control structures that collect stormwater runoff discharge from multiple projects (each of which should incorporate hydrologic source control measures as well) and are designed such that the HM Standard is met for all the projects at the point where the regional control measure discharges.

<sup>157</sup> Stormwater treatment measures that detain runoff are generally those that filter runoff through soil or other media, and include bioretention units, bioswales, basins, planter boxes, sand filters, and green roofs.

HM project, such as a stormwater treatment retrofit, HM retrofit, regional HM control, or in-stream measure. Preference shall be given to projects discharging, in this order, to the same tributary, mainstem, watershed, then in the same municipality or county.

### 3. Record Keeping

Permittees shall collect and retain the following information for all projects subject to HM requirements:

- a. Site plans identifying impervious areas, surface flow directions for the entire site, and location(s) of HM measures;
- b. For projects using standard sizing charts, a summary of sizing calculations used;
- c. For projects using the BAHM, a listing of model inputs;
- d. For projects using custom modeling, a summary of the modeling calculations with corresponding graph showing curve matching (existing, post-project, and post-project with HM controls curves);
- e. For projects using the Impracticability Provision, a listing of all applicable costs and a brief description of the alternative HM project (name, location, date of start up, entity responsible for maintenance); and
- f. A listing, summary, and date of modifications made to the BAHM, including technical rationale. Permittees shall submit this list and explanation annually with the Annual Report. This may be prepared at the Countywide Program level and submitted on behalf of participating Permittees.

### 4. HM Control Areas

Applicable projects shall be required to meet the HM Standard when such projects are located in areas of HM applicability as described below and shown in the Santa Clara Permittees' HM Map (available at [http://www.waterboards.ca.gov/sanfranciscobay/water\\_issues/programs/stormwater/muni/mrp/Final%20TO%20HM%20Maps.pdf](http://www.waterboards.ca.gov/sanfranciscobay/water_issues/programs/stormwater/muni/mrp/Final%20TO%20HM%20Maps.pdf)).

- a. **Purple areas:** These areas represent catchments that drain to hardened channels that extend continuously to the Bay or to tidally influenced sections of creeks. The HM Standard and associated requirements do not apply to projects in the areas designated in purple on the map.

Plans to restore a creek reach may reintroduce the applicability of HM requirements, unless the creek restoration project is designed to accommodate the potential hydromodification impacts of future development; if this is not the case, in these instances, Permittees may add, but shall not delete, areas of applicability accordingly.

- b. **Red areas:** These areas represent catchments and subwatersheds that are greater than or equal to 65% impervious, based on existing imperviousness data sources. The HM Standard and associated requirements do not apply to projects in the areas designated in red on the map.
- c. **Pink areas:** These are areas that are under review by the Permittees for accuracy of the imperviousness data. The HM Standard and associated requirements apply to projects in areas designated as pink on the map until such time as a Permittee presents new data that indicate that the actual level of imperviousness of a particular area is greater than or equal

to 65% impervious. Any new data will be submitted to the Water Board in one coordinated submittal within one year of permit adoption.

- d. **Green area:** These areas represent catchments and subwatersheds that are less than 65% impervious and are not under review by the Permittees. The HM Standard and associated requirements apply to projects in areas designated as green on the map.

## 5. Potential Exceptions to Map Designations

The Program may choose to prepare a User Guide<sup>158</sup> to be used for evaluating individual receiving waterbodies using detailed methods to assess channel stability and watercourse critical flow. This User Guide would reiterate and collate established stream stability assessment methods that have been presented in the Program's HMP.<sup>159</sup> After the Program has collated its methods into User Guide format, received approval of the User Guide from the Executive Officer,<sup>160</sup> and informed the public through such process as an electronic mailing list, the Permittees may use the User Guide to guide preparation of technical reports for the following: implementing the HM Standard using in-stream or regional controls; determining whether certain projects are discharging to a watercourse that is less susceptible (from point of discharge to the Bay) to hydromodification (e.g., would have a lower potential for erosion than set forth in these requirements); and/or determining if a watercourse has a higher critical flow and project(s) discharging to it are eligible for an alternative Qcp for the purpose of designing on-site or regional measures to control flows draining to these channels (i.e., the actual threshold of erosion-causing critical flow is higher than 10 percent of the 2-year pre-project flow). In no case shall the design value of Qcp exceed 50 percent of the 2-year pre-project flow.

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<sup>158</sup> The User Guide may be offered under a different title.

<sup>159</sup> The Program's HMP has undergone Water Board staff review and been subject to public notice and comment.

<sup>160</sup> The User Guide will not introduce a new concept, but rather reformat existing methods; therefore, Executive Officer approval is appropriate.

# ATTACHMENT G

## Provision C.3.h. Sample Reporting Table

**Table C.3.h. – Operation and Maintenance of Stormwater Treatment Systems  
City of Eden Annual Report FY 2008-09**

Facility/Site Inspected and Responsible Party for Maintenance	Date of Inspection	Type of Inspection (annual, follow-up, etc.)	Type of Treatment System or HM Control Inspected	Inspection Findings or Results	Enforcement Action Taken (Warning, NOV, administrative citation, etc.)	Comments
ABC Company 123 Alphabet Road San Jose	12/06/08	annual	offsite bioretention unit	proper operation	none	Unit is operating properly and is well maintained.
	12/17/08	annual	onsite media filter	ineffective filter media	verbal warning	Media filter is clogged and needs to be replaced.
DEF site 234 Blossom Drive Santa Clara	12/19/08	follow-up	onsite media filter	proper operation	none	New media filter in place and unit is operating properly.
	1/19/09	follow-up	onsite media filter	proper operation	none	Unit is operating properly.
GHI Hotel 1001 Grand Blvd 227 Touring Parkway	12/21/08	annual	onsite swales	proper operation	notice of violation	Bioretention unit #2 is badly eroded because of flow channelization. Stormwater is flowing over the eroded areas, bypassing treatment and running off into parking area.
			onsite bioretention unit #1	proper operation		
			onsite bioretention unit #2	eroded areas due to flow channelization		
Rolling Hills Estates Homeowners' Association 543 Rolling Hill Drive Pleasanton	12/27/08	follow-up	onsite bioretention unit #2	proper operation	none	Entire bioretention unit #2 has been replanted and re-graded. Raining heavily but no overflow observed.
	01/17/09	annual	onsite pond	sediment and debris accumulation	notice of violation	Pond needs sediment removal and check dam needs debris removal.
	01/24/09	follow-up	onsite pond	sediment and debris accumulation	administrative citation \$1000	Pond still a mess. Administrative citation requires maintenance within a week.
	01/31/09	follow-up	onsite pond	proper maintenance	none	Pond maintenance completed.
	02/18/09	spot inspection	onsite pond	proper operation and maintenance	none	Proper operation and maintenance.

# ATTACHMENT H

## Provision C.8. Status and Long-Term Monitoring Follow-up Analysis and Actions



## Status and Long-Term Monitoring Follow-up Analysis and Actions for Biological Assessment, Bedded Sediment Toxicity, and Bedded Sediment Pollutants

When results from Biological Assessment, Bedded Sediment Toxicity, and/or Bedded Sediment Pollutants monitoring indicate impacts at a monitoring location, Permittees shall evaluate the extent and cause(s) of impacts to determine the potential role of urban runoff as indicated in Table H-1.

**Table H-1. Sediment Triad Approach to Determining Follow-Up Actions**

Chemistry Results <sup>161</sup>	Toxicity Results <sup>162</sup>	Bioassessment Results <sup>163</sup>	Action
No chemicals exceed Threshold Effect Concentrations (TEC), mean Probable Effects Concentrations (PEC) quotient < 0.5 and pyrethroids < 1.0 Toxicity Unit (TU) <sup>164</sup>	No Toxicity	No indications of alterations	No action necessary
No chemicals exceed TECs, mean PEC quotient < 0.5 and pyrethroids < 1.0 TU	Toxicity	No indications of alterations	(1) Take confirmatory sample for toxicity. (2) If toxicity repeated, attempt to identify cause and spatial extent. (3) Where impacts are under Permittee's control, take management actions to minimize upstream sources causing toxicity; initiate no later than the second fiscal year following the sampling event.

<sup>161</sup> TEC and PEC are found in MacDonald, D.D., G.G. Ingersoll, and T.A. Berger. 2000. Development and Evaluation of Consensus-based Sediment Quality Guidelines for Freshwater Ecosystems. *Archives of Environ. Contamination and Toxicology* 39(1):20-31.

<sup>162</sup> Toxicity is exhibited when *Hyallela* survival statistically different than and < 20 percent of control.

<sup>163</sup> Alterations are exhibited if metrics indicate substantially degraded community.

<sup>164</sup> Toxicity Units (TU) are calculated as follows: TU = Actual concentration (organic carbon normalized) ÷ Reported *H. azteca* LC<sub>50</sub> concentration (organic concentration normalized). Weston, D.P., R.W. Holmes, J. You, and M.J. Lydy, 2005. Aquatic Toxicity Due to Residential Use of Pyrethroid Insecticides. *Environ. Science and Technology* 39(24):9778-9784.

Chemistry Results <sup>161</sup>	Toxicity Results <sup>162</sup>	Bioassessment Results <sup>163</sup>	Action
No chemicals exceed TECs, mean PEC quotient < 0.5 and pyrethroids < 1.0 TU	No Toxicity	Indications of alterations	Identify the most probable cause(s) of the alterations in biological community. Where impacts are under Permittee's control, take management actions to minimize the impacts causing physical habitat disturbance; initiate no later than the second fiscal year following the sampling event.
No chemicals exceed TECs, mean PEC quotient < 0.5 and pyrethroids < 1.0 TU	Toxicity	Indications of alterations	(1) Identify cause(s) of impacts and spatial extent. (2) Where impacts are under Permittee's control, take management actions to minimize impacts; initiate no later than the second fiscal year following the sampling event.
3 or more chemicals exceed PECs, the mean PEC quotient is > 0.5, or pyrethroids > 1.0 TU	No Toxicity	Indications of alterations	(1) Identify cause of impacts. (2) Where impacts are under Permittee's control, take management actions to minimize the impacts caused by urban runoff; initiate no later than the second fiscal year following the sampling event.
3 or more chemicals exceed PECs, the mean PEC quotient is > 0.5, or pyrethroids > 1.0 TU	Toxicity	No indications of alterations	(1) Take confirmatory sample for toxicity. (2) If toxicity repeated, attempt to identify cause and spatial extent. (3) Where impacts are under Permittee's control, take management actions to minimize upstream sources; initiate no later than the second fiscal year following the sampling event.
3 or more chemicals exceed PECs, the mean PEC quotient is > 0.5, or pyrethroids > 1.0 TU	No Toxicity	No Indications of alterations	If PEC exceedance is Hg or PCBs, address under TMDLs
3 or more chemicals exceed PECs, the mean PEC quotient is > 0.5, or pyrethroids > 1.0 TU	Toxicity	Indications of alterations	(1) Identify cause(s) of impacts and spatial extent. (2) Where impacts are under Permittee's control, take management actions to address impacts.

# ATTACHMENT I

## Provision C.8. Standard Monitoring Provisions

**All monitoring activities shall meet the following requirements:**

1. Samples and measurements taken for the purpose of monitoring shall be representative of the monitored activity. [40 CFR 122.41(j)(1)]
2. Permittees shall retain records of all monitoring information, including all calibration and maintenance of monitoring instrumentation, and copies of all reports required by this Order for a period of at least five (5) years from the date of the sample, measurement, report, or application. This period may be extended by request of the Water Board or USEPA at any time and shall be extended during the course of any unresolved litigation regarding this discharge. [40 CFR 122.41(j)(2), CWC section 13383(a)]
3. Records of monitoring information shall include [40 CFR 122.41(j)(3)]:
  - a. The date, exact place, and time of sampling or measurements;
  - b. The individual(s) who performed the sampling or measurements;
  - c. The date(s) analyses were performed;
  - d. The individual(s) who performed the analyses;
  - e. The analytical techniques or methods used; and,
  - f. The results of such analyses.
4. The CWA provides that any person who falsifies, tampers with, or knowingly renders inaccurate any monitoring device or method required to be maintained under this Order shall, upon conviction, be punished by a fine of not more than \$10,000, or by imprisonment for not more than two years, or both. If a conviction of a person is for a violation committed after a first conviction of such person under this paragraph, punishment is a fine of not more than \$20,000 per day of violation, or by imprisonment of not more than four years, or both. [40 CFR 122.41(j)(5)]
5. Calculations for all limitations which require averaging of measurements shall utilize an arithmetic mean unless otherwise specified in the monitoring Provisions. [40 CFR 122.41(l)(4)(iii)]
6. All chemical, bacteriological, and toxicity analyses shall be conducted at a laboratory certified for such analyses by the California Department of Health Services or a laboratory approved by the Executive Officer.
7. For priority toxic pollutants that are identified in the California Toxics Rule (CTR) (65 Fed. Reg. 31682), the Permittees shall instruct its laboratories to establish calibration standards that are equivalent to or lower than the Minimum Levels (MLs) published in Appendix 4 of the Policy for Implementation of Toxics Standards for Inland Surface Waters, Enclosed Bays, and Estuaries of California (SIP). If a Permittee can demonstrate that a particular ML is not attainable, in accordance with procedures set forth in 40 CFR 136, the lowest quantifiable concentration of the lowest calibration standard analyzed by a specific analytical procedure (assuming that all the method specified sample weights, volumes, and processing steps have been followed) may be used instead of the ML listed in Appendix 4 of the SIP. The Permittee must submit documentation from the laboratory to the Water Board for approval prior to raising the ML for any priority toxic pollutant.
8. The Clean Water Act provides that any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or non-

compliance shall, upon conviction, be punished by a fine of not more than \$10,000 per violation, or by imprisonment for not more than six months per violation, or by both. [40 CFR 122.41(k)(2)]

9. If the discharger monitors any pollutant more frequently than required by the Permit, unless otherwise specified in the Order, the results of this monitoring shall be included in the calculation and reporting of the data submitted in the reports requested by the Water Board. [40 CFR 122.41(l)(4)(ii)]

## ATTACHMENT J

# Minimum Trash Capture Area and Minimum Number of Trash Hot Spots

**Table 10.1 Minimum Trash Capture Area and Trash Hot Spots for Population Based Permittees**

Data Source: <http://quake.abag.ca.gov/mitigation/pickdbh2.html> and Association of Bay Area Governments, 2005 ABAG Land Use Existing Land Use in 2005: Report and Data for Bay Area Counties

	Population	Retail / Wholesale Commercial Acres	Minimum Trash Capture Area (Acres) <sup>165</sup>	# of Trash Hot Spots per 30K Population	# of Trash Hot Spots per 100 Retail / Wholesale Commercial Acres	Minimum # of Trash Hot Spots <sup>166</sup>
<b>Alameda County</b>						
San Leandro	73,402	721	216	2	7	4
Oakland	420,183	759	228	14	8	8
Dublin	46,934	377	113	1	3	3
Emeryville	9,727	69	21	1	1	1
Albany	16,877	95	28	1	1	1
Berkeley	106,697	183	55	3	1	3
Alameda County Unincorporated.	140,825	375	112	4	3	4
Alameda	75,823	402	121	2	4	4
Fremont	213,512	698	209	7	6	7
Hayward	149,205	726	218	4	7	7
Livermore	83,604	423	127	2	4	4
Newark	43,872	314	94	1	3	3
Piedmont	11,100	1	0.3	1	1	1
Pleasanton	69,388	366	110	2	3	3
Union City	73,402	183	55	2	1	2

<sup>165</sup> 30% of Retail / Wholesale Commercial Acres

<sup>166</sup> If the hot spot # based on % commercial area is more than twice that based on population, the minimum hot spot # is double the population based #.

	Population	Retail / Wholesale Commercial Acres	Minimum Trash Capture Area (Acres) <sup>165</sup>	# of Trash Hot Spots per 30K Population	# of Trash Hot Spots per 100 Retail / Wholesale Commercial Acres	Minimum # of Trash Hot Spots <sup>166</sup>
<b>San Mateo County</b>						
San Mateo County Unincorporated.	65,844	71	21	2	1	2
Atherton	7,475	0	0	1	1	1
Belmont	26,078	58	17	1	1	1
Brisbane	3,861	16	5	1	1	1
Burlingame	28,867	123	37	1	1	1
Colma	1,613	106	32	1	1	1
Portola Valley	4,639	9	3	1	1	1
Daly City	106,361	242	73	3	2	3
East Palo Alto	32,897	59	18	1	1	1
Foster City	30,308	67	20	1	1	1
Half Moon Bay	13,046	49	15	1	1	1
Hillsborough	11,272	0	0	1	1	1
Menlo Park	31,490	83	25	1	1	1
Millbrae	21,387	68	20	1	1	1
Pacifica	39,616	100	30	1	1	1
Redwood City	77,269	309	93	2	3	3
San Bruno	43,444	137	41	1	1	1
San Carlos	28,857	129	39	1	1	1
San Mateo	95,776	275	82	3	2	3
South San Francisco	63,744	195	58	2	1	2
Woodside	5,625	9	3	1	1	1



	Population	Retail / Wholesale Commercial Acres	Minimum Trash Capture Catchment Area (Acres) <sup>165</sup>	# of Trash Hot Spots per 30K Population	# of Trash Hot Spots per 100 Retail / Wholesale Commercial Acres	Minimum # of Trash Hot Spots <sup>166</sup>
<b>Contra Costa County</b>						
Contra Costa County Unincorporated.	173,573	524	157	5	5	5
Concord	123,776	1016	305	4	10	8
Walnut Creek	65,306	329	99	2	3	3
Clayton	10,784	21	6	1	1	1
Danville	42,629	134	40	1	1	1
El Cerrito	23,320	105	32	1	1	1
Hercules	24,324	37	11	1	1	1
Lafayette	23,962	68	20	1	1	1
Martinez	36,144	142	43	1	1	1
Moraga	16,138	108	32	1	1	1
Orinda	17,542	24	7	1	1	1
Pinole	19,193	140	42	1	1	1
Pittsburg	63,652	520	156	2	5	4
Pleasant Hill	33,377	219	66	1	2	2
Richmond	103,577	391	117	3	3	3
San Pablo	31,190	131	39	1	1	1
San Ramon	59,002	274	82	1	2	2

	Population	Retail / Wholesale Commercial Acres	Minimum Trash Capture Area (Acres) <sup>165</sup>	# of Trash Hot Spots per 30K Population	# of Trash Hot Spots per 100 Retail / Wholesale Commercial Acres	Minimum # of Trash Hot Spots <sup>166</sup>
<b>Santa Clara County</b>						
Santa Clara County Unincorporated	99,122	270	81	3	3	3
Cupertino	55,551	213	64	2	2	2
Los Altos	28,291	65	20	1	1	1
Los Altos Hills	8,837	0	0	1	1	1
Los Gatos	30,296	163	49	1	1	1
Milpitas	69,419	457	137	2	4	4
Monte Sereno	3,579	0	0	1	1	1
Mountain View	73,932	375	112	2	3	3
Santa Clara	115,503	560	168	3	5	5
Saratoga	31,592	41	12	1	1	1
San Jose	989,496	2983	895	32	29	32
Sunnyvale	137,538	548	164	3	5	5
Palo Alto	63,367	282	84	2	2	2
<b>Solano County</b>						
Vallejo	120,416	559	168	4	5	5
Fairfield	106,142	486	146	3	4	4
Suisun	28,031	75	22	1	1	1
<b>Totals</b>	<b>4,930,339</b>	<b>19057</b>	<b>5718</b>	<b>165</b>	<b>184</b>	<b>349</b>

**Table 10-2. Non-Population Based Permittee Trash Hot Spot  
 and Trash Capture Assignments**

<b>Non population based Permittee</b>	<b>Number of Trash Hot Spots</b>	<b>Trash Capture Requirement</b>
Santa Clara Valley Water District	12	4 trash booms or 8 outfall capture devices (minimum 2 ft. diameter outfall) or equivalent measures
Alameda County Flood Control Agency	9	3 trash booms or 6 outfall capture devices (minimum 2 ft. diameter outfall) or equivalent measures
Alameda Co. Zone 7 Flood Control Agency	3	1 trash boom or 2 outfall capture devices (minimum 2 ft. diameter outfall) or equivalent measures
Contra Costa County Flood Control Agency	6	2 trash booms or 4 outfall capture devices (minimum 2 ft. diameter outfall) or equivalent measures
San Mateo County Flood Control District	2	1 trash booms or 2 outfall capture devices (minimum 2 ft. diameter outfall) or equivalent measures
Vallejo Sanitation and Flood District	1	1 trash boom or 2 outfall capture devices or equivalent measures (minimum 2 ft. diameter outfall)

# ATTACHMENT K

## Standard NPDES Stormwater Permit Provisions

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION**

**Standard Provisions and Reporting Requirements  
for  
NPDES Stormwater Discharge Permits**

**February 2009**

**A. GENERAL PROVISIONS**

1. Neither the treatment nor the discharge of pollutants shall create a pollution, contamination, or nuisance as defined by Section 13050 of the California Water Code.
2. All discharges authorized by this Order shall be consistent with the terms and conditions of this Order.
3. **Duty to Comply**
  - a. If a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Clean Water Act, or amendments thereto, for a toxic pollutant which is present in the discharge authorized herein and such standard or prohibition is more stringent than any limitation upon such pollutant in a Board adopted Order, discharger must comply with the new standard or prohibition. The Board will revise or modify the Order in accordance with such toxic effluent standard or prohibition and so notify the discharger.
  - b. If more stringent applicable water quality standards are approved pursuant to Section 303 of the Clean Water Act, or amendments thereto, the discharger must comply with the new standard. The Board will revise and modify this Order in accordance with such more stringent standards.
  - c. The filing of a request by the discharger for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition. [40 CFR 122.41(f)]
4. **Duty to Mitigate**

The discharger shall take all reasonable steps to minimize or prevent any discharge in violation of this order and permit which has a reasonable likelihood of adversely affecting public health or the environment, including such accelerated or additional monitoring as requested by the Board or Executive Officer to determine the nature and impact of the violation. [40 CFR 122.41(d)]
5. Pursuant to U.S. Environmental Protection Agency regulations the discharger must notify the Water Board as soon as it knows or has reason to believe (1) that they have begun or expect to begin, use or manufacture of a pollutant not reported in the permit application,

or (2) a discharge of toxic pollutants not limited by this permit has occurred, or will occur, in concentrations that exceed the limits specified in 40 CFR 122.42(a).

6. The discharge of any radiological, chemical, or biological warfare agent waste is prohibited.
7. All facilities used for transport, treatment, or disposal of wastes shall be adequately protected against overflow or washout as the result of a 100-year frequency flood.
8. Collection, treatment, storage and disposal systems shall be operated in a manner that precludes public contact with wastewater, except where excluding the public is inappropriate, warning signs shall be posted.

#### **9. Property Rights**

This Order and Permit does not convey any property rights of any sort or any exclusive privileges. The requirements prescribed herein do not authorize the commission of any act causing injury to the property of another, nor protect the discharger from liabilities under federal, state or local laws, nor create a vested right for the discharge to continue the waste discharge or guarantee the discharger a capacity right in the receiving water. [40 CFR 122.41(g)]

#### **10. Inspection and Entry**

The Board or its authorized representatives shall be allowed:

- a. Entry upon premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of the order and permit;
- b. Access to and copy at, reasonable times, any records that must be kept under the conditions of the order and permit;
- c. To inspect at reasonable times any facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under the order and permit; and
- d. To photograph, sample, and monitor, at reasonable times for the purpose of assuring compliance with the order and permit or as otherwise authorized by the Clean Water Act, any substances or parameters at any locations. [40 CFR 122.41(i)]

#### **11. Permit Actions**

This Order and Permit may be modified, revoked and reissued, or terminated in accordance with applicable State and/or Federal regulations. Cause for taking such action includes, but is not limited to any of the following:

- a. Violation of any term or condition contained in the Order and Permit;
- b. Obtaining the Order and Permit by misrepresentation, or by failure to disclose fully all relevant facts;
- c. Endangerment to public health or environment that can only be regulated to acceptable levels by order and permit modification or termination; and
- d. Any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

## 12. Duty to Provide Information

The discharger shall furnish, within a reasonable time, any information the Board may request to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit. The discharger shall also furnish to the Board, upon request, copies of records required to be kept by its permit. [40 CFR 122.41(h)]

## 13. Availability

A copy of this permit shall be maintained at the discharge facility and be available at all times to operating personnel.

## 14. Continuation of Expired Permit

This permit continues in force and effect until a new permit is issued or the Board rescinds the permit. Only those dischargers authorized to discharge under the expiring permit are covered by the continued permit.

## B. GENERAL REPORTING REQUIREMENTS

### 1. Signatory Requirements

a. All reports required by the order and permit and other information requested by the Board or USEPA Region 9 shall be signed by a principal executive officer or ranking elected official of the discharger, or by a duly authorized representative of that person. [40 CFR 122.22(b)]

### b. Certification

All reports signed by a duly authorized representative under Provision E.1.a. shall contain the following certification:

"I certify under penalty of law that this document and all attachments are prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who managed the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. [40 CFR 122.22(d)]

2. Should the discharger discover that it failed to submit any relevant facts or that it submitted incorrect information in any report, it shall promptly submit the missing or correct information. [40 CFR 122.41(l)(8)]

### 3. False Reporting

Any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall be subject to enforcement procedures as identified in Section F of these Provisions.

### 4. Transfers

- a. This permit is not transferable to any person except after notice to the Board. The Board may require modification or revocation and reissuance of the permit to change the name of the Permittee and incorporate such other requirements as may be necessary under the Clean Water Act.
- b. Transfer of control or ownership of a waste discharge facility under an National Pollutant Discharge Elimination System permit must be preceded by a notice to the Board at least 30 days in advance of the proposed transfer date. The notice must include a written agreement between the existing discharger and proposed discharger containing specific dates for transfer of responsibility, coverage, and liability between them. Whether an order and permit may be transferred without modification or revocation and reissuance is at the discretion of the Board. If order and permit modification or revocation and reissuance is necessary, transfer may be delayed 180 days after the Board's receipt of a complete application for waste discharge requirements and an NPDES permit.

## 5. Compliance Reporting

### a. Planned Changes

The discharger shall file with the Board a report of waste discharge at least 120 days before making any material change or proposed change in the character, location or volume of the discharge.

### b. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final compliance dates contained in any compliance schedule shall be submitted within 10 working days following each scheduled date unless otherwise specified within this order and permit. If reporting noncompliance, the report shall include a description of the reason for failure to comply, a description and schedule of tasks necessary to achieve compliance and an estimated date for achieving full compliance. A final report shall be submitted within 10 working days of achieving full compliance, documenting full compliance

### c. Non-compliance Reporting (Twenty-four hour reporting:)

- i. The discharger shall report any noncompliance that may endanger health or the environment. All pertinent information shall be provided orally within 24 hours from the time the discharger becomes aware of the circumstances. A written submission shall also be provided within five working days of the time the discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times and, if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.

## C. ENFORCEMENT

1. The provision contained in this enforcement section shall not act as a limitation on the statutory or regulatory authority of the Board.



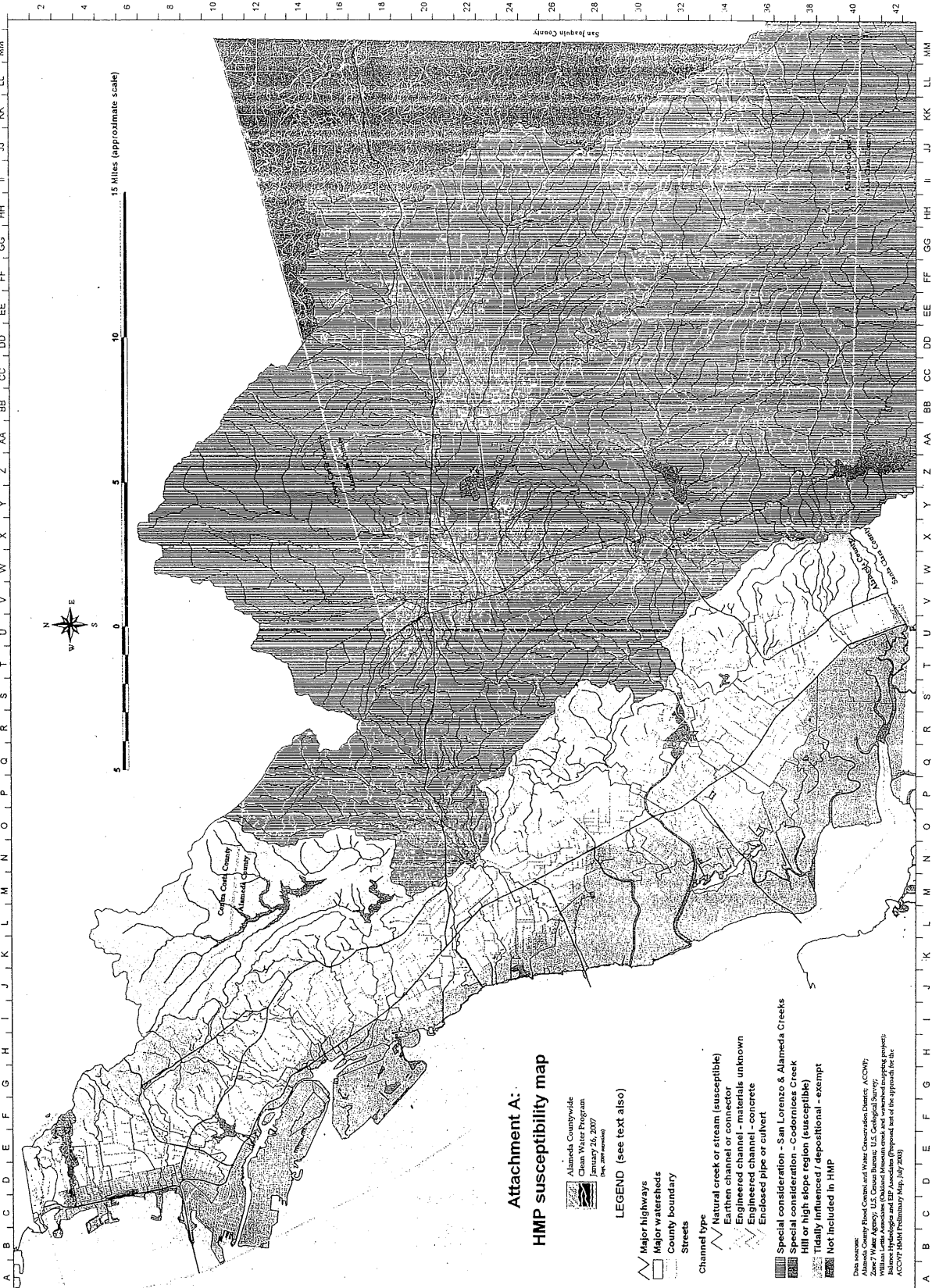
2. Any violation of the permit constitutes violation of the California Water Code and regulations adopted hereunder and the provisions of the Clean Water Act, and is the basis for enforcement action, permit termination, permit revocation and reissuance, denial of an application for permit reissuance; or a combination thereof.
3. The Board may impose administrative civil liability, may refer a discharger to the State Attorney General to seek civil monetary penalties, may seek injunctive relief or take other appropriate enforcement action as provided in the California Water Code or federal law for violation of Board orders.
4. It shall not be a defense for a discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this order and permit.
5. A discharger seeking to establish the occurrence of any upset (See Definitions, G. 24) has the burden of proof. A discharger who wishes to establish the affirmative defense of any upset in an action brought for noncompliance shall demonstrate, through properly signed contemporaneous operating logs, or other relevant evidence that:
  - a. an upset occurred and that the Permittee can identify the cause(s) or the upset;
  - b. the permitted facility was being properly operated at the time of the upset;
  - c. the discharger submitted notice of the upset as required in paragraph E.6.d.; and
  - d. the discharger complied with any remedial measures required under A.4.No determination made before an action for noncompliance, such as during administrative review of claims that noncompliance was caused by an upset, is final administrative action subject to judicial review.  
In any enforcement proceeding, the discharger seeking to establish the occurrence of any upset has the burden of proof. [40 CFR 122.41(n)]

#### D. DEFINITIONS

1. DDT and Derivatives shall mean the sum of the p,p' and o,p' isomers of DDT, DDD (TDE), and DDE.
2. Duly authorized representative is one whose:
  - a. Authorization is made in writing by a principal executive officer or ranking elected official;
  - b. Authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as general manager in a partnership, manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and
  - c. Written authorization is submitted to the USEPA Region 9. If an authorization becomes no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements above must be submitted to the Board and USEPA Region 9 prior to

or together with any reports, information, or applications to be signed by an authorized representative.

3. Hazardous substance means any substance designated under 40 CFR 116 pursuant to Section 311 of the Clean Water Act.
4. HCH shall mean the sum of the alpha, beta, gama (Lindane), and delta isomers of hexachlorocyclohexane.
5. Overflow is defined as the intentional or unintentional spilling or forcing out of untreated or partially treated wastes from a transport system (e.g. through manholes, at pump stations, and at collection points) upstream from the plant headworks or from any treatment plant facilities.
6. Priority pollutants are those constituents referred to in 40 CFR S122, Appendix D and listed in the USEPA NPDES Application Form 2C, (dated 6/80) Items V-3 through V-9.
7. Storm Water means storm water runoff, snow melt runoff, and surface runoff and drainage. It excludes infiltration and runoff from agricultural land.
8. Toxic pollutant means any pollutant listed as toxic under Section 307(a)(1) of the Clean Water Act or under 40 CFR S401.15.
9. Total Identifiable Chlorinated hydrocarbons (TICH) shall be measured by summing the individual concentrations of DDT, DDD, DDE, aldrin, BHC, chlordane, endrin, heptachlor, lindane, dieldrin, PCBs and other identifiable chlorinated hydrocarbons.
10. Waste, waste discharge, discharge of waste, and discharge are used interchangeably in this order and permit. The requirements of this order and permit are applicable to the entire volume of water, and the material therein, which is disposed of to surface and ground waters of the State of California.



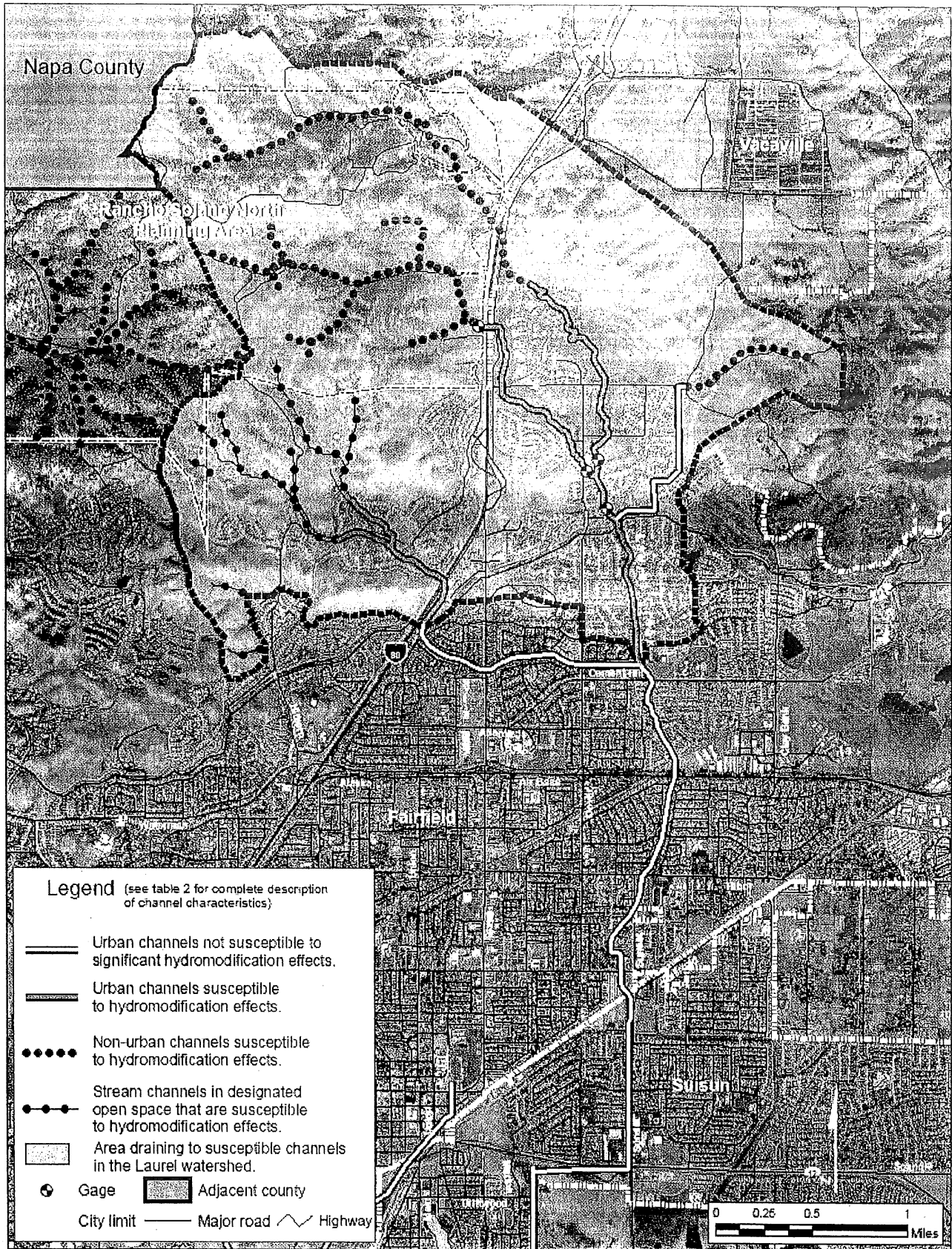
**Attachment A:  
HMP susceptibility map**

Alameda Countywide  
Clean Water Program  
January 25, 2007  
*(see attachments)*

LEGEND (see text also)

- Major highways
- Major watersheds
- County boundary
- Streets
- Channeled type
  - Natural creek or stream (susceptible)
  - Earth channel - concrete
  - Engineered channel - concrete
  - Engineered channel - concrete
  - Enclosed pipe or culvert
- Special consideration - San Lorenzo & Alameda Creeks
- Special consideration - Codornices Creek
- Hill or high slope region (susceptible)
- Tidally influenced / depositional - exempt
- Not included in HMP

Data sources:  
Sanitary Road Center and Water Conservation District - ACOWP;  
Zone 7 Water Agency; U.S. Census Bureau; U.S. Geological Survey;  
William Lewis Associates (Oakland Inshore Creek and watershed mapping project);  
ACOWP; HMM Preliminary Map, July 2003



Source: Basemap data provided by Fairfield-Suisun Sewer District. Note that the roads layer does not include the most recently urbanized areas (north of Cement Hill Road, for example).

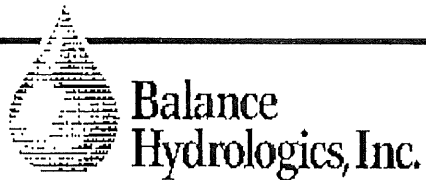
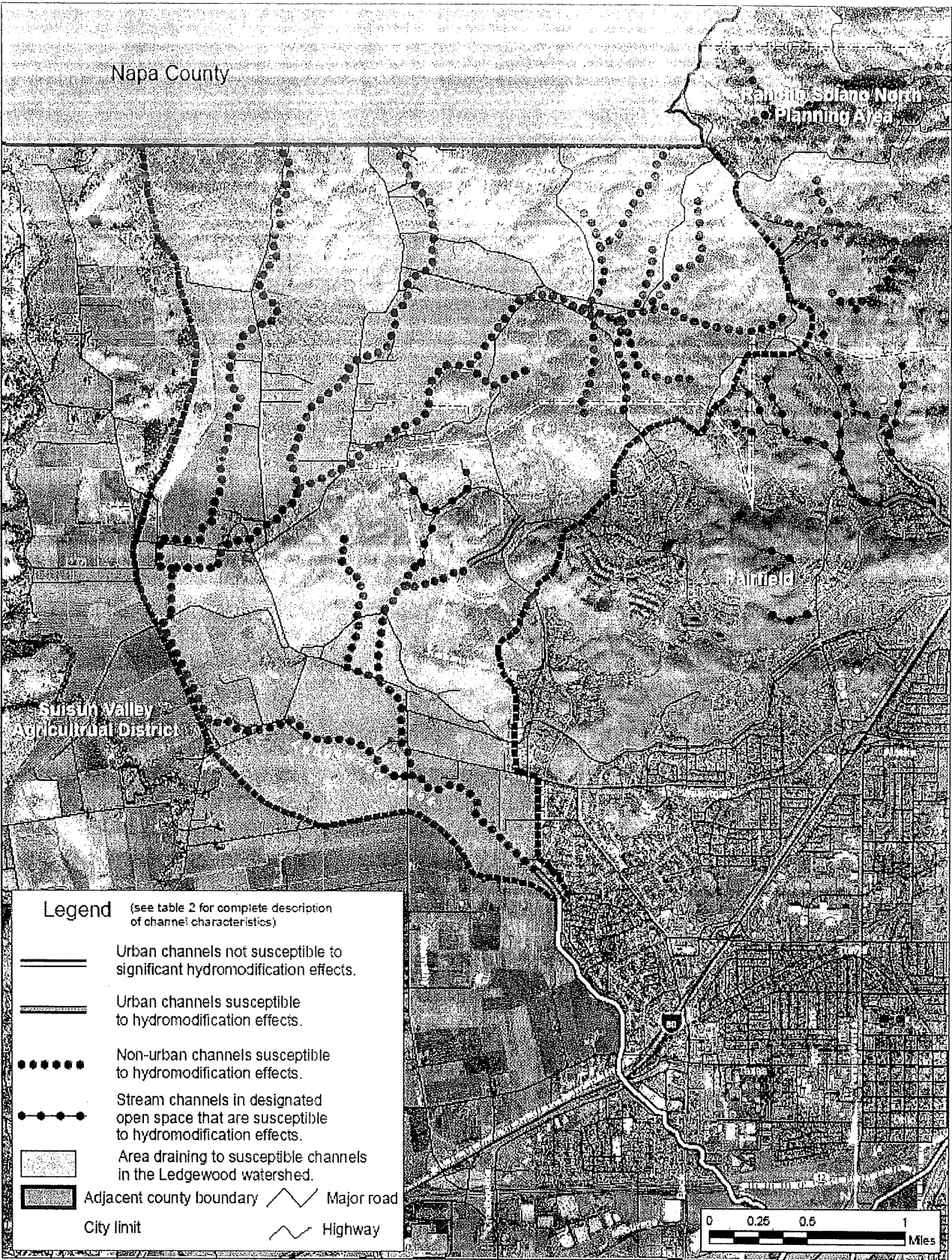


Figure 2. Map showing HMP channel Classification for the Laurel Creek watershed. The mid- to upper reaches include all channels within the watershed that are susceptible to hydromodification effects (dotted and gray-shaded channels on this map). Hydromodification controls are not required for projects that drain directly to non-susceptible urban channels.





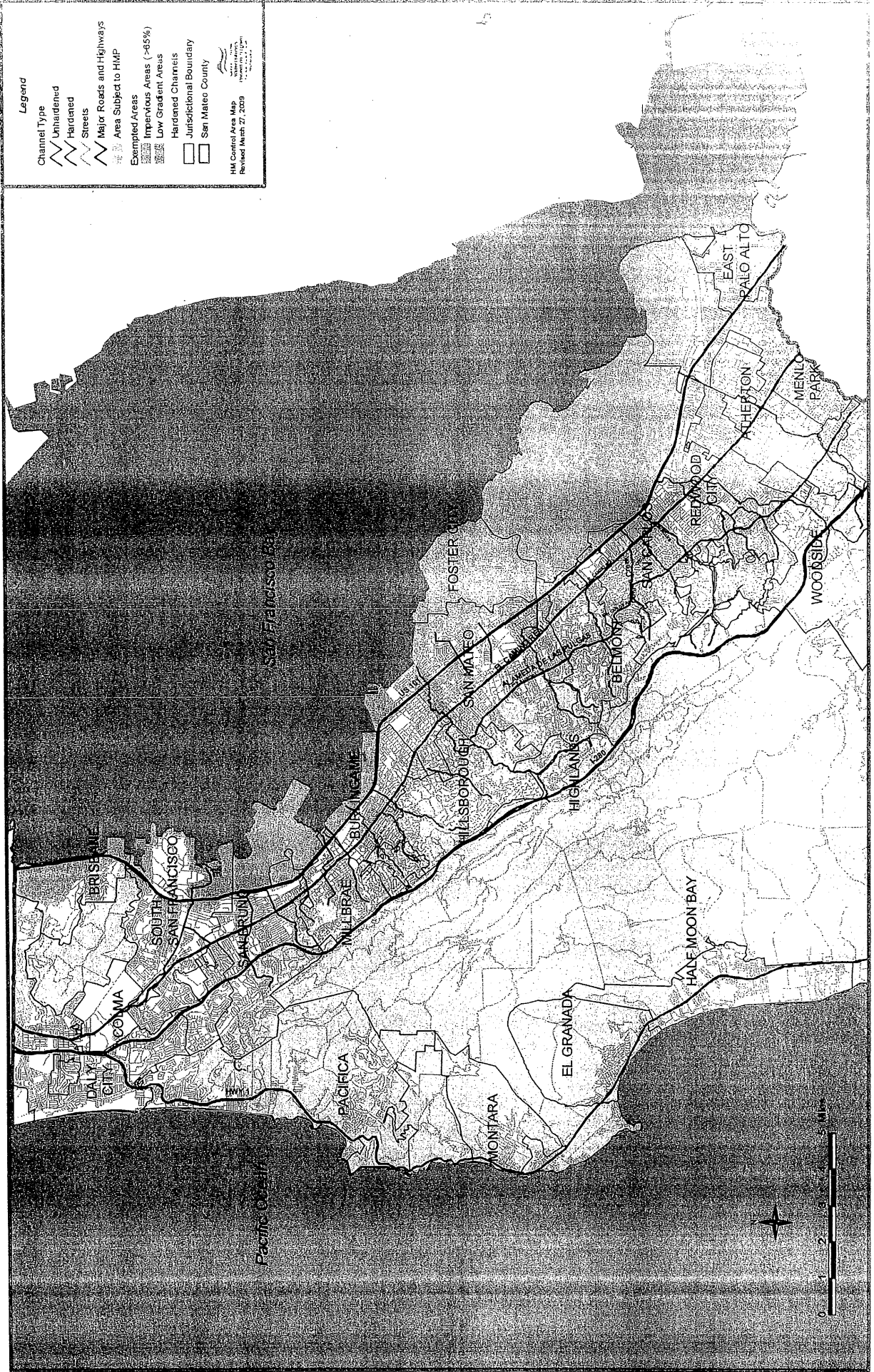
Basemap data provided by Fairfield-Suisun Sewer District. Note that the roads layer does not include the most recently urbanized areas, as shown in the aerial photo.



**Balance  
Hydrologics, Inc.**

Figure 3. Map showing HMP channel Classification for the Ledgewood Creek watershed.

The mid- to upper reaches include all channels within the watershed that are susceptible to hydromodification effects (dotted and gray-shaded channels on this map), however areas outside the City of Fairfield are not included in this permit unless annexed by the city. The non-developed areas within the current city limits are designated open space in relatively steep terrain, and are unlikely to be converted to urban areas however the HMP still applies in these areas.



**Legend**

- Channel Type
  - Unhardened
  - Hardened
  - Streets
  - Major Roads and Highways
  - Area Subject to HMP
- Exempted Areas
  - Impervious Areas (>45%)
  - Low Gradient Areas
- Hardened Channels
- Jurisdictional Boundary
- San Mateo County

HM Control Area Map  
 Revised March 27, 2009  
 WATER RESOURCES  
 DIVISION  
 1000 MARIN BLVD., SUITE 100  
 SAN FRANCISCO, CA 94133  
 (415) 774-2000



# Classification of Subwatersheds and Catchment Areas for Determining Applicability of HMP Requirements



## Legend

- Major Creeks
- Continuously Hardened Channel
- Major Roads
- Outside SCVURPPP Jurisdiction
- ▨ Catchments Draining to Hardened Channel and/or Tidal Areas
- ▩ Catchments and Subwatersheds greater than or equal to 65% Impervious
- ▧ Areas Under Review
- ▦ Baylands
- ▥ Subwatersheds less than 65% Impervious
- ▤ Reservoirs in Santa Clara Basin

**March, 2009**  
**SCVURPPP**

0 2.5 5 10 Miles



This map contains: 1) a revision to the November 2007 version to correct a mapping error; and 2) two revisions to Areas Under Review in Palo Alto and North Santa Clara County to reflect updated impervious surface data, consistent with the HM applicability criteria set forth in Attachment F, Section 4 of the MRP





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**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION  
ALAMEDA COUNTYWIDE NPDES MUNICIPAL STORMWATER PERMIT**

**ORDER R2-2003-0021  
NPDES PERMIT No. CAS0029831**

**FOR THE CITIES OF ALAMEDA, ALBANY, BERKELEY, DUBLIN, EMERYVILLE, FREMONT,  
HAYWARD, LIVERMORE, NEWARK, OAKLAND, PIEDMONT, PLEASANTON, SAN LEANDRO, UNION  
CITY, ALAMEDA COUNTY (UNINCORPORATED AREA), THE ALAMEDA COUNTY FLOOD CONTROL  
AND WATER CONSERVATION DISTRICT, AND ZONE 7 OF THE ALAMEDA COUNTY FLOOD CONTROL  
AND WATER CONSERVATION DISTRICT, WHICH HAVE JOINED TOGETHER TO FORM THE ALAMEDA  
COUNTYWIDE CLEAN WATER PROGRAM.**

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**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION  
ALAMEDA COUNTYWIDE NPDES MUNICIPAL STORMWATER PERMIT**

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**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION**

**ORDER R2-2003-0021**

**NPDES PERMIT NO. CAS0029831**

**REISSUING WASTE DISCHARGE REQUIREMENTS FOR:**

**THE CITIES OF ALAMEDA, ALBANY, BERKELEY, DUBLIN, EMERYVILLE, FREMONT, HAYWARD, LIVERMORE, NEWARK, OAKLAND, PIEDMONT, PLEASANTON, SAN LEANDRO, UNION CITY, ALAMEDA COUNTY (UNINCORPORATED AREA), THE ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, AND ZONE 7 OF THE ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, WHICH HAVE JOINED TOGETHER TO FORM THE ALAMEDA COUNTYWIDE CLEAN WATER PROGRAM**

The California Regional Water Quality Control Board, San Francisco Bay Region, (hereinafter referred to as the Regional Board) finds that:

**FINDINGS**

**Finding 1: Incorporation of Fact Sheet**

1. The Fact Sheet for the Alameda Countywide Clean Water Program NPDES Permit Reissuance includes cited references and additional explanatory information in support of the requirements of this Permit. This information, including any supplements thereto, and any future response to comments on the Revised Tentative Order, is hereby incorporated by reference.

**Findings 2-3: Existing Permit**

2. The Cities of Alameda, Albany, Berkeley, Dublin, Emeryville, Fremont, Hayward, Livermore, Newark, Oakland, Piedmont, Pleasanton, San Leandro, Union City, Alameda County (Unincorporated area), the Alameda County Flood Control and Water Conservation District, and Zone 7 of the Alameda County Flood Control and Water Conservation District (hereinafter collectively referred to as the Permittees and individually as the Permittee) have joined together to form the Alameda Countywide Clean Water Program (hereinafter referred to as the Program).
3. The Permittees are currently subject to National Pollutant Discharge Elimination System (NPDES) Permit No. CAS0029831 issued by Order No. 97-030 on February 19, 1997, and modified by Order No. 99-049 on July 21, 1999.

**Findings 4-5: Permit Coverage**

4. The Permittees each have jurisdiction over and/or maintenance responsibility for their respective municipal separate storm drain systems and/or watercourses in Alameda County. (See Attachment C: Municipalities and Major Open Creeks and Waterbodies in Alameda County)
5. Federal, state or regional entities within the Permittees' boundaries, not currently named in this Order, operate storm drain facilities and/or discharge stormwater to the storm drains and watercourses covered by this Order. The Permittees may lack jurisdiction over these entities. Consequently, the Regional Board recognizes that the Permittees should not be held responsible for such facilities and/or discharges. The Regional Board will consider such facilities for coverage in 2003 under its NPDES permitting scheme pursuant to United States Environmental Protection Agency (US EPA) Phase II stormwater regulations. Under Phase II, the Regional

Board intends to permit these federal, state, and regional entities either directly, or potentially through use of a Statewide Phase II NPDES General Permit.

#### **Findings 6-8: Permit Background**

6. On August 6, 2001, the Permittees and the Program submitted a permit re-application package that included a completed Application/Report of Waste Discharge for reissuance of waste discharge requirements under the NPDES permit referenced in Finding 3 (hereinafter referred to as the Permit) to discharge stormwater runoff from storm drains and watercourses under the Permittees' jurisdictions.
7. The application requirements that the Regional Board has determined to be applicable to the Permittees include submittal of a proposed Stormwater Quality Management Plan to reduce the discharge of pollutants in stormwater to the maximum extent practicable (MEP) and to effectively prohibit non-stormwater discharges into municipal storm drain systems and watercourses within the Permittees' jurisdictions.
8. The application incorporated by reference the Program's 2001-2008 Stormwater Quality Management Plan. The intent of the Stormwater Quality Management Plan is to reduce the discharge of pollutants in stormwater to the maximum extent practicable, and in a manner designed to achieve compliance with water quality standards and objectives, and effectively prohibit non-stormwater discharges into municipal storm drain systems and watercourses within the Permittees' jurisdictions. The Stormwater Quality Management Plan fulfills the Regional Board's permit application requirements, and it will be improved and revised in accordance with the provisions of this Order.

#### **Findings 9-15: Stormwater Quality Management Plan**

9. The Stormwater Quality Management Plan describes a framework for management of stormwater discharges during the term of the Permit. The title page and table of contents of the Program's 2001-2008 Stormwater Quality Management Plan (Management Plan) are appended to this Order as Attachment A. The Management Plan describes the Program's goals and objectives and the annual reporting and program evaluation process. Performance Standards, which represent the baseline level of effort required of each of the Permittees, are contained in Section 5 of the Management Plan. The Performance Standards serve as a reference point upon which to base effectiveness evaluations and consideration of opportunities for improving them.
10. The Management Plan, including the Performance Standards, is incorporated in the Permit by reference and enforceable as such, and is considered an enforceable component of this Order.
11. Program activities are focused on the following components:
  - Regulatory Compliance, Planning, Program Management
  - Annual Reporting and Evaluation
  - Watershed Assessment
  - Monitoring and Special Studies
  - Pollutants of Concern
  - Public Information and Participation
  - Municipal Maintenance Activities
  - Illicit Discharge Controls
  - Industrial and Commercial Discharge Controls
  - New Development, Significant Redevelopment, and Construction Controls

12. Through the Public Information and Participation (PIP) component, the Program provides information to residents in order to educate them about stormwater pollution and change behaviors that adversely affect water quality. PIP activities are conducted locally, countywide and in collaboration with other regional agencies. The Management Plan states that, at a minimum, annual PIP efforts must include general outreach, targeted outreach (including outreach to municipal staff within each Permittees' jurisdictions), educational programs, and citizen participation activities. The Management Plan also states that one of the PIP component objectives is to evaluate component effectiveness of the PIP activities and make improvements so as to increase effectiveness.
13. The Management Plan contains Performance Standards and supporting documents to address the post-construction and construction phase impacts of new development and significant redevelopment projects on stormwater quality.
14. The goal of the Industrial and Commercial Discharge Controls component is to reduce or eliminate adverse water quality impacts from activities conducted at any industrial and commercial site within the Permittees' jurisdictions that have a potential for significant urban runoff pollution. The Management Plan requires each Permittee to develop a five-year Illicit Discharge Control Action Plan (Action Plan) to reduce, control and/or otherwise address sources of discharges. The Action Plan will ensure that each Permittee identifies high-priority areas for inspection and investigation, regularly surveys those areas at a specified frequency, identifies which staff within each Permittee will be responsible for completing field surveys, identifies how illicit discharge control activities are documented, and ensures that appropriate enforcement is taken for problem discharges. In short, it will serve as the framework document for each Permittee to appropriately control illicit discharges.
15. The Program and the Permittees are committed to a process of evaluating the effectiveness and improving the Performance Standards and plans contained in the Management Plan, which includes seeking new opportunities to control stormwater pollution and to protect beneficial uses. Changes and updates to control measures, Best Management Practices, and Performance Standards will be documented in the Annual Report and, following Regional Board approval, will be considered part of the Management Plan and an enforceable component of this Order.

**Finding 16: Cooperative Effort Among Entities**

16. The Program participates in, and contributes to, joint efforts with other entities, including regulatory agencies, public benefit corporations, universities, and citizens' groups. These entities may take a lead role in addressing particular sources because they are regional, statewide or national in scope, because they have different skills or expertise, or because they have appropriate regulatory authority.

**Finding 17: Annual Reviews**

17. The Regional Board staff will perform, in coordination with the Permittees and interested persons, an annual performance review and evaluation of the Program, the Permittees and their compliance activities. The reviews are a useful means of evaluating overall Program effectiveness, implementation of Performance Standards, and improvement opportunities. The following areas will be evaluated:
  - a. Overall Program and Permittee effectiveness and compliance;
  - b. Performance Standard improvements;

- c. Permittees' coordination and implementation of watershed-based management actions (e.g., flood management, new development and construction, industrial source controls, public information/participation, monitoring);
- d. Partnership opportunities with other Bay Area stormwater programs; and
- e. Consistency in meeting maximum extent practicable measures within the Program and with other regional, statewide, and national municipal stormwater management programs.

**Findings 18-25: Applicable Federal, State and Regional Regulations**

18. Section 402(p) of the federal Clean Water Act (CWA), as amended by the Water Quality Act of 1987, requires NPDES permits for stormwater discharges from separate municipal storm drain systems, stormwater discharges associated with industrial activity (including construction activities), and designated stormwater discharges which are considered significant contributors of pollutants to waters of the United States. On November 16, 1990, US EPA published regulations (40 CFR Part 122) which prescribe permit application requirements for municipal separate storm drain systems pursuant to Section 402(p) of the CWA. On May 17, 1996, US EPA published an Interpretive Policy Memorandum on Reapplication Requirements for Municipal Separate Storm Sewer Systems (MS4s), which provided guidance on permit application requirements for regulated MS4s.
19. The Regional Board adopted a revised Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan) on June 21, 1995, which was approved by the State Water Resources Control Board and the Office of Administrative Law on July 21 and November 13 of 1995, respectively. This updated and consolidated plan represents the Regional Board's master water quality control planning document. The Urban Runoff Management, Comprehensive Control Program section of the Basin Plan requires the Permittees to address existing water quality problems and prevent new problems associated with urban runoff through the development and implementation of a comprehensive control program focused on reducing current levels of pollutant loading to storm drains to the maximum extent practicable. The Basin Plan comprehensive program requirements are designed to be consistent with federal regulations (40 CFR Parts 122-124) and are implemented through issuance of NPDES permits to owners and operators of storm drain systems. A summary of the regulatory provisions is contained in Title 23 of the California Code of Regulations at Section 3912. The Basin Plan identifies beneficial uses and establishes water quality objectives for surface waters in the Region, as well as effluent limitations and discharge prohibitions intended to protect those uses. This Order implements the plans, policies, and provisions of the Regional Board's Basin Plan.
20. The State Water Resources Control Board (State Board) has issued NPDES general permits for the regulation of stormwater discharges associated with industrial activities and construction activities. To effectively implement the New Development (and significant redevelopment) and Construction Controls, Illicit Discharge Controls, and Industrial and Commercial Discharge Controls components of the Management Plan, the Permittees will conduct investigations and local regulatory activities at industries and construction sites covered by these general permits. However, under the Clean Water Act, the Regional Board cannot delegate to the Permittees its own authority to enforce these general permits. Therefore, Regional Board staff intend to work cooperatively with the Permittees to ensure that industries and construction sites within the Permittees' jurisdictions are in compliance with applicable general permit requirements and are not subject to uncoordinated stormwater regulatory activities.

21. The beneficial uses of Central, Lower and South San Francisco Bay, its tributary streams and contiguous water bodies, and other water bodies within the drainage basin are listed in the Basin Plan.
22. The Regional Board considers stormwater discharges from urban and developing areas in the San Francisco Bay Region, such as Alameda County, to be significant sources of certain pollutants in waters of the Region that may be causing or threatening to cause or contribute to water quality impairment. Furthermore, as delineated on the CWA Section 303(d) list, the Regional Board has found that there is a reasonable potential that municipal stormwater discharges may cause or contribute to an excursion above water quality standards for: mercury, PCBs, dioxins, furans, diazinon, dieldrin, chlordane, DDT, copper, and selenium in Central San Francisco Bay; diazinon in all urban creeks in Alameda County; and trash and low dissolved oxygen in Lake Merritt. In accordance with CWA Section 303(d), the Regional Board is required to establish Total Maximum Daily Loads (TMDLs) for these pollutants to these waters in order to gradually eliminate impairment and attain water quality standards. Therefore, certain early actions and/or further assessments by the Permittees are warranted and required pursuant to this Order.
23. The Regional Board considers the Management Plan an essential component of an urban watershed management plan for urbanized portions of Alameda County, and the portions of Alameda County that are currently being developed. The Management Plan is intended to provide a framework for protection and restoration of Alameda County watersheds and the Central, Lower and South San Francisco Bay in part through effective and efficient implementation of appropriate control measures for sources of pollutants within the watersheds.
24. The San Francisco Estuary Project, established pursuant to CWA Section 320, culminated in June 1993 with completion of its Comprehensive Conservation and Management Plan (CCMP) for the preservation, restoration, and enhancement of the San Francisco Bay-Delta Estuary. The CCMP includes recommended actions in the areas of aquatic resources, wildlife, wetlands, water use, pollution prevention and reduction, dredging and waterway modification, land use, public involvement and education, and research and monitoring. Recommended actions which may, in part, be addressed through implementation of the Permittees' Management Plan include, but are not limited to, the following:
  - a. Action PO-2.1: Pursue a mass emissions strategy to reduce pollutant discharges into the Estuary from point and nonpoint sources and to address the accumulation of pollutants in estuarine organisms and sediments.
  - b. Action PO-2.4: Improve the management and control of urban runoff from public and private sources.
  - c. Action PO-2.5: Develop control measures to reduce pollutant loadings from energy and transportation systems.
  - d. Action LU-1.1: Local General Plans should incorporate watershed protection plans to protect wetlands and stream environments and reduce pollutants in runoff.
  - e. Action LU-3.1: Prepare and implement Watershed Management Plans that include the following complementary elements: 1) wetlands protection, 2) stream environment protection, and, 3) reduction of pollutants in runoff.



- f. Action LU-3.2: Develop and implement guidelines for site planning and Best Management Practices.
  - g. Action PI-2.3: Work with educational groups, interpretive centers, decision-makers, and the general public to build awareness, appreciation, knowledge, and understanding of the Estuary's natural resources and the need to protect them. This would include how these natural resources contribute to and interact with social and economic values.
25. This action to adopt an NPDES permit is exempt from the provisions of the California Environmental Quality Act (Division 13 of the Public Resources Code, Chapter 3, Section 21100, et. seq.) in accordance with Section 13389 of the California Water Code.

#### **Findings 26-30: Nature of Discharges and Sources of Pollutants**

26. The discharge consists of the surface runoff generated from various land uses in all the hydrologic sub basins in the basin which discharge into watercourses, which in turn flow into Central, Lower and South San Francisco Bay.
27. The quality and quantity of runoff discharges varies considerably and is affected by hydrology, geology, land use, season, and sequence and duration of hydrologic event. Pollutants of concern in these discharges are certain heavy metals, excessive sediment production from erosion due to anthropogenic activities, petroleum hydrocarbons from sources such as used motor oil, microbial pathogens of domestic sewage origin from illicit discharges, certain pesticides associated with the risk of acute aquatic toxicity, excessive nutrient loads which may cause or contribute to the depletion of dissolved oxygen and/or toxic concentrations and dissolved ammonia, trash which impairs beneficial uses including but not limited to support for aquatic life, and other pollutants which may cause aquatic toxicity in the receiving waters.
28. Certain pollutants present in stormwater and/or urban runoff may be derived from extraneous sources that the Permittees have limited or no direct jurisdiction over. Examples of such pollutants and their respective sources are polycyclic aromatic hydrocarbons (PAHs) which are products of internal combustion engine operation and other sources; heavy metals, such as copper from brake pad wear and zinc from tire wear; dioxins as products of combustion; mercury resulting from atmospheric deposition; and natural-occurring minerals from local geology. All of these pollutants, and others, may be deposited on paved surfaces, rooftops, and other impervious surfaces as fine airborne particles, thus yielding stormwater runoff pollution that is unrelated to the particular activity associated with a given new or redevelopment project.
29. It may be more efficient to manage airborne pollutants at their sources of release and/or through reformulating pollutant-generating products rather than through treatment of stormwater. However, unless restricted by jurisdictional limitations, Permittees can implement structural treatment control measures, or require developers to implement structural treatment control measures to reduce entry of these pollutants into stormwater and their discharge to receiving waters.
30. Retail gasoline outlets (RGOs), commonly referred to as "gas stations," are sources for pollutants of concern in stormwater and have been widely documented as such. The most common pollutants of concern in stormwater runoff from RGOs are heavy metals, petroleum

hydrocarbons (such as Polycyclic Aromatic Hydrocarbons (PAHs)), and oil and grease.<sup>1</sup> RGOs fall within the new development and significant redevelopment projects subject to Provision C.3 of this Order, when they meet the impervious surface thresholds within that Provision. Pursuant to Provision C. 3., as with any other project meeting the thresholds of that Provision, RGOs are required to incorporate appropriate source controls and design measures, and to appropriately treat stormwater runoff prior to discharge to the storm drain or local water. As with any commercial and/or industrial activity within the Permittees' jurisdictions that has the potential to discharge pollutants in stormwater runoff, RGOs may also be subject to regulation under other sections of the Permit and Management Plan, including the Illicit Discharge Control and Industrial and Commercial Discharge Control sections.

### **Findings 31-41 in Support of Provision C.3: New Development and Redevelopment Performance Standards**

31. **Urban Development Increases Pollutant Load, Volume, and Velocity of Runoff:** During urban development two important changes occur. First, natural vegetated pervious ground cover is converted to impervious surfaces such as paved highways, streets, rooftops, and parking lots. Natural vegetated soil can both absorb rainwater and remove pollutants providing a very effective natural purification process. Because pavement and concrete can neither absorb water nor remove pollutants, the natural purification characteristics of the land are lost. Secondly, urban development creates new pollution sources as human population density increases and brings with it proportionately higher levels of car emissions, car maintenance wastes, municipal sewage, pesticides, household hazardous wastes, pet wastes, trash, etc., which can be washed into the municipal separate storm sewer system. As a result of these two changes, the runoff leaving the developed urban area is significantly greater in volume, velocity and pollutant load than the pre-development runoff from the same area.
32. **The pollutants found in urban runoff can have damaging effects on both human health and aquatic ecosystems.** In addition, the increased flows and volumes of stormwater discharged from new impervious surfaces resulting from new development and redevelopment can significantly impact beneficial uses of aquatic ecosystems due to physical modifications of watercourses, such as bank erosion and widening of channels.
33. **Water Quality Degradation Increases with Percent Imperviousness:** The increased volume and velocity of runoff from developed urban areas can greatly accelerate the erosion of downstream natural channels. A number of studies have demonstrated a direct correlation between the degree of imperviousness of an area and the degradation of beneficial uses of downstream receiving waters. Significant declines in the biological integrity and physical habitat of streams and other receiving waters have been found to occur with as little as a 10% conversion from natural to impervious surfaces. Typical medium-density single-family home projects range between 25 to 60% impervious. Even at very low densities, such as 1-2 housing units per acre, standard subdivision designs can exceed the 10% imperviousness threshold that, as noted above, is theorized to be the threshold for degradation of streams and other waters with increasing

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<sup>1</sup> *Retail Gasoline Outlets: New Development Design Standards for Mitigation of Stormwater Impacts* – California Water Quality Control Board, Los Angeles Region, and California Water Quality Control Board, San Diego Region, Technical Report, prepared by Radulescu, Swamikannu, and Hammer, 2001.

imperviousness of their catchment.<sup>2</sup> Studies on the impacts of imperviousness on beneficial uses of waters include “Urbanization of aquatic systems: Degradation thresholds, stormwater detection, and the limits of mitigation,” Derek B. Booth and C. Rhett Jackson, *Journal of the American Water Resources Association* 33(5), Oct. 1997, pp. 1077-1089; “Urbanization and Stream Quality Impairment,” Richard D. Klein, *Water Resources Bulletin* 15(4), Aug. 1979, pp. 948-963; “Stream channel enlargement due to urbanization,” Thomas R. Hammer, *Water Resources Research* 8(6), Dec. 1972, pp. 1530- 1540; and, summaries of work on the impacts of imperviousness, including “The Importance of Imperviousness,” in *Watershed Protection Techniques* 1(3), Fall 1994, pp. 100-111, and “Impervious surface coverage: The emergence of a key environmental indicator,” Chester L. Arnold et al., *Journal of the American Planning Association* 62(2), Spring 1996, pp.243-259.

34. The Permittees have encouraged developers to minimize increases in impervious surfaces through a number of techniques such as those described in the Bay Area Stormwater Management Agencies Association’s (BASMAA’s) “Start at the Source Design Guidance Manual for Stormwater Quality Protection,” 1999 edition (Start at the Source). One of the techniques recommended by Start at the Source is to use permeable pavements to infiltrate stormwater while still providing a stable load-bearing surface. For purposes of this Order, the Program may submit guidelines for use of these techniques for minimizing increases in impervious surfaces described in Start at the Source, implementation of which techniques will provide that such areas will not count toward the creation or replacement of impervious surfaces, or may be modeled differently for the purposes of sizing post-construction stormwater treatment controls, for approval of the Regional Board’s Executive Officer.
35. Because land use planning is where urban development begins, it is the phase in which the greatest and most cost-effective opportunities to protect water quality in new and redevelopment exist. When a Permittee incorporates policies and principles designed to safeguard water resources into its General Plan and development project approval processes, it has taken a far-reaching step towards the preservation of local water resources for future generations.
36. Provision C.3 is written with the assumption that the Permittees are responsible for considering potential stormwater impacts when making planning and land use decisions. The goal of these requirements is to address pollutant discharges and changes in runoff flows from new development and significant redevelopment projects, through implementation of post-construction and treatment measures, source control, and site design measures, to the maximum extent practicable. Neither Provision C.3 nor any of its requirements are intended to restrict or control local land use decision-making authority.
37. For the purposes of this Order, the term “Redevelopment” is defined as a project on a previously developed site that results in the addition or replacement of impervious surface, and the term “brownfield site” means real property, the expansion, redevelopment, or reuse of which may be complicated by the presence or potential presence of a hazardous substance, pollutant, or contaminant.
38. Opportunities to address stormwater pollution and hydrograph modification can be limited by current local design standards and guidance. For example, such standards and guidance may

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<sup>2</sup> A discussion of imperviousness based on type of development and time of construction is provided in Heaney, J.B., Pitt, R, and Field, R. **Innovative Urban Wet-Weather Flow Management Systems**, 1999. USEPA Doc. No. EPA/600/R-99/029 (Chapter 2).

reduce or prohibit opportunities to minimize impervious surfaces, minimize directly connected impervious area, provide for small-scale detention, and implement other management measures. Revision of current standards and guidance can result in a significantly increased ability for project designers to minimize project impacts and can also enhance local property values, neighborhood character, and overall quality of life. Further, revision of standards and guidance can allow implementation of site design measures in projects to meet or help meet the numeric sizing criteria in Provision C.3.d and/or the hydrograph modification limitation in Provision C.3.f.

39. Certain control measures implemented or required by Permittees for urban runoff management may create a habitat for vectors (e.g., mosquitoes and rodents) if not properly designed or maintained. Close collaboration and cooperative effort among Permittees, local vector control agencies, Regional Board staff, and the State Department of Health Services is necessary to minimize potential nuisances and public health impacts resulting from vector breeding.
40. Provision C.3.f requires the Permittees to prepare a Hydrograph Modification Management Plan (HMP), for approval by the Regional Board, to manage impacts from changes to the volume and velocity of stormwater runoff from new development and significant redevelopment projects, where these changes can cause excessive erosion damage to downstream watercourses. Transit village type developments within  $\frac{1}{4}$  to within  $\frac{1}{2}$  mile of transit stations and/or intermodal facilities, and projects within "Redevelopment Project Areas" (as defined by Health and Safety Code Section 33000, et seq.) that redevelop an existing brownfield site or create housing units affordable to persons of low or moderate income as defined by Health and Safety Code Section 50093, are excepted from the requirements of C.3.f and the HMP. Significant change in impervious surface or significant change in stormwater runoff volume or timing is unlikely in these redevelopment circumstances, because these developments would be within a largely already paved catchment, and on a site that is largely already paved or otherwise impervious.

Similarly, as specified in Provision C.3.g.v, an exemption without the requirement for alternate, equivalent offsite treatment is allowed for the following redevelopment projects after impracticability of including onsite treatment measures is established, where such projects are built as redevelopment projects as defined in Finding 14, and it is clearly demonstrated that cost of participation in alternate, equivalent offsite treatment through a regional treatment or other equivalent water quality benefit project fund will unduly burden the project: creation of housing units affordable to persons of low or moderate income as defined by Health and Safety Code Section 50093, brownfield sites, and/or transit village type developments within  $\frac{1}{4}$  mile of transit stations and/or intermodal facilities. Not only is significant change in impervious surface or significant change in stormwater runoff volume or timing unlikely in these redevelopment circumstances, but these redevelopment projects are also likely to provide reduced water quality impacts and/or other environmental benefits in their own right.

41. The Regional Board recognized in its "Policy on the Use of Constructed Wetlands for Urban Runoff Pollution Control" (Resolution No. 94-102) that urban runoff treatment wetlands that are constructed and operated pursuant to that Resolution and are constructed outside of a creek or other receiving water, are stormwater treatment systems and, as such, are not waters of the United States subject to regulation pursuant to Sections 401 or 404 of the federal Clean Water Act. Regional Board staff is working with the California Department of Fish and Game (CDFG) and U.S. Fish and Wildlife Service (USFWS) to identify how maintenance for stormwater

treatment controls required under permits such as this Permit can be appropriately streamlined, given CDFG and USFWS requirements, and particularly those that address special status species. The Permittees are expected to work diligently and in good faith with the appropriate agencies to obtain any approvals necessary to complete maintenance activities for treatment controls. If the Permittees have done so, when necessary and where maintenance approvals are not granted, the Permittees shall be considered by the Regional Board to be in compliance with Provision C.3.e of this Order.

#### **Finding in Support of Provision C.4: Public Information and Participation Performance Standards**

42. The implementation of a public information and participation program is a critical component of a stormwater management program. An informed and knowledgeable community is critical to the success of a stormwater program because it helps ensure greater support for the program as the public gains a greater understanding for stormwater pollution issues. An informed community also ensures greater compliance with the program as the public becomes aware of the personal responsibilities expected of them and others in the community, including the individual actions they can take to protect or improve the quality of area waters.

#### **Finding in Support of Provision C.5: Performance Standards for Municipal Maintenance**

43. Provision C.5 requires the Permittees to implement the municipal maintenance Performance Standards as set forth in the Management Plan, including, but not limited to, activities as described below. The work of municipal maintenance personnel is vital to minimize stormwater pollution, because personnel work directly on municipal storm drains and other municipal facilities (e.g., roads, parking lots, sidewalks, parks, landscaping, etc.). Through work such as inspecting and cleaning storm drain drop inlets and pipes and appropriately conducting municipal construction and maintenance activities upstream of the storm drain, municipal maintenance personnel are directly responsible for preventing and removing pollutants from the storm drain. Maintenance personnel also play an important role in educating the public and in reporting and cleaning up illicit discharges.

#### **Finding in Support of Provision C.6: Performance Standard for Rural Public Works Maintenance and Support**

44. Provision C.6 requires the Permittees to create an effective Best Management Practice (BMP) approach for the following rural public works maintenance and support activities: a) management and/or removal of large woody debris and live vegetation from stream channels; b) streambank stabilization projects; c) road construction, maintenance, and repairs in rural areas to prevent and control road-related erosion; and d) environmental permitting for rural public works activities. Road construction and other activities can disturb the soil and drainage patterns to streams in undeveloped areas, causing excess runoff and thereby erosion and the release of sediment. In particular, poorly designed roads can act as man-made drainages that carry water and sediment into natural streams, impacting water quality. In addition, other rural public works activities, including those the BMP approach would address, have the potential to significantly affect sediment discharge and transport within streams and other waterways, which can degrade the beneficial uses of those waterways. This Provision would help ensure these impacts are appropriately controlled.

**Findings 45-46: Monitoring**

45. Provision C.8 requires the annual and multi-year submittal and implementation of a Monitoring Program Plan, to include monitoring of receiving waters, in accordance with 40 CFR Parts 122.44(I) and 122.48. The purpose of the Monitoring Program Plan is to demonstrate the effectiveness of the Program's Management Plan and accordingly, demonstrate compliance with the conditions of the Permit. On April 15, 1992, the Regional Board adopted Resolution No. 92-043 directing the Executive Officer to implement the Regional Monitoring Program for San Francisco Bay. Subsequent to a public hearing and various meetings, Board staff requested major permit holders in the Region, under authority of Section 13267 of California Water Code, to report on the water quality of the Estuary. These permit holders, including the Permittees, responded to this request by participating in a collaborative effort through the San Francisco Estuary Institute. This effort has come to be known as the San Francisco Estuary Regional Monitoring Program for Trace Substances (RMP). The RMP involves collection and analysis of data on pollutants and toxicity in water, sediment and biota of the Estuary. The Permittees should continue to report on the water quality of the estuary, as presently required. Compliance with the requirement through participation in the RMP is considered to be adequate compliance. Alternatively, the Permittees may submit and implement an acceptable alternative monitoring plan. Annual reports from the RMP are referenced elsewhere in this Order.
46. The Regional Board has received the Program's draft Watershed Assessment and Monitoring Strategy for Fiscal Years 2002-2008, appended to this Order as Attachment B. The goal of this monitoring strategy is to support the development and implementation of the Management Plan and demonstrate its effectiveness along with showing the results of the Program's related monitoring work.

**Finding in Support of Provision C.9**

47. Provision C.9 requires identification of the non-prohibited types of discharges that the Permittees wish to exempt from Prohibition A. For conditionally exempted discharges which are pollutant sources, the Provision requires the Permittees to identify and incorporate into the Management Plan control measures to minimize the adverse impact of such sources. This Provision also establishes a mechanism to authorize under the Permit non-stormwater discharges owned or operated by the Permittees. The Program has developed a list of BMPs to eliminate adverse impacts of conditionally exempt discharges such as uncontaminated pumped groundwater, foundation drains, water from crawl spaces pumps, footing drains and planned and unplanned discharges from potable water sources, and water line and hydrant flushing.

**Finding in Support of Provision C.10: Water Quality-Based Requirements for Specific Pollutants of Concern**

48. This Provision requires the Permittees to implement programs to control pollutants that have the reasonable potential to cause or contribute to exceedances of water quality standards, including programs for copper, mercury, pesticides, polychlorinated biphenyls (PCBs) and dioxin-like compounds, and sediment, pursuant to the schedule provided in the Order. In addition, pursuant to Provision C.1 of this Order, if exceedances of water quality objectives persist notwithstanding implementation of Provisions C.2 through C.8 of this Order and the Plan, a Permittee shall report to the Regional Board on the control measures that are being implemented to reduce the amount of pollutants, and develop a plan to further address the pollutants that cause impairment over time. In response to prior Provision C.1 submissions, the Regional Board is including additional

requirements in Provision C.10 of this Order to continue implementation of previously delineated pollutant specific control measures and identification and implementation of additional control measures necessary to prevent or reduce discharges of pollutants that are causing or contributing to the exceedance of water quality standards.

#### **Findings 49-50: Mercury**

49. In 1998, the Regional Board met in a public hearing and adopted a CWA Section 303(d) list that classified all of San Francisco Bay as impaired due to mercury. The Permit requires Permittees to control mercury, which has been found by the Regional Board to have the reasonable potential to cause or contribute to exceedances of water quality standards, to the maximum extent practicable.
50. To reduce levels of mercury in stormwater discharges, the Permittees have begun to implement a Mercury Pollutant Reduction Plan (Mercury Plan).

#### **Finding 51: Pesticides**

51. The Program conducted pioneering studies starting in 1994, determining that diazinon from urban runoff was responsible for toxicity in urban creeks. The Permit requires the Permittees to address pesticides, which have been found by the Regional Board to have the reasonable potential to cause or contribute to exceedances of water quality standards. The Program has submitted a proactive Diazinon Pollutant Reduction Plan, hereafter referred to as the "Pesticide Plan." The goals of the Pesticide Plan and of its resulting implementing actions are to reduce or substitute pesticide use (especially diazinon use) with less toxic alternatives.

#### **Findings 52-55: PCBs and Dioxins**

52. US EPA lists PCBs as a potential carcinogen. In addition, PCBs are suspected of having negative impacts on the human immune system, reproductive system, nervous system, endocrine system, and digestive system. Although their manufacture is now banned in the United States, PCBs continue to pose a serious risk due to their persistence in the environment. PCBs accumulate in fatty tissue. This is important to human health in that several of the more common food fishes in the Bay (e.g., striped bass, white croaker) are marked by relatively high fat content. The California Office of Environmental Health and Hazard Assessment issued an interim fish consumption advisory for all of San Francisco Bay, partly based on PCB concentrations found in Bay fishes.
53. Urban runoff is highly likely to be a conveyance mechanism associated with the impairment of San Francisco Bay for PCBs.
54. The Permit requires Permittees to control PCBs, which have been found by the Regional Board to have the reasonable potential to cause or contribute to exceedances of water quality standards, to the maximum extent practicable. The Program has submitted a PCBs Pollutant Reduction Plan. This Plan includes surveys of stream sediments to assess concentrations and loadings of PCBs, assesses potential for ongoing discharges of PCBs, and develops a plan to reduce discharges of PCBs in runoff.
55. Dioxins are persistent, bioaccumulative, toxic compounds that are produced from the combustion of organic materials in the presence of chlorine. Dioxins enter the air through fuel and waste emissions, including diesel and other motor vehicle exhaust fumes and trash incineration, and are carried in rain and contaminate soil. Dioxins bioaccumulate in fat and most human exposure occurs through the consumption of animal fats, including those from fish.

**Findings 56-58: Implementation**

56. It is the Regional Board's intent that this Order shall ensure attainment of applicable water quality objectives and protection of the beneficial uses of receiving waters and associated habitat. This Order therefore includes standard requirements to the effect that discharges shall not cause exceedances of water quality objectives nor shall they cause certain conditions to occur which create a condition of nuisance or water quality impairment in receiving waters. Accordingly, the Regional Board is requiring that these standard requirements be addressed through the implementation of technically and economically feasible control measures to reduce pollutants in stormwater discharges to the maximum extent practicable as provided in Provisions C.1 through C.10 of this Order. Compliance with the Discharge Prohibition, Receiving Water Limitations, and Provisions of this Order is deemed compliance with the requirements of this Order. If these measures, in combination with controls on other point and nonpoint sources of pollutants, do not result in attainment of applicable water quality objectives, the Regional Board may invoke Provision C.1 and may reopen this Permit pursuant to Provisions C.1 and C.13 of this Order to impose additional conditions which require implementation of additional control measures.
57. It is generally not considered feasible at this time to establish numeric effluent limitations for pollutants in municipal stormwater discharges. Instead, the provisions of this permit require implementation of BMPs to the maximum extent practicable to control and abate the discharge of pollutants in stormwater discharges.
58. The Program is organized, coordinated, and implemented based upon the "Agreement for Implementation of the Alameda County Urban Runoff Clean Water Program," now Alameda Countywide Clean Water Program, and referred to in this Order as the Program. The agreement is provided as Appendix A of the Management Plan. The roles and responsibilities of the Permittees are, in part, as follows:
- a. The Management Committee, which includes representatives from all of the Permittees, is the decision making body of the Program. It operates within the budget and policies established by the Permittees' governing boards and councils to decide matters of budget and policy necessary to implement the Management Plan, and provides direction to the Program Manager and staff. The Management Committee has established subcommittees to assist in planning and implementation of the Management Plan, and may add, modify, or delete such groups as deemed necessary.
  - b. Each of the Permittees is individually responsible for adoption and enforcement of ordinances and policies, implementation of assigned control measures/ BMPs needed to prevent or reduce pollutants in stormwater, and for providing funds for the capital, operation, and maintenance expenditures necessary to implement such control measures/BMPs within its jurisdiction. Each Permittee is also responsible for its share of the costs of the area-wide component of the Program as specified in the Agreement. Except for area-wide components of the Program, enforcement actions concerning this Order will be pursued only against the individual Permittee(s) responsible for specific violations of this Order.

**Findings 59-64: Public Process**

59. Regional Board staff has worked in cooperation with the Program to develop a Tentative Order and the Performance Standards in the Management Plan. Regional Board staff conducted a series



of meetings with the Stormwater Quality Management Plan (SWQMP) coordinating committee, a subgroup of the Program. These meetings included Regional Board staff and representatives of the Permittees. Through this process, the SWQMP coordinating committee attempted to identify, prioritize, and resolve issues related to the Permittees' and Program's performance, the Management Plan, and this Order, and attempted to develop a consensus concerning the requirements reflected herein.

60. The following is a brief summary of public meetings and comment periods on versions of the Permit's Tentative Order. Regional Board staff met with the SWQMP coordinating committee on February 22, March 22, April 26, and May 23, 2002. The administrative draft was released on June 6, 2002, and comments on the draft were received until June 27, 2002. Regional Board staff met with a workgroup consisting of representatives of the Permittees on July 17, July 25, August 5, and October 28, 2002, and with representatives of the Natural Resources Defense Council (NRDC) on July 18, 2002. The Permittees and Regional Board staff together conducted three outreach workshops on the portions of the Tentative Order addressing new development and redevelopment. Workshops were held on July 18, 2002, in Hayward; on July 25, 2002, in Oakland; and on July 29, 2002, in Pleasanton; and were attended by Permittee staff and other interested parties, including consultants and builders. Regional Board staff also met on dates including April 23, May 22, and October 30, 2002, with representatives of the Coastal Region Vector Control Agencies, including representatives of the Alameda County Mosquito Abatement District and the State Department of Health Services. On December 18, 2002, and January 22, 2003, the Regional Board heard testimony from the Dischargers and interested public on the Revised Tentative Order. On January 17 and 31, and February 7 and 14, 2003, Regional Board staff conducted public meetings on the Revised Tentative Order.

The Tentative Order was released for public comments on August 21, 2002, by surface mail, electronic mails and posting on the Regional Board website. Comments on the Tentative Order were accepted until October 9, 2002. Based on comments received, appropriate changes were made and submitted to the Regional Board as a Revised Tentative Order for its consideration on December 18, 2002. From December 20, 2002, to January 10, 2003, the comment period was reopened by the Regional Board to allow additional submittals relative to projected cost of the amendment of Order No. 99-058 to both the Dischargers and the development community.

61. The Regional Board has notified the Permittees and interested agencies and interested persons of its intent to prescribe reissued waste discharge requirements and a reissued NPDES permit for this discharge and has provided them with an opportunity for a public hearing and an opportunity to submit their written views and recommendations.
62. The Regional Board, through public testimony in public meetings and in written form, has received and considered all comments pertaining to this Order.
63. The Regional Board will notify interested agencies and interested persons of the availability of reports, plans, and schedules, including Annual Reports, Work Plans, Performance Standards, and the Management Plan, and will provide interested persons with an opportunity for a public hearing and/or an opportunity to submit their written views and recommendations. The Regional Board will consider all comments and may modify the reports, plans, or schedules or may modify this Order in accordance with applicable law. All submittals required by this Order conditioned with acceptance by the Regional Board will be subject to these notification, comment, and public hearing procedures.

64. This Order supercedes and rescinds Order Nos. 97-030 and 99-049.
65. This Order serves as a NPDES permit, pursuant to CWA Section 402, or amendments thereto, and shall become effective fifty days after the date of its adoption provided the Regional Administrator, US EPA, Region IX, has no objections.

**IT IS HEREBY ORDERED that the Permittees, in order to meet the provisions contained in Division 7 of the California Water Code and regulations adopted hereunder and the provisions of the Clean Water Act as amended and regulations and guidelines adopted hereunder, shall comply with the following:**

**A. DISCHARGE PROHIBITION**

The Permittees shall, within their respective jurisdictions, effectively prohibit the discharge of non-stormwater (materials other than stormwater) into the storm drain systems and watercourses. NPDES permitted discharges are exempt from this prohibition. Compliance with this prohibition shall be demonstrated in accordance with Provision C.1 and C.9 of this Order. Provision C.9 describes a tiered categorization of non-stormwater discharges based on potential for pollutant content, which may be discharged upon adequate assurance that the discharge contains no pollutants of concern, at concentrations that will impact beneficial uses or cause exceedances of water quality standards.

**B. RECEIVING WATER LIMITATIONS**

1. The discharge shall not cause the following conditions to create a condition of nuisance or to adversely affect beneficial uses of waters of the State:
  - a. Floating, suspended, or deposited macroscopic particulate matter, or foam;
  - b. Bottom deposits or aquatic growths;
  - c. Alteration of temperature, turbidity, or apparent color beyond present natural background levels;
  - d. Visible, floating, suspended, or deposited oil or other products of petroleum origin; and/or
  - e. Substances present in concentrations or quantities which will cause deleterious effects on aquatic biota, wildlife, or waterfowl, or which render any of these unfit for human consumption.
2. The discharge shall not cause or contribute to a violation of any applicable water quality standard for receiving waters. If applicable water quality objectives are adopted and approved by the State Board after the date of the adoption of this Order, the Regional Board may revise and modify this Order as appropriate.

**C. PROVISIONS**

**1. Water Quality Standards Exceedances**

The Permittees shall comply with Discharge Prohibition A and Receiving Water Limitations B.1 and B.2 through the timely implementation of control measures and other actions to reduce pollutants in the discharge in accordance with the Management Plan and other requirements of this permit, including any modifications. The Management Plan shall be designed to achieve compliance with Receiving Water Limitations B.1 and B.2. If exceedance(s) of water quality standards or water quality objectives (collectively, WQSS) persist notwithstanding implementation of the Management Plan, a Permittee shall assure compliance with Discharge Prohibition A and Receiving Water Limitations B.1 and B.2 by complying with the following procedure:

- a. Upon a determination by either the Permittee(s) or the Regional Board that discharges are causing or contributing to an exceedance of an applicable WQS, the Permittee(s) shall promptly notify and thereafter submit a report to the Regional Board that describes BMPs that are currently being implemented and additional BMPs that will be implemented to prevent or reduce any pollutants that are causing or contributing to the exceedance of WQSS. The report may be incorporated in the annual update to the Management Plan unless the Regional Board directs an earlier submittal. The report shall include an implementation schedule. The Regional Board may require modifications to the report;
- b. Submit any modifications to the report required by the Regional Board within 30 days of notification;
- c. Within 30 days following approval of the report described above by the Regional Board, the Permittees shall revise the Management Plan and monitoring program to incorporate the approved modified control measures that have been and will be implemented, the implementation schedule, and any additional monitoring required; and,
- d. Implement the approved revised Management Plan and monitoring program in accordance with the approved schedule.

As long as Permittees have complied with the procedures set forth above and are implementing the revised Management Plan, they do not have to repeat the same procedure for continuing or recurring exceedances of the same receiving water limitations unless directed by the Regional Board to develop additional control measures and BMPs.

## **2. Stormwater Quality Management Plan and Performance Standards**

- a. The Permittees shall implement control measures/BMPs to reduce pollutants in stormwater discharges to the maximum extent practicable. The Management Plan shall serve as the framework for identification, assignment, and implementation of practices of such control measures/BMPs. The Management Plan contains Performance Standards that address the following Program components: Public Information and Participation, Municipal Maintenance, New Development and Significant Redevelopment, Construction Site Controls, Illicit Discharge Controls, and Industrial and Commercial Discharge Controls. Performance Standards are defined as the level of implementation necessary to demonstrate the control of pollutants in stormwater to the maximum extent practicable. The Permittees shall implement the Management Plan, and shall subsequently demonstrate its effectiveness and provide for necessary and appropriate revisions, modifications, and improvements to reduce pollutants in stormwater discharges to the maximum extent practicable and as required by Provisions C.1 through C.11 of this Order.
- b. The Management Plan shall be revised to adopt and incorporate any new Performance Standards developed by the Permittees or any revised Performance Standard identified by the Permittees through the Program's process for evaluating and improving its effectiveness or other means described in Provision C.1. Performance Standards shall be developed or revised through a process which includes 1) opportunities for public participation, 2) appropriate external technical input and criteria for the applicability, economic feasibility, design, operation, and maintenance, and 3) measures for evaluation of effectiveness so as to achieve pollutant reduction or pollution prevention benefits to the maximum extent practicable. New or revised Performance Standards may be based upon special studies or other activities conducted by the Permittees, literature review, or special studies conducted by other programs or Permittees. New or revised

Performance Standards shall include the baseline components to be accomplished and the method to be used to verify that the Performance Standard has been achieved. The Permittees shall incorporate newly developed or updated Performance Standards, acceptable to the Executive Officer, into applicable annual revisions to the Management Plan and adhere to implementation of the new/revised Performance Standard(s). In addition to the annual Management Plan revisions, the Permittees shall submit a compilation of all annual Management Plan revisions by three years after Board adoption of this Order, which shall serve in part as the re-application package for the next Permit. The draft Annual Workplan required in Provision C.6 shall identify Performance Standards that will be developed or revised for the upcoming fiscal year. Following the addition/revision of a Performance Standard, acceptable to the Executive Officer, the Permittees for which the Performance Standard is applicable shall adhere to its implementation.

### **3. New Development and Redevelopment Performance Standards**

The Permittees will continue to implement the new development and redevelopment Performance Standards contained in the Management Plan and improve them to achieve the control of stormwater pollutants to the maximum extent practicable in accordance with the following sections:

#### **a. Performance Standard Implementation**

The Dischargers shall continue to implement and improve, as necessary and appropriate, the performance standards for new development and redevelopment controls detailed on Pages B-ND-1 through B-ND-6 of the July 1996 Management Plan.

#### **b. Development Project Approval Process**

The Permittees shall modify their project review processes as needed to incorporate the requirements of Provision C.3. Each Permittee shall include conditions of approval in permits for applicable projects, as defined in Provision C.3.c, to ensure that stormwater pollutant discharges are reduced by incorporation of treatment measures and other appropriate source control and site design measures, and increases in runoff flows are managed in accordance with Provision C.3.f, to the maximum extent practicable. Such conditions shall, at a minimum, address the following goals:

- i.** Require a project proponent to implement site design/landscape characteristics where feasible which maximize infiltration (where appropriate), provide retention or detention, slow runoff, and minimize impervious land coverage, so that post-development pollutant loads from a site have been reduced to the maximum extent practicable; and
- ii.** For new and redevelopment projects that discharge directly (not mixed with runoff from other developed sites) to water bodies listed as impaired by a pollutant(s) pursuant to CWA Section 303(d), ensure that post project runoff does not exceed pre-project levels for such pollutant(s), through implementation of the control measures addressed in this provision, to the maximum extent practicable, in conformance with Provision C.1.

Modification of project review processes shall be completed by February 15, 2005.

#### **c. Applicable Projects – New and Redevelopment Project Categories**

New development and significant redevelopment projects that are subject to Provision C.3 are grouped into two categories based on project size. While all projects regardless of size should consider incorporating appropriate source control and site design measures that minimize

stormwater pollutant discharges to the maximum extent practicable, new and redevelopment projects that do not fall into Group 1 or Group 2 are not subject to the requirements of Provision C.3. Provision C.3 shall also not apply to projects for which a privately-sponsored development application has been deemed complete by a Permittee or, with respect to public projects, for which funding has been committed and for which construction is scheduled by February 15, 2005.

**i. Group 1 Projects**

Permittees shall require Group 1 Projects to implement appropriate source control and site design measures and to design and implement stormwater treatment measures, to reduce the discharge of stormwater pollutants to the maximum extent practicable. Implementation of this requirement shall begin February 15, 2005. Group 1 Projects consist of all public and private projects in the following categories:

1. Commercial, industrial, or residential developments that create one acre (43,560 square feet) or more of impervious surface, including roof area, streets and sidewalks. This category includes any development of any type on public or private land, which falls under the planning and building authority of the Permittees, where one acre or more of new impervious surface, collectively over the entire project site, will be created.

Construction of one single-family home, which is not part of a larger common plan of development, with the incorporation of appropriate pollutant source control and design measures, and using landscaping to appropriately treat runoff from roof and house-associated impervious surfaces (e.g., runoff from roofs, patios, driveways, sidewalks, and similar surfaces), would be in substantial compliance with Provision C.3.

2. Streets, roads, highways, and freeways that are under the Permittees' jurisdiction and that create one acre (43,560 square feet) or more of new impervious surface. This category includes any newly constructed paved surface used primarily for the transportation of automobiles, trucks, motorcycles, and other motorized vehicles. Excluded from this category are sidewalks, bicycle lanes, trails, bridge accessories, guardrails, and landscape features.

3. Significant Redevelopment projects. This category is defined as a project on a previously developed site that results in addition or replacement, which combined total 43,560 sq ft or more of impervious surface on such an already developed site ("Significant Redevelopment"). Where a Significant Redevelopment project results in an increase of, or replacement of, more than fifty percent of the impervious surface of a previously existing development, and the existing development was not subject to stormwater treatment measures, the entire project must be included in the treatment measure design. Conversely, where a Significant Redevelopment project results in an increase of, or replacement of, less than fifty percent of the impervious surface of a previously existing development, and the existing development was not subject to stormwater treatment measures, only that affected portion must be included in treatment measure design. Excluded from this category are interior remodels and routine maintenance or repair. Excluded routine maintenance and repair includes roof or exterior surface replacement, pavement resurfacing, repaving and road pavement structural section rehabilitation, within the existing footprint, and any other reconstruction work within a public street or road right-of-way where both sides of that right-of-way are developed.

**ii. Group 2 Projects**

The Group 2 Project definition is in all ways the same as the Group 1 Project definition above, except that the size threshold of impervious area for new and Significant Redevelopment projects is reduced from one acre (43,560 sq ft) of impervious surface to 10,000 square feet. Permittees shall require Group 2 Projects to implement appropriate source control and site design measures and to design and implement appropriate stormwater treatment measures to reduce stormwater pollution to the maximum extent practicable. Projects consisting of one single family home not part of a larger common plan of development are excluded from the Group 2 Project definition, and therefore excluded from the requirement to implement appropriate stormwater treatment measures. Implementation of this requirement shall begin by August 15, 2006, at which time the definition of Group 1 Projects is changed to include all Group 2 Projects.

**iii. Proposal for Alternative Group 2 Project Definition**

The Program and/or any Permittee may propose, for approval by the Regional Board, an Alternative Group 2 Project definition, with the goal that any such alternative definition aim to ensure that the maximum created impervious surface area is treated for the minimum number of projects subject to Permittee review. Any such proposal shall contain supporting information about the Permittees' development patterns, and sizes and numbers of proposed projects for several years, that demonstrates that the proposed definition would be substantially as effective as the Group 2 Project definition in Provision C.3.c.ii. Proposals may include differentiating projects subject to the Alternative Group 2 Project definition by land use, by focusing solely on the techniques recommended by Start at the Source for documented low pollutant loading land uses, and/or by optimum use of landscape areas required by Permittees under existing codes as treatment measures. Proposals may be submitted anytime, with the understanding that the Group 2 Project definition, as described in Provision C.3.c.ii will be upheld as the default in the absence of an approved Alternative Group 2 Project definition.

**d. Numeric Sizing Criteria For Pollutant Removal Treatment Systems**

All Permittees shall require that treatment measures be constructed for applicable projects, as defined in Provision C.3.c, that incorporate, at a minimum, the following hydraulic sizing design criteria to treat stormwater runoff. As appropriate for each criterion, the Permittees shall use or appropriately analyze local rainfall data to be used for that criterion.

**i. Volume Hydraulic Design Basis**

Treatment measures whose primary mode of action depends on volume capacity, such as detention/retention units or infiltration structures, shall be designed to treat stormwater runoff equal to:

1. The maximized stormwater quality capture volume for the area, based on historical rainfall records, determined using the formula and volume capture coefficients set forth in Urban Runoff Quality Management, WEF Manual of Practice No. 23/ ASCE Manual of Practice No. 87, (1998), pages 175-178 (e.g., approximately the 85th percentile 24-hour storm runoff event); or
2. The volume of annual runoff required to achieve 80 percent or more capture, determined in accordance with the methodology set forth in Appendix D of the California Stormwater Best Management Practices Handbook (1993), using local rainfall data.

**ii. Flow Hydraulic Design Basis**

Treatment measures whose primary mode of action depends on flow capacity, such as swales, sand filters, or wetlands, shall be sized to treat:

1. 10% of the 50-year peak flow rate; or
2. The flow of runoff produced by a rain event equal to at least two times the 85th percentile hourly rainfall intensity for the applicable area, based on historical records of hourly rainfall depths; or
3. The flow of runoff resulting from a rain event equal to at least 0.2 inches per hour intensity.

**e. Operation and Maintenance of Treatment Measures**

All treatment measures shall be adequately operated and maintained by complying with the process described below. Beginning July 1, 2004, each Permittee shall implement a treatment measures operation and maintenance (O&M) verification program (O&M Program), which shall include the following:

- i.** Compilation of a list of properties (public and private) and responsible operators for, at a minimum, all treatment measures implemented from the date of adoption of this Order. Information on the location of all stormwater treatment measures shall be sent to the Alameda County Mosquito Abatement District. In addition, the Permittees shall inspect a subset of prioritized treatment measures for appropriate O&M, on an annual basis, with appropriate follow-up and correction.
- ii.** Verification and access assurance at a minimum shall include: where a private entity is responsible for O&M, the entity's signed statement accepting responsibility for maintenance until the responsibility is legally transferred to another entity, and access permission to the extent allowable by law for representatives of the Permittee, local vector control district, and Regional Board staff strictly for the purpose of O&M verification for the specific stormwater treatment system to the extent allowable by law; and, for all entities, either:

1. A signed statement from the public entity assuming post-construction responsibility for treatment measure maintenance and that the treatment measures meet all local agency design standards; or
  2. Written conditions in the sales or lease agreement requiring the buyer or lessee to assume responsibility for O&M consistent with this provision, which conditions, in the case of purchase and sale agreements, shall be written to survive beyond the close of escrow; or
  3. Written text in project conditions, covenants and restrictions (CCRs) for residential properties assigning O&M responsibilities to the home owners association for O&M of the treatment measures; or
  4. Any other legally enforceable agreement or mechanism that assigns responsibility for the maintenance of treatment measures.
- iii. O&M Reporting: the Permittees shall report on their O&M Program in each Annual Report, starting with the Annual Report to be submitted September 2005. The Annual Report shall contain a description of the organizational structure of the Permittee's O&M Program; an evaluation of that O&M Program's effectiveness; summary of any planned improvements in O&M Program; and a list or summary of treatment measures that have been inspected that year with inspection results.
- iv. The Program shall submit by June 1, 2004, a vector control plan for Executive Officer approval, after consultation with the appropriate vector control agencies. The plan shall include design guidance for treatment measures to prevent the production of vectors, particularly mosquitoes, and provide guidance on including vector abatement concerns in O&M and verification inspection activities.
- v. The Permittees are expected to work diligently and in good faith with the appropriate state and federal agencies to obtain any approvals necessary to complete maintenance activities for stormwater treatment measures. If the Permittees have done so, and maintenance approvals are not granted, where necessary, the Permittees shall be deemed by the Regional Board to be in compliance with this Provision.
- f. Limitation on Increase of Peak Stormwater Runoff Discharge Rates**
- i. The Permittees shall manage increases in peak runoff flow and increased runoff volume, for all Group 1 Projects where such increased flow and/or volume is likely to cause increased erosion of creek beds and banks, silt pollutant generation, or other impacts to beneficial uses. Such management shall be through implementation of a Hydrograph Modification Management Plan (HMP). The HMP, once approved by the Regional Board, shall be implemented so that post-project runoff shall not exceed estimated pre-project rates and/or durations, where the increased stormwater discharge rates and/or durations will result in increased potential for erosion or other significant adverse impacts to beneficial uses, attributable to changes in the amount and timing of runoff. The term duration in this Provision is defined as the period that flows are above a threshold that causes significant sediment transport and may cause excessive erosion damage to creeks and streams.
  - ii. Provision C.3.f.i does not apply to new development and significant redevelopment projects where the project discharges stormwater runoff into creeks or storm drains where the potential for erosion or other impacts to beneficial uses, is minimal. Such situations may include discharges into creeks that are concrete-lined or significantly hardened (e.g., with



rip-rap, sackrete, etc.) downstream to their outfall in San Francisco Bay, underground storm drains discharging to the Bay, and construction of infill projects in highly developed watersheds, where the potential for single-project and/or cumulative impacts is minimal. Guidelines for identification of such situations shall be included as a part of the HMP. However, plans to restore a creek reach may re-introduce the applicability of HMP controls, and would need to be addressed in the HMP.

- iii. The HMP may identify conditions under which some increases in runoff may not have a potential for increased erosion or other impacts to beneficial uses. Reduced controls or no controls on peak stormwater runoff discharge rates and/or durations may be appropriate in those cases, subject to the conditions in the HMP. In the absence of information demonstrating that changes in post-development runoff discharge rates and durations will not result in increased potential for erosion or other adverse impacts to beneficial uses, the HMP requirements shall apply.
- iv. The HMP proposal, at a minimum, shall include:
  1. A review of pertinent literature;
  2. A protocol to evaluate potential hydrograph change impacts to downstream watercourses from proposed projects;
  3. An identification of the rainfall event below which these standards and management requirements apply, or range of rainfall events to which these requirements apply;
  4. A description of how the Permittees will incorporate these requirements into their local approval processes, or the equivalent; and,
  5. Guidance on management practices and measures to address identified impacts.

The Permittees may prioritize which individual watersheds the HMP would initially apply to, if it were demonstrated in the HMP that such prioritization is appropriate.

The Permittees may work appropriately with the Santa Clara Valley Urban Runoff Pollution Prevention Program and/or other Bay Area stormwater programs as part of completing these requirements. For example, the Permittees may wish to expand on the literature review being completed by the Santa Clara Valley Urban Runoff Program under its permit, rather than authoring their own literature review from scratch. While such cooperation is encouraged, it shall not be grounds for delaying compliance beyond the schedule set forth herein.

- v. The identified maximum rainfall event or rainfall event range may be different for specific watersheds, streams, or stream reaches. Individual Permittees may utilize the protocol to determine a site- or area-specific rainfall event or event range standard.
- vi. The HMP's evaluation protocols, management measures, and other information may include the following:
  1. Evaluation of the cumulative impacts of urbanization of a watershed on stormwater discharge and stream morphology in the watershed;
  2. Evaluation of stream form and condition, including slope, discharge, vegetation, underlying geology, and other information, as appropriate;
  3. Implementation of measures to minimize impervious surfaces and directly connected impervious area in new development and redevelopment projects;
  4. Implementation of measures including stormwater detention, retention, and infiltration;

5. Implementation of land use planning measures (e.g., stream buffers and stream restoration activities, including restoration-in-advance of floodplains so that floodplains will be able to handle the anticipated increased flows, revegetation, use of less-impacting facilities at the point(s) of discharge, etc.) to allow expected changes in stream channel cross sections, stream vegetation, and discharge rates, velocities, and/or durations without adverse impacts to stream beneficial uses;
6. A mechanism for pre- vs. post-project assessment to determine the effectiveness of the HMP and to allow amendment of the HMP, as appropriate; and,
7. Other measures, as appropriate.

**vii. Equivalent limitation of peak flow impacts:** The Permittees may develop an equivalent limitation protocol, as part of the HMP, to address impacts from changes in the volumes, velocities, and/or durations of peak flows through measures other than control of those volumes and/or durations. The protocol may allow increases in peak flow and/or durations, subject to the implementation of specified design, source control, and/or treatment control measures and land planning practices that take into account expected stream change (e.g., increases in the cross-sectional area of stream channel) resulting from changes in discharge rates and/or durations, while maintaining or improving beneficial uses of waters.

**viii.** The Permittees as a group shall complete the HMP according to the schedule below. All required documents shall be submitted for approval by the Executive Officer, based on the criteria set forth in this Order, except the HMP, which shall be submitted for approval by the Regional Board. Development and implementation status shall be reported in the Permittees' Annual Reports, which shall also provide a summary of projects incorporating measures to address this Provision and the measures used.

1. February 15, 2004: Submit a detailed workplan and schedule for completion of the literature review, development of a protocol to identify an appropriate limiting storm, development of guidance materials, and other required information;
2. February 15, 2004: Submit literature review;
3. November 15, 2004: Submit a draft HMP, including the analysis that identifies the appropriate limiting storm and the identified limiting storm event(s) or event range(s);
4. May 15, 2005: Submit the HMP for Regional Board approval; and,
5. Upon approval by the Regional Board, implement the approved HMP, which shall include the requirements of this Provision. Prior to approval of the HMP by the Regional Board, the early implementation of measures likely to be included in the HMP shall be encouraged by the Permittees.

**g. Alternative Compliance Based on Impracticability and Requiring Compensatory Mitigation**

- i. The Permittees may establish a program under which a project proponent may request alternative compliance with the requirement in Provision C.3.c. to install treatment measures onsite for a given project, upon an appropriate showing of impracticability, and with a provision to treat offsite an equivalent surface area, pollutant loading or quantity of stormwater runoff, or provide other equivalent water quality benefit, such as stream restoration or other activities that limit or mitigate impacts from excessive erosion or sedimentation. The offsite location of this equivalent stormwater treatment, or water quality

benefit, shall be where no other requirement in Provision C.3.c for treatment exists, and within the same stormwater runoff drainage basin and treating runoff discharging to the same receiving water, where feasible. Under this Provision, enhancements of existing mitigation projects are acceptable. The Permittees should specifically define the basis for impracticability or infeasibility, which may include situations where onsite treatment is technically feasible, but excessively costly, as determined by set criteria.

- ii. **Regional Solutions:** The alternative compliance may allow a project proponent to participate in a regional or watershed-based stormwater treatment facility, without a showing of impracticability at the individual project site, if the regional or watershed-based stormwater treatment facility discharges into the same receiving water, where feasible.
- iii. The Program is encouraged to propose a model alternative compliance program on behalf of the Permittees, for approval by the Regional Board, and for potential adoption and implementation by the Permittees.
- iv. The alternative compliance program proposal should state the criteria for granting alternatives from the requirement to install treatment measures onsite; criteria for determining impracticability or infeasibility; and criteria for use of regional or watershed-based stormwater treatment facilities. The proposal should also describe how the project sponsor will provide equivalent water quality benefits or credit to an alternative project or to a regional or watershed treatment facility and tracking mechanisms to support the reporting requirements set forth in Provision C.3.g.vi below.
- v. An exemption without the requirement for alternate, equivalent offsite treatment is allowed for the following redevelopment projects after impracticability of including onsite treatment measures is established, where such projects are built as redevelopment projects as defined in Finding 14, and it is clearly demonstrated that cost of participation in alternate, equivalent offsite treatment through a regional treatment or other equivalent water quality benefit project fund will unduly burden the project: creation of housing units affordable to persons of low or moderate income as defined by Health and Safety Code Section 50093, brownfield sites, and/or transit village type developments within 1/4 mile of transit stations and/or intermodal facilities.
- vi. **Reporting:** Each year, as part of its Annual Report, each Permittee shall provide a list of alternative projects and exemptions it granted. For each project and exemption, the following information shall be provided:
  1. Name and location of the project for which the alternative project or exemption was granted;
  2. Project type (e.g., restaurant, residence, shopping center) and size;
  3. Area or percent of impervious surface in the project's final design;
  4. Reason for granting the alternative project or exemption, including, for those projects granted an exemption without the requirement for alternate, equivalent offsite treatment, a demonstration that cost of such equivalent offsite treatment unduly burdened the project;
  5. Terms of the alternative project or exemption; and,
  6. The offsite stormwater treatment project receiving the benefit, and the date of completion of the project.
- vii. **Interim Alternative Compliance Program:** In the event that an alternative compliance program has not been proposed by the Program and/or a Permittee, approved by the Regional

Board, or implemented by a particular Permittee by the date of implementation of Group 1 Projects, provision for an interim alternative to the requirement to install treatment measures onsite may be granted by a Permittee. An interim alternative compliance project may be granted if the project proponent (1) demonstrates onsite impracticability due to extreme limitations of space for treatment and lack of below grade surface treatment options, and (2) presents sufficient assurance of providing equivalent offsite stormwater pollutant and/or volume treatment at another location within the drainage basin, for which construction of stormwater treatment measures is not otherwise required, discharging into the same receiving water, where feasible. The Permittee shall be responsible for assuring that equivalent offsite treatment has occurred for any use of this interim alternative compliance, within six months of project construction, and shall report the basis of onsite impracticability and the nature of equivalent offsite treatment for each project in its Annual Report. Any equivalent offsite treatment that does not include construction of stormwater treatment measures must be approved by the Executive Officer, based on the criteria set forth in this Order. This interim alternative compliance clause will be void when Regional Board approves the alternative compliance program described in Provision C3.g.i-iv, above.

**h. Alternative Certification of Adherence to Design Criteria for Stormwater Treatment Measures**

In lieu of conducting detailed review to verify the adequacy of measures required pursuant to Provisions C.3.d, a Permittee may elect to accept a signed certification from a Civil Engineer or a Licensed Architect or Landscape Architect registered in the State of California, or another Permittee that has overlapping jurisdictional project permitting authority, that the plan meets the criteria established herein. The Permittee should verify that each certifying person has been trained on treatment measure design for water quality not more than three years prior to the signature date, and that each certifying person understands the groundwater protection principles applicable to the project site (see Provision C.3.i: Limitations on Use of Infiltration Treatment Measures). Training conducted by an organization with stormwater treatment measure design expertise (e.g., a university, American Society of Civil Engineers, American Society of Landscape Architects, American Public Works Association, or the California Water Environment Association) may be considered qualifying.

**i. Limitations on Use of Infiltration Treatment Measures - Infiltration and Groundwater Protection**

In order to protect groundwater from pollutants that may be present in urban runoff, treatment measures that function primarily as infiltration devices (such as infiltration basins and infiltration trenches not deeper than their maximum width) shall meet, at a minimum, the following conditions:

- i. Pollution prevention and source control measures shall be implemented at a level appropriate to protect groundwater quality at sites where infiltration devices are to be used;
- ii. Use of infiltration devices shall not cause or contribute to degradation of groundwater water quality objectives;
- iii. Infiltration devices shall be adequately maintained to maximize pollutant removal capabilities;
- iv. The vertical distance from the base of any infiltration device to the seasonal high groundwater mark shall be at least 10 feet. Note that some locations within the Permittees'

jurisdiction are characterized by highly porous soils and/or a high groundwater table; in these areas treatment measure approvals should be subject to a higher level of analysis (e.g., considering the potential for pollutants such as on-site chemical use, the level of pretreatment to be achieved, and similar factors);

- v. Unless stormwater is first treated by a means other than infiltration, infiltration devices shall not be recommended as treatment measures for areas of industrial or light industrial activity; areas subject to high vehicular traffic (25,000 or greater average daily traffic on main roadway or 15,000 or more average daily traffic on any intersecting roadway); automotive repair shops; car washes; fleet storage areas (bus, truck, etc.); nurseries; and other high threat to water quality land uses and activities as designated by each Permittee; and,
- vi. Infiltration devices shall be located a minimum of 100 feet horizontally from any water supply wells.

**j. Site Design Measures Guidance and Standards Development**

- i. The Permittees shall review their local design standards and guidance for opportunities to make revisions that would result in reduced impacts to water quality and beneficial uses of waters. In this event, the Permittees shall make any such revisions and implement the updated standards and guidance, as necessary.

Areas of site design that may be appropriate to address include the following, which are offered as examples:

1. Minimize land disturbance;
2. Minimize impervious surfaces (e.g., roadway width, driveway area, and parking lot area), especially directly connected impervious areas;
3. Minimum-impact street design standards for new development and redevelopment, including typical specifications (e.g., neo-traditional street design standards and/or street standards recently revised in other cities, including Portland, Oregon, and Vancouver, British Columbia);
4. Minimum-impact parking lot design standards, including parking space maximization within a given area, use of landscaping as a stormwater drainage feature, use of pervious pavements, and parking maxima;
5. Clustering of structures and pavement;
6. Typical specifications or “acceptable design” guidelines for lot-level design measures, including:
  - Disconnected roof downspouts to splash blocks or “bubble-ups;”
  - Alternate driveway standards (e.g., wheelways, unit pavers, or other pervious pavements); and,
  - Microdetention, including landscape detention and use of cisterns (may also be considered treatment measures);
7. Preservation of high-quality open space;
8. Maintenance and/or restoration of riparian areas and wetlands as project amenities, including establishing vegetated buffer zones to reduce runoff into waterways, allow for stream channel change as a stream’s contributing watershed urbanizes, and otherwise

mitigate the effects of urban runoff on waters and beneficial uses of waters (may also be considered treatment measures); and,

9. Incorporation of supplemental controls to minimize changes in the volume, flow rate, timing, and duration of runoff, for a given precipitation event or events. These changes include cumulative hydromodification caused by site development. Measures may include landscape-based measures or other features to reduce the velocity of, detain, and/or infiltrate stormwater runoff (may also be considered treatment measures).
- ii. The standards and guidance review shall be completed according to the schedule below. A summary of review, revision, and implementation status shall be submitted for acceptance by the Executive Officer and reported in the Permittees' Annual Reports, beginning with the Annual Report due September 15, 2005.
1. No later than August 15, 2003: The Permittees shall submit a detailed workplan and schedule for completion of the review of standards and guidelines, any proposed revisions thereto and any implementation of revised standards and guidance;
  2. No later than November 15, 2004: The Permittees shall submit a draft review and analysis of local standards and guidance, opportunities for revision, and any proposed revised standards and guidance; and,
  3. No later than November 15, 2005: The Permittees shall incorporate any revised standards and guidance into their local approval processes and shall fully implement the revised standards and guidance.

**k. Source Control Measures Guidance Development**

The Permittees shall, as part of their improvement process, submit enhanced new development and significant redevelopment Performance Standards, which summarize source control requirements for such projects to limit pollutant generation, discharge, and runoff, to the maximum extent practicable. Examples of source control measures may include the following, which are offered as examples:

- i. Indoor mat/equipment wash racks for restaurants, or covered outdoor wash racks plumbed to the sanitary sewer;
- ii. Covered trash and food compactor enclosures with a sanitary sewer connection for dumpster drips and designed such that run-on to trash enclosure areas is avoided;
- iii. Sanitary sewer drains for swimming pools;
- iv. Sanitary drained outdoor covered wash areas for vehicles, equipment, and accessories;
- v. Sanitary sewer drain connections to take fire sprinkler test water;
- vi. Storm drain system stenciling;
- vii. Landscaping that minimizes irrigation and runoff, promotes surface infiltration where appropriate, minimizes the use of pesticides and fertilizers, and where feasible removes pollutants from stormwater runoff; and,
- viii. Appropriate covers, drains, and storage precautions for outdoor material storage areas, loading docks, repair/maintenance bays, and fueling areas.

A model enhanced new development and significant redevelopment source control Performance Standard and proposed workplan for its implementation shall be submitted by August 15, 2004. Implementation shall begin no later than February 15, 2005, and the status shall thereafter be reported in the Permittees' Annual Reports beginning with the Annual Report due September 15, 2005, which shall also provide appropriate detail on projects reflecting the application of the enhanced Performance Standards consistent with Provision C.3.b, above.

#### **I. Update General Plans**

At the next scheduled update/revision of its General Plan, each Permittee shall confirm that it has incorporated water quality and watershed protection principles and policies into its General Plan or equivalent plan, to the extent necessary, to require implementation of the measures required by Provision C.3 for applicable development projects. These principles and policies shall be designed to protect natural water bodies, reduce impervious land coverage, slow runoff, and where feasible, maximize opportunities for infiltration of rainwater into soil. Such water quality and watershed protection principles and policies may include the following, which are offered as examples:

- i.** Minimize the amount of impervious surfaces and directly connected impervious surfaces in areas of new development and redevelopment and where feasible maximize on-site infiltration of runoff;
- ii.** Implement pollution prevention methods supplemented by pollutant source controls and treatment. Use small collection strategies located at, or as close as possible to, the source (i.e., the point where water initially meets the ground) to minimize the transport of urban runoff and pollutants offsite and into a municipal separate storm sewer system;
- iii.** Preserve, and where possible, create or restore areas that provide important water quality benefits, such as riparian corridors, wetlands, and buffer zones. Encourage land acquisition and/or conservation easement acquisition of such areas;
- iv.** Limit disturbances of natural water bodies and natural drainage systems caused by development including roads, highways, and bridges;
- v.** Prior to making land use decisions, utilize methods available to estimate increases in pollutant loads and flows resulting from projected future development. Require incorporation of structural and non-structural treatment measures to mitigate the projected increases in pollutant loads and flows;
- vi.** Avoid development of areas that are particularly susceptible to erosion and sediment loss; or establish development guidance that identifies these areas and protects them from erosion and sediment loss; and,
- vii.** Reduce pollutants associated with vehicles and increased traffic resulting from development.

If amendments of General Plans are determined to be legally necessary to allow for implementation of any aspect of Provision C.3, such amendments shall occur by the implementation date of the corresponding component of the Provision. If legally necessary General Plan amendments cannot occur by the implementation date because of CEQA requirements or other constraints imposed by the laws applicable to amending General Plans, the Permittee shall report this to the Executive Officer as soon as possible, and no later than in the Annual Report due more than six months in advance of the implementation date. Should

changes to implementation dates to enable a Permittee to comply with CEQA and General Plan legal requirements be necessary, the Permittee shall recommend a new implementation date for approval by the Regional Board.

**m. Water Quality Review Processes**

When Permittees conduct environmental review of projects in their jurisdictions, the Permittees shall evaluate water quality effects and identify appropriate mitigation measures. This requirement shall be implemented by May 15, 2004. Questions that evaluate increased pollutants and flows from the proposed project include the following, which are offered as examples:

- i. Would the proposed project result in an increase in pollutant discharges to receiving waters? Consider water quality parameters such as temperature, dissolved oxygen, turbidity and other typical stormwater pollutants (e.g., heavy metals, pathogens, petroleum derivatives, synthetic organics, sediment, nutrients, oxygen-demanding substances, and trash).
- ii. Would the proposed project result in significant alteration of receiving water quality during or following construction?
- iii. Would the proposed project result in increased impervious surfaces and associated increased runoff?
- iv. Would the proposed project create a significant adverse environmental impact to drainage patterns due to changes in runoff flow rates or volumes?
- v. Would the proposed project result in increased erosion in its watershed?
- vi. Is the project tributary to an already impaired water body, as listed on the CWA Section 303(d)? If so, will it result in an increase in any pollutant for which the water body is already impaired?
- vii. Would the proposed project have a potentially significant environmental impact on surface water quality, to marine, fresh, or wetland waters?
- viii. Would the proposed project have a potentially significant adverse impact on groundwater quality?
- ix. Will the proposed project cause or contribute to an exceedance of applicable surface or groundwater receiving water quality objectives or degradation of beneficial uses?
- x. Will the project impact aquatic, wetland, or riparian habitat?

**n. Reporting, including Pesticide Reduction Measures**

The Permittees shall demonstrate compliance with the requirements of Provision C.3 by providing in their Annual Reports the information described in Table 1, beginning with the dates shown in Table 1 and continuing thereafter. In addition, the following information shall be collected for Annual Report submittal, beginning upon the date of adoption of this Order:

- i. For all new development and significant redevelopment projects which meet the Group 1 or Group 2 definitions in Provision C.3.c, collect and report the name or other identifier, type of project (using the categories in Provision C.3.c), site acreage or square footage, and square footage of new impervious surface.



- ii. For projects that must implement treatment measures, report which treatment measures were used and numeric-sizing criteria employed, the O&M responsibility mechanism including responsible party, site design measures used, and source control measures required. This information shall also be reported to the appropriate local vector control district, with additional information of access provisions for vector control district staff. This reporting shall begin in the Annual Report following the implementation date specified in Provision C.3.c.
- iii. A summary of the types of pesticide reduction measures required for those new development and significant redevelopment projects to be addressed under Provision C.3.c, and the percentage of such new development and significant redevelopment projects for which pesticide reduction measures were included. These measures are required under Provision C.10.c, and relate directly to Provision C.3 requirements.

The Permittees may utilize their Annual Reports to highlight their budget constraints and suggest reprioritization of any Program activities in order to achieve the most cost effective overall Program.

**o. Implementation Schedule**

The Permittees shall implement the requirements of Provisions C.3.b through C.3.n according to the schedule in Table 2.

**4. Public Information and Participation Performance Standards**

The Program shall develop a specific workplan with the Permittees based on Section 3. Task 5 of the PIP component of the Management Plan to evaluate the effectiveness of the PIP component and report on this on-going evaluation starting September 2004 for the 2003-2004 Annual Report, and annually thereafter. Effectiveness may be measured through direct or indirect means, such as observation of behavior; surveys; and/or analysis of available data on public involvement in or in response to PIP activities.

**5. Performance Standards for Municipal Maintenance**

The Program shall implement municipal maintenance performance standards as set forth in the Management Plan.

**6. Performance Standard for Rural Public Works Maintenance and Support**

For the purpose of this provision, rural means any watershed or portion thereof that remains undeveloped or with primarily agricultural, grazing or open space uses, and drains to unchannelized streams. The Program shall develop, within one year after the adoption of this Order, Performance Standards, appropriate training and technical assistance requirements, and annual reporting requirements for the following rural public works maintenance and support activities: a) management and/or removal of large woody debris and live vegetation from stream channels; b) streambank stabilization projects; and, c) road construction, maintenance, and repairs in rural areas to prevent and control road-related erosion. In addition, Permittees shall develop: d) education and guidance on permitting requirements for rural public works activities so as to stress the importance of proper planning and construction.

**7. Annual Reports and Workplans**

**a. Annual Reports**

The Permittees shall submit an Annual Report to the Regional Board by September 15 of each year, documenting the status of the Program's and the Permittees' activities during the previous fiscal year, including the results of a qualitative assessment of activities implemented by the Permittees, and the performance of tasks contained in the Management Plan.

The Annual Report shall include a compilation of deliverables and milestones completed during the previous twelve-month period, as described in the Management Plan. In either the Annual Reports or the Workplans, the Permittees shall propose pertinent updates, improvements, or revisions to the Management Plan, which shall be complied with under this Order unless disapproved by the Executive Officer or acted upon in accordance with Provision C.12. As part of the Annual Report process, each Permittee shall evaluate the effectiveness of the activities completed during the reporting period.

Direct and indirect measures of effectiveness may include, but are not limited to, conformance with established Performance Standards, quantitative monitoring to assess the effectiveness of control measures, measurements or estimates of pollutant load reductions, detailed accounting of Program accomplishments, funds expended, or staff hours utilized. Methods to improve effectiveness in the implementation of tasks and activities, including development of new, or modification of existing, Performance Standards, shall be identified through the Program's review and improvement process, where appropriate. The Annual Report information shall be adequate to describe each Permittee's compliance status with respect to the provisions of this Order, and the required actions under the Management Plan and the Annual Workplans.

**i. Enhanced Annual Reporting Requirements for Public Information and Participation**

The level of implementation of PIP activities shall be reported annually. The Program will report on the implementation of its specific workplan to evaluate effectiveness of the PIP component starting in September 2004 for the 2003-2004 Annual Report, and annually thereafter. This evaluation will be included in the General Program deliverables for General Program activities and in the deliverables by Permittees for activities that were conducted by individual Permittees.

**ii. Enhanced Annual Reporting Requirements for Illicit Discharge Controls**

The goal of the Illicit Discharge Controls component is to identify and eliminate non-permissible non-stormwater discharges associated with illegal dumping or illicit connections to the storm drain system.

Enhanced annual reporting for this Program component shall, at a minimum, include:

1. Training and coordination of staff most likely to encounter illicit discharges; and
2. Identification and follow-up for all illicit discharges and problem areas identified within each Permittee's jurisdiction, including number of responses to reports of potential impacts to water quality, complaints, spills, and other similar reports. These should be, at a minimum, characterized as to report source, nature of the report, location of the event, reported source of pollutants, and follow-up and investigation, if any. For any actual non-compliance or threatened non-compliance noted during the investigation of the report, the nature of follow-up will be reported, through resolution of the noted issue, up to and including enforcement action.

**iii. Enhanced Annual Reporting Requirements for Industrial and Commercial Discharge Controls**

The goal of the Industrial and Commercial Discharge Controls component is to reduce or eliminate adverse water quality impacts from activities conducted at any industrial and commercial site within the Permittees' jurisdictions that have a potential for significant urban runoff pollution. Performance measures for this Program component are in the Management Plan.

Frequency of inspection of a given site or category of industry or commercial business with a potential to impact stormwater may vary depending upon known or anticipated threats to water quality, but should not be less frequent than once in five years. Inspection frequency can be reduced for sites that demonstrate a history of compliance or exhibit little threat to water quality, and increased for sites that demonstrate non-compliance, or exhibit significant threat to water quality.

Permittees shall report a summary of inspection activity for any non-compliance noted during an inspection, the nature of follow-up through resolution of the noted issue, up to and including enforcement action.

**b. Annual Workplans and Updates**

By 100 days from the adoption of this order and on March 1<sup>st</sup> of each year thereafter, the Permittees shall submit draft Workplans and Updates that describe the proposed implementation of the Management Plan for the next fiscal year in areas described below.

The Workplans and Updates shall consider the status of implementation of current year activities and actions of the Permittees, problems encountered, and proposed solutions, and shall address any comments received from the Executive Officer on the previous year's Annual Report. The Workplans and Updates shall include clearly defined tasks, responsibilities, and schedules for implementation of Program and Permittee actions for the next fiscal year.

The Workplans and Updates shall be deemed to be final and incorporated into the Management Plan and this Order as of June 1 unless previously determined to be unacceptable by the Executive Officer. The Permittees shall address any comments or conditions of acceptability received from the Executive Officer on their draft Workplans and Updates prior to the submission of their Annual Report on September 15, at which time the modified Workplans and Updates shall be deemed to be incorporated into the Management Plan and this Order unless disapproved of by the Executive Officer.

**i. Performance Standards and Monitoring Plan Updates**

Any proposal for development of new, or modification of existing, Performance Standards in accordance with Provision C.2.b, as well as alternative monitoring activities as required in Provision C.8, shall be reported in the workplans.

**ii. Public Information and Participation**

By 100 days from the adoption of this order, the Program shall submit a specific workplan to evaluate the effectiveness of the PIP component.

**iii. Industrial and Commercial Discharge Controls Program**

Each Permittee, except the Alameda County Flood Control and Water Conservation District and Zone 7 of the Alameda County Flood Control District, shall submit an annual update to

its five-year Industrial and Commercial Business Inspection Plan (Inspection Plan) with the following information:

1. Estimated number of facilities to be inspected listed by type of business or geographical sector as outlined in the Inspection Plan; and,
2. Estimated number of high priority facilities to be inspected on a yearly basis based on priorities described in Inspection Plan.

The range of industrial and commercial businesses that will require regular inspection is not limited to those industrial sites that are required to obtain coverage under the State Board's Industrial Stormwater NPDES General Permit.

**c. One-time Reports and Five-Year Inspection and Illicit Discharge Control Action Plans**

In addition to Annual Reports and Annual Updates, the Permittees shall provide the following information by 100 days of adoption of this order:

**i. Illicit Discharge Controls**

Each Permittee will develop a five-year Illicit Discharge Control Action Plan to reduce, control and/or otherwise address sources of discharge. Performance measures for this program area are in the Management Plan.

Permittees shall describe the specific procedures they use to follow-up on non-compliance.

Permittees shall identify an alternate publicized number to report illicit discharges in addition to 911.

Proposed changes to the five-year Illicit Discharge Control Action Plan shall be submitted annually through subsequent workplans.

**ii. Industrial and Commercial Discharge Controls Program**

Each Permittee, except the Alameda County Flood Control and Water Conservation District and Zone 7 of the Alameda County Flood Control District, shall submit a five-year Industrial and Commercial Business Inspection Plan (Inspection Plan) containing the following information:

1. Estimate of total number of Industrial and Commercial sites requiring inspection, within each Permittee's jurisdiction, for the five-year period;
2. A list of types of business within the Permittee's jurisdiction with an estimate of the number of businesses in each category;
3. A description of the process for prioritizing inspections and rationale for inspecting a business or business type more frequently or before another business or business type. Each Permittee will explain criteria used for designating a business as high priority. If any geographical areas are to be targeted for yearly inspections because of their high potential for stormwater pollution, these areas should be indicated in the Inspection Plan, with optional maps indicating priority zoning, if any, in each Permittees' jurisdiction;
4. A description of Permittee's procedures for follow-up inspections, enforcement actions or referral to another agency, including appropriate time periods of action; and,
5. An Annual Update detailing inspection activities for the next fiscal year shall be due by March 1 of the year following the submission of each Annual Report. The Annual Update shall be subject to the due dates and Executive Officer approvals stated in Provision C.7.b and reporting requirements further listed in Provision C.7.b.iii.

Each Permittee shall also submit a description of a data management system that the Permittee maintains to track changes in industrial and commercial sites, as well as inspection and enforcement activity of these sites.

## 8. Monitoring Program

- a. The Permittees shall implement a Monitoring Program that supports the development and implementation and demonstrates the effectiveness of the Management Plan and related work conducted by the Program among other goals. The Monitoring Program shall be a multi-year receiving waters monitoring plan designed to achieve the following objectives:
- Characterization of representative drainage areas and stormwater discharges, including land-use characteristics pollutant concentrations and mass loadings;
  - Assessment of existing or potential adverse impacts on beneficial uses caused by pollutants of concern in stormwater discharges, including an evaluation of representative receiving waters;
  - Identification of potential sources of pollutants of concern found in stormwater discharges; and,
  - Evaluation of effectiveness of representative stormwater pollution prevention or control measures.

The Monitoring Program shall include the following:

- i. Provision for conducting and reporting the results of special studies conducted by the Permittees which are designed to determine effectiveness of BMPs or control measures, define a Performance Standard or assess the adverse impacts of a pollutant or pollutants on beneficial uses.
  - ii. Provisions for conducting watershed monitoring activities including: identification of major sources of pollutants of concern; evaluation of the effectiveness of control measures and BMPs; and use of physical, chemical and biological parameters and indicators as appropriate.
  - iii. Identification and justification of representative sampling locations, frequencies and methods, suite of pollutants to be analyzed, analytical methods, and quality assurance procedures. Alternative monitoring methods in place of these (special projects, financial participation in regional, state, or national special projects or research, literature review, visual observations, use of indicator parameters, recognition and reliance on special studies conducted by other programs, etc.) may be proposed with justification.
- b. **Multi-Year Monitoring and Assessment Plan.** In conjunction with the submissions required by Provision C.10, the Permittees shall submit, by 100 days of adoption of this order, a multi-year monitoring plan, acceptable to the Executive Officer, designed to comply with these Monitoring Program requirements. The monitoring and assessment plan shall include provisions for monitoring Central and South/Lower San Francisco Bay by participating in the San Francisco Estuary Regional Monitoring Program for Trace Substances or an acceptable alternative monitoring program.
- c. **Annual Monitoring Program Plan.** The Permittees shall submit, by 100 days from the adoption of this order and on March 1<sup>st</sup> of each year thereafter, an annual monitoring program plan, acceptable to the Executive Officer, that includes clearly defined tasks, responsibilities, and

schedules for implementation of monitoring activities for the next fiscal year designed to comply with these Monitoring Program requirements.

## 9. Non-Stormwater Discharges

### a. Exempted Discharges

In carrying out Prohibition A of this Order, the following non-stormwater discharges are not prohibited unless they are identified by the Permittees or the Executive Officer as sources of pollutants to receiving waters:

- i. Flows from riparian habitats or wetlands;
- ii. Diverted stream flows;
- iii. Springs;
- iv. Rising ground waters; and
- v. Uncontaminated groundwater infiltration.

If any of the above categories of discharges, or sources of such discharges, are identified as sources of pollutants to receiving waters, then such categories or sources shall be addressed as conditionally exempted discharges in accordance with Provision C.9.b.

### b. Conditionally Exempted Discharges

The Program has developed control measures to eliminate adverse impacts of certain conditionally exempted discharges as listed in the Findings (uncontaminated pumped groundwater, foundation drains, water from crawl spaces pumps, footing drains and planned and unplanned discharges from potable water sources, and water line and hydrant flushing). The following non-stormwater discharges are not prohibited if they are identified by either the Permittees (and incorporated into the Management Plan) or the Executive Officer as not being sources of pollutants to receiving waters or if appropriate control measures to prevent or eliminate adverse impacts of such sources are developed and implemented under the Management Plan in accordance with Provision C.9.c:

- i. Uncontaminated pumped groundwater;
- ii. Foundation drains;
- iii. Water from crawl space pumps;
- iv. Footing drains;
- v. Air conditioning condensate;
- vi. Irrigation water;
- vii. Landscape irrigation;
- viii. Lawn or garden watering;
- ix. Planned and unplanned discharges from potable water sources;
- x. Water line and hydrant flushing;
- xi. Individual residential car washing; and
- xii. Discharges or flows from emergency fire fighting activities;

The Permittees shall identify and describe the categories of discharges listed in Provision C.9.b that they wish to exempt from Prohibition A in periodic submissions to the Executive Officer. For each such category, the Permittees shall identify and describe as necessary and appropriate to the category either documentation that the discharges are not sources of pollutants to receiving waters or circumstances in which they are not found to be sources of pollutants to receiving waters. Otherwise, the Permittees shall describe control measures to eliminate adverse impacts

of such sources, procedures and Performance Standards for their implementation, procedures for notifying the Regional Board of these discharges, and procedures for monitoring and record management. Permittees shall resubmit appropriate revised and/or additional control measures whenever there is a change in the quality of the discharge. For example, the use of recycled water for irrigation shall lead to the implementation of additional control measures in order to reduce chlorine levels before releasing the discharge to the storm drain system. Such submissions shall be deemed to be incorporated into the Management Plan unless disapproved by the Executive Officer or acted on in accordance with Provision C.12 and the NPDES permit regulations.

**c. Permit Authorization for Exempted Discharges**

- i. Discharges of non-stormwater from sources owned or operated by the Permittees are authorized and permitted by this Order, if they are in accordance with the conditions of this Provision and the Management Plan.
- ii. The Regional Board may require dischargers of non-stormwater other than the Permittees to apply for and obtain coverage under an NPDES permit and comply with the control measures developed by the Permittees pursuant to this Provision. Non-stormwater discharges that are in compliance with such control measures may be accepted by the Permittees and are not subject to Prohibition A.
- iii. The Permittees may propose, as part of their annual updates to the Management Plan under Provision C.7 of this Order; additional categories of non-stormwater discharges to be included in the exemption to Prohibition A. Such proposals are subject to approval by the Regional Board in accordance with the NPDES permit regulations.

**10. Water Quality-Based Requirements for Specific Pollutants of Concern**

In accordance with Provision C.1 and Finding 22 of this Order, the Permittees shall implement control programs for pollutants that have the reasonable potential to cause or contribute to exceedances of water quality standards. These control programs shall include the following:

**a. Control Program for Copper**

The Permittees have submitted a Copper Pollutant Reduction Plan (PRP) that includes a general strategy to monitor the concentration of copper in stormwater runoff and lists BMPs that may be used to reduce copper discharges. The program will further refine the Copper PRP by providing detailed descriptions of activities in each fiscal year. The refined PRP shall be included in the Program's submittal of the Annual Workplan by 100 days of adoption of this Order, and evaluations and results shall be reported in the Annual Reports.

**b. Control Program for Mercury**

The Mercury Pollutant Reduction Plan (Mercury Plan) shall be refined to include all of the following:

- i. Development and adoption of policies, procedures, and/or ordinances calling for:
  - The reduction of mercury from controllable sources in urban runoff to the maximum extent practicable, including the identification of mercury-containing products used by the Permittees and a schedule for their timely phase out where appropriate; and

- Coordination with solid waste management agencies to ensure maximum recycling of fluorescent lights and/or establishment of “take back” programs for the public collection of mercury-containing household products (potentially including thermometers and other gauges, batteries, fluorescent and other lamps, switches, relays, sensors and thermostats);
- ii. A schedule for assisting the Regional Board staff in conducting an assessment of the contribution of air pollution sources to mercury in the Permittees’ urban runoff (potentially including an identification of significant mercury air emission sources, an inventory of relevant mercury air emissions and a review of options for reducing or eliminating mercury air emissions);
- iii. Assessment of the sediment mercury concentrations and percentage of fine material at the base of key watersheds, above the tide line;
- iv. A public education, outreach and participation program designed to reach residential, commercial and industrial users or sources of mercury-containing products or emissions; and,
- v. Participation with other organizations to encourage the electric light bulb manufacturing industry to reduce mercury associated with the disposal of fluorescent lights through product reformulation.

The Mercury Plan shall be refined and incorporated in the Program’s submittal of the Annual Workplan by 100 days of adoption of this order. The Mercury Plan shall refine the schedule for implementation that Permittees are currently working under. To facilitate the development of the actions specified above, the Permittees may coordinate with publicly owned treatment works and other agencies to develop cooperative plans and programs.

**c. Control Program for Pesticides**

To address the impairment of urban streams by diazinon and other pesticides, the Permittees shall continue to implement and refine the previously submitted Diazinon Pollutant Reduction Plan (Pesticide Plan) to address their own use of pesticides including diazinon, other lower priority pesticides no longer in use such as chlordane, dieldrin and DDT, and the use of such pesticides by other sources within their jurisdictions. The Permittees may coordinate with agencies and organizations such as the Bay Area Stormwater Management Agencies Association or the Urban Pesticide Committee. The Pesticide Plan shall include a schedule for implementation and a mechanism for reviewing and amending the plan, as necessary, in subsequent years. The refined Pesticide Plan shall be resubmitted for approval to the Executive Officer by 100 days of adoption of this order.

**i. Pesticide Use by Permittees**

The Pesticide Plan shall include a program to quantitatively identify each Permittee’s pesticide use by preparing a periodically updated inventory of pesticides used by all internal departments, divisions, and other operational units as applicable to each Permittee. Schools and special district operations shall be included in the Pesticide Plan to the full extent of each Permittee’s authority. The Permittees shall adopt and verifiably implement policies, procedures, and/or ordinances requiring the minimization of pesticide use and the use of integrated pest management (IPM) techniques in the Permittees’ operations if they have not already done so. The policies, procedures, and/or ordinances shall include: 1) commitments to reduce use, phase-out, and ultimately eliminate use of pesticides that cause impairment of surface waters, and 2) commitments to not increase the Permittees’ use of organophosphate



pesticides without justifying the necessity and minimizing adverse water quality impacts. The Permittees shall implement training programs for their employees who use pesticides, including pesticides available over the counter. These programs shall address pesticide-related surface water toxicity, proper use and disposal of such pesticides, and least toxic methods of pest prevention and control, including IPM. The Pesticide Plan shall be subject to updating via the Permittees' improvement process.

**ii. Other Pesticide Sources**

To address other pesticide users within the Permittees' jurisdictions (including schools and special district operations that are not owned or operated by the Permittees), the Pesticide Plan shall include the following elements:

1. Public education and outreach programs. Such programs shall be designed for residential and commercial pesticide users and pest control operators. These programs shall provide targeted information concerning proper pesticide use and disposal, potential adverse impacts on water quality, and alternative, least toxic methods of pest prevention and control, including IPM. These programs shall also target pesticide retailers to encourage the sale of least toxic alternatives and to facilitate point-of-sale public outreach efforts. These programs may also recognize local least toxic pest management practitioners.
2. Mechanisms to discourage pesticide use at new development sites. Such mechanisms shall encourage the consideration of pest-resistant landscaping and design features, minimization of impervious surfaces, and incorporation of stormwater detention and retention techniques in the design, landscaping, and/or environmental reviews of proposed development projects. Education programs shall target individuals responsible for these reviews and focus on factors affecting water quality impairment.
3. Coordination with household hazardous waste collection agencies. The Permittees shall support, enhance, and help publicize programs for proper pesticide disposal.

**iii. Other Pesticide Activities**

The Permittees shall work with municipal stormwater management agencies in the Bay Area and other parties with interest in or responsibilities for reducing pesticide-related toxicity in surface water (for example, with the Urban Pesticide Committee) to assess which pesticide products, uses and past uses pose the greatest risks to surface water quality. Along with incorporating this information into the programs described above, the Permittees shall encourage US EPA, the California Department of Pesticide Regulation (DPR), and pesticide manufacturers to understand the adverse impacts of pesticides on urban creeks, monitor US EPA and DPR activities related to the registration of diazinon products and uses, and actively encourage US EPA, DPR, and pesticide manufacturers to eliminate, reformulate, or otherwise curtail, to the extent possible, the sale and use of pesticides that pose substantial risks to surface water quality (e.g., when there is a high potential for runoff).

The Program shall also work with the Regional Board and other agencies in developing a TMDL for diazinon in impaired urban creeks. The Program will participate in stakeholder forums and collaborative technical studies necessary to assist the Regional Board in completing the TMDL. These studies may include, but shall not be limited to, additional diazinon monitoring and toxicity testing.

**d. Control Program for Polychlorinated Biphenyls (PCBs) and Dioxin Compounds**

The Permittees shall work with other municipal stormwater management agencies in the Bay Area to implement a plan to identify, assess, and manage controllable sources of PCBs and dioxin-like compounds found in urban runoff (PCBs/Dioxin Plan). The PCBs/Dioxin Plan shall include actions to:

- i. Characterize the representative distribution of PCBs and dioxin-like compounds in the urban areas of Alameda County to determine: a) what concentrations and what types of PCBs and dioxin-like compounds are present in urban runoff, b) how such PCBs or dioxin-like compounds are distributed in urban areas, and c) whether storm drains or other surface drainage pathways are sources of PCBs or dioxin-like compounds in themselves, or whether there are specific locations within urban watersheds where prior or current uses result in land sources contributing to discharges of PCBs or dioxin-like compounds to San Francisco Bay via urban runoff conveyance systems;
  - ii. Provide information to allow calculation of PCBs and dioxin-like compound loads to San Francisco Bay from urban runoff conveyance systems;
  - iii. Identify control measures and/or management practices to eliminate or reduce discharges of PCBs or dioxin-like compounds conveyed by urban runoff conveyance systems in Alameda County;
  - iv. Implement actions to eliminate or reduce discharges of PCBs or dioxin-like compounds from urban runoff conveyance systems from controllable sources (if any); and,
  - v. Develop a long-term management plan for eliminating and reducing PCB discharges.
  - vi. Action Plan: The PCBs/Dioxin Plan shall describe specific steps to be taken by the Permittees for implementing any emission reduction strategies to the MEP standard. The Plan shall note the specific actions to be taken, identify the agency(ies) responsible for implementation, and include a timeline for the completion of each action item. The portion of the PCB/Dioxin Plan addressing action areas d.i and d.ii shall be implemented forthwith for PCBs. The workplan that was submitted for PCBs addressing action areas d.i, d.ii, and d.iii, including a schedule for implementation, shall be refined and submitted, acceptable to the Executive Officer, by June 1, 2003. A workplan addressing areas d.i and d.ii for dioxin-like compounds shall be submitted, acceptable to the Executive Officer, by March 1, 2004. The portion of the PCB/Dioxin Plan addressing action area d.iv, including a schedule for implementation, shall be submitted, acceptable to the Executive Officer, within one year after adoption of this Order for PCBs and within eighteen months after adoption of this Order for dioxin-like compounds; implementation shall begin no later than one year and six months after adoption of this Order for PCBs and two years after adoption of this Order for dioxin-like compounds, although implementation of early action priorities should take place before that date. The Permittees may coordinate with other stormwater programs and/or other organizations to implement cooperative plans and programs to facilitate implementation of the specified actions.
- e. Control Program for Sediment**
- The Permittees shall conduct an analysis of excess sediment impairment in urban streams and assess management practices that are currently being implemented and additional management practices that will be implemented to prevent or reduce excess sediment impairment in urban creeks, and implement any additional management practices necessary to prevent or reduce excess sediment impairment in urban creeks.

## 11. Watershed Management

The Permittees shall implement watershed management measures based on identification of relevant watershed characteristics (land imperviousness, conditions of creeks, land uses, etc.) and identification of control measures and other actions in the Management Plan that are appropriately implemented on a watershed basis with the recognition that there may be unique values, problems, goals, and strategies specific to individual watersheds. Watershed management measures also seek to develop and implement the most cost effective approaches to solving identified problems and to coordinate these activities with other related programs.

- a. The Permittees shall submit to the Regional Board, within a year after adoption of this Order, a report concerning the integration of watershed management activities into the Management Plan. The Program may submit this report on behalf of the Permittees. The report shall, at a minimum:
  - i. Identify the watersheds that are relevant to each Permittee;
  - ii. Identify key characteristics related to urban runoff in each watershed and program elements related to such characteristics;
  - iii. Provide a priority listing of watersheds to be assessed and a schedule for conducting such assessments, including: 1) investigating beneficial uses and causes of impairment, 2) reviewing, compiling, and disseminating environmental data, and 3) developing and implementing strategies for controlling adverse impacts of land use on beneficial uses;
  - iv. Assess each Permittee's implementation of watershed management activities; and,
  - v. Outline steps needed for improvement in addressing priorities within each watershed.
- b. The Program should also work with Regional Board staff to apply a regulatory strategy that allows the Permittees to find ways to coordinate with other agencies within a specific watershed to protect beneficial uses.

## 12. Modifications to the Management Plan

It is anticipated that the Management Plan may need to be modified, revised, or amended from time to time to respond to changed conditions and to incorporate more effective approaches to pollutant control. Requests for changes may be initiated by the Executive Officer or by the Permittees. Minor changes may be made with the Executive Officer's approval and will be brought to the Regional Board as information items and the Permittees and interested parties will be notified accordingly. If proposed changes imply a major revision of the Program, the Executive Officer shall bring such changes before the Regional Board as permit amendments and notify the Permittees and interested parties accordingly.

## 13. Modifications to this Order

This Order may be modified, or alternatively, revoked or reissued, prior to the expiration date as follows:

- a. To address significant changed conditions identified in the technical reports required by the Regional Board that were unknown at the time of the issuance of this Order;
- b. To incorporate applicable requirements of statewide water quality control plans adopted by the State Board or amendments to the Basin Plan approved by the State Board; or
- c. To comply with any applicable requirements, guidelines, or regulations issued or approved under Section 402(p) of the CWA, if the requirement, guideline, or regulation so issued or approved

contains different conditions or additional requirements not provided for in this Order. The Order as modified or reissued under this paragraph shall also contain any other requirements of the CWA then applicable.

14. Each of the Permittees shall comply with all parts of the Standard Provisions contained in Appendix A of this Order.
15. This Order expires on February 19, 2008, five years from the date of adoption of this Order by the Regional Board. The Permittees must file a Report of Waste Discharge in accordance with Title 23, California Code of Regulations, not later than 180 days in advance of such date as application for reissuance of waste discharge requirements.
16. Order Nos. 97-030 and 99-049 are hereby rescinded.

I, Loretta K. Barsamian, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on February 19, 2003.

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Loretta K. Barsamian  
Executive Officer

APPENDICES:

PROVISION C.3 REQUIREMENTS:

Table 1. Summary of Annual and One-Time Reporting Requirements

Table 2. Implementation Schedule

STANDARD PROVISIONS

ATTACHMENT A - Alameda Countywide Clean Water Program Stormwater Quality Management Plan - Title Page and Table of Contents

ATTACHMENT B - Watershed Assessment and Monitoring Strategy for Fiscal Years 2002-2008

ATTACHMENT C - Municipalities and Major Open Creeks and Waterbodies in Alameda County

**Table 1: Summary of Annual and One-Time Reporting Requirements**

Provision	Information to Report	Date
C.3.b <i>Project Approval Process</i>	List of any modifications made to development project approval process	2004 & 2005 Annual Reports
	Modification of project review processes completed	Feb. 15, 2005
C.3.c.iii	Optional: Propose an Alternative Group 2 Project definition	No deadline
C.3.e <i>O &amp; M</i>	Details of O&M verification program: organizational structure, evaluation, proposed improvements, list/# of inspections and follow-up	Beginning with 2005 Annual Report
C.3.f <i>Peak Runoff Limitation</i>	Submit a detailed workplan and schedule	Feb. 15, 2004
	Submit literature review	Feb. 15, 2004
	Submit draft Hydrograph Modification Management Plan (HMP)	Nov. 15, 2004
	Submit final HMP for Regional Board approval	May 15, 2005
C.3.g <i>Alternative Compliance</i>	Name and location of alternative project or exemption; Project type and size; Area or percent impervious surface; Reason for granting the alternative project or exemption; Terms of the alternative project or exemption; The stormwater treatment project or regional project receiving the benefit, and the date of completion of the project.	In each Annual Report; Begin the year an alternative project granted
C.3.h <i>Alternate Certification</i>	List the projects certified by someone other than a Discharger employee	In each Annual Report
C.3.j <i>Site Design Guidance</i>	Summarize the status of review, revision, and implementation of Site Design Measures Guidance and standards	In each Annual Report
	Submit workplan and schedule for revision of guidance	August 15, 2003
	Submit draft proposal of revised standards and guidance	Nov. 15, 2004
	Summarize how any revisions to site design standards and/or guidance have been incorporated into local approval process	Beginning with 2005 Annual Report
C.3.k <i>Source Control</i>	Submit draft conditions of approval document for source control measures	August 15, 2004
	Summarize how any revisions to source control measures guidance document have been implemented	Beginning with 2005 Annual Report
C.3.l <i>General Plan</i>	Summarize any revisions to General Plans that direct land-use decisions and require implementation of consistent water quality protection measures for development projects	In Annual Reports
C.3.n <i>Reporting</i>	List new development and redevelopment projects by name, type of project (using the categories in Provision C.3.c.), site acreage or square footage, square footage of new impervious surface. Where applicable, report treatment measures and numeric sizing criteria used, O&M responsibility mechanism, site design measures used, and source control measures required	In each Annual Report following implementation

**Table 2: Implementation Schedule**

Provision	Action	Implementation Date
C.3.b	Modify development project approval process as needed	February 15, 2005
C.3.c <i>Project Categories</i>	Require stormwater treatment measures at Group 1 Projects	February 15, 2005
	Require stormwater treatment measures at Group 2 Projects in addition to Group 1 Projects	August 15, 2006
	Optional: Propose an Alternative Group 2 Project definition	No deadline
C.3.e <i>O &amp; M</i>	Implement an O&M verification program for Group 1 Projects	July 1, 2004
	Begin reporting on O&M verification program in Annual Report	Annually, beginning with Annual Report to be submitted September 2005
	Vector Control Plan	June 1, 2004
C.3.f <i>Peak Runoff Limitation</i>	Submit a detailed workplan and schedule	February 15, 2004
	Submit literature review	February 15, 2004
	Submit draft HMP	November 15, 2004
	Submit final HMP for Regional Board approval Implement HMP	May 15, 2005 Following Regional Board approval
C.3.g <i>Alternative Compliance</i>	Report on any alternative project or exemption(s) granted by the Discharger in Annual Report, due September of each year	Begin the year an alternative project granted
C.3.j <i>Site Design</i>	Submit workplan and schedule for completion of review, revision, and implementation of design standards and guidance	August 15, 2003
	Submit draft proposal of revised standards and guidance	Nov. 15, 2004
	Incorporate revisions into local process and fully implement site design standards and guidance	Nov. 15, 2005
C.3.k <i>Source Control</i>	Submit draft conditions of approval document for source control measures	August 15, 2004
	Implement source control measures guidance document	February 15, 2005
C.3.l <i>General Plans</i>	Confirm that any water quality and watershed protection principles and policies necessary to implement measures required by Provision C.3. for applicable development projects have been incorporated into General Plan or equivalent plan	By Implementation Date of corresponding action
C.3.m	Revise Environmental Review Processes as needed to evaluate water quality impacts of stormwater runoff from new development and significant redevelopment	May 15, 2004
C.3.n <i>Reporting</i>	See Table 1	See Table 1

**CALIFORNIA REGIONAL WATER QUALITY CONTROL BOARD  
SAN FRANCISCO BAY REGION**

August 1993

STANDARD PROVISIONS AND REPORTING REQUIREMENTS

For

NPDES SURFACE WATER DISCHARGE PERMITS

**A. GENERAL PROVISIONS**

1. Neither the treatment nor the discharge of pollutants shall create a pollution, contamination, or nuisance as defined by Section 13050 of the California Water Code.
2. All discharges authorized by this Order shall be consistent with the terms and conditions of this Order.
3. Duty to Comply
  - a. If a toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is established under Section 307(a) of the Clean Water Act, or amendments thereto, for a toxic pollutant which is present in the discharge authorized herein and such standard or prohibition is more stringent than any limitation upon such pollutant in a Board adopted Order, discharger must comply with the new standard or prohibition. The Board will revise or modify the Order in accordance with such toxic effluent standard or prohibition and so notify the discharger.
  - b. If more stringent applicable water quality standards are approved pursuant to Section 303 of the Clean Water Act, or amendments thereto, the discharger must comply with the new standard. The Board will revise and modify this Order in accordance with such more stringent standards.
  - c. The filing of a request by the discharger for a permit modification, revocation and reissuance, or termination, or a notification of planned changes or anticipated noncompliance does not stay any permit condition. [40 CFR 122.41(f)]
4. Duty to Mitigate

The discharger shall take all reasonable steps to minimize or prevent any discharge in violation of this order and permit which has a reasonable likelihood

of adversely affecting public health or the environment, including such accelerated or additional monitoring as requested by the Board or Executive Officer to determine the nature and impact of the violation. [40 CFR 122.41(d)]

5. Pursuant to U.S. Environmental Protection Agency regulations the discharger must notify the Regional Board as soon as it knows or has reason to believe (1) that they have begun or expect to begin, use or manufacture of a pollutant not reported in the permit application, or (2) a discharge of toxic pollutants not limited by this permit has occurred, or will occur, in concentrations that exceed the limits specified in 40 CFR 122.42(a).
6. The discharge of any radiological, chemical, or biological warfare agent waste is prohibited.
7. All facilities used for transport, treatment, or disposal of wastes shall be adequately protected against overflow or washout as the result of a 100-year frequency flood.
8. Collection, treatment, storage and disposal systems shall be operated in a manner that precludes public contact with wastewater, except where excluding the public is inappropriate, warning signs shall be posted.
9. Property Rights

This Order and Permit does not convey any property rights of any sort or any exclusive privileges. The requirements prescribed herein do not authorize the commission of any act causing injury to the property of another, nor protect the discharger from liabilities under federal, state or local laws, nor create a vested right for the discharge to continue the waste discharge or guarantee the discharger a capacity right in the receiving water. [40 CFR 122.41(g)]

#### 10. Inspection and Entry

The Board or its authorized representatives shall be allowed:

- a. Entry upon premises where a regulated facility or activity is located or conducted, or where records are kept under the conditions of the order and permit;
- b. Access to and copy at, reasonable times, any records that must be kept under the conditions of the order and permit;
- c. To inspect at reasonable times any facility, equipment (including monitoring and control equipment), practices, or operations regulated or required under the order and permit; and



- d. To photograph, sample, and monitor, at reasonable times for the purpose of assuring compliance with the order and permit or as otherwise authorized by the Clean Water Act, any substances or parameters at any locations. [40 CFR 122.41(i)]

#### 11. Permit Actions

This Order and Permit may be modified, revoked and reissued, or terminated in accordance with applicable State and/or Federal regulations. Cause for taking such action includes, but is not limited to any of the following:

- a. Violation of any term or condition contained in the Order and Permit;
- b. Obtaining the Order and Permit by misrepresentation, or by failure to disclose fully all relevant facts;
- c. Endangerment to public health or environment that can only be regulated to acceptable levels by order and permit modification or termination; and
- d. Any condition that requires either a temporary or permanent reduction or elimination of the authorized discharge.

#### 12. Duty to Provide Information

The discharger shall furnish, within a reasonable time, any information the Board may request to determine whether cause exists for modifying, revoking and reissuing, or terminating the permit. The discharger shall also furnish to the Board, upon request, copies of records required to be kept by its permit. [40 CFR 122.41(h)]

#### 13. **Bypass** (the intentional diversion of waste streams from any portion of a treatment facility) is prohibited. The Board may take enforcement action against the discharger for plant bypass unless:

- a. Bypass was unavoidable to prevent loss of life, personal injury, or severe property damage. (Severe property damage means substantial physical damage to property, damage to the treatment facilities that causes them to become inoperable, or substantial and permanent loss of natural resources that can reasonably be expected to occur in the absence of a bypass. Severe property damage does not mean economic loss caused by delays in production.);
- b. There were no feasible alternatives to the bypass, such as the use of auxiliary treatment facilities, retention of untreated wastes, or maintenance during normal periods of equipment down time. This condition is not satisfied if adequate back-up equipment should have been installed in the exercise of

reasonable engineering judgment to prevent a bypass which occurred during normal periods of equipment downtime or preventive maintenance; and

- c. The discharger submitted advance notice of the need for a bypass to the Board. If the discharger knows in advance of the need for a bypass, it shall submit prior notice, if possible at least 10 days before the date of the bypass. The discharger shall submit notice of an unanticipated bypass as required by 40 CFR 122.41(1)(6) (24 hour notice), as required in paragraph E.6.d.

The discharger may allow a bypass to occur that does not cause effluent limitations to be exceeded, but only if it is for essential maintenance to assure efficient operation.

#### 14. Availability

A copy of this permit shall be maintained at the discharge facility and be available at all times to operating personnel.

#### 15. Continuation of Expired Permit

This permit continues in force and effect until a new permit is issued or the Board rescinds the permit. Only those dischargers authorized to discharge under the expiring permit are covered by the continued permit.

### **B. STANDARD STORM WATER PROVISIONS**

These provisions apply to facilities which do not direct all storm water flows to the wastewater treatment plant headworks.

1. The Storm Water Pollution Prevention Plan (SWPP Plan) shall be designed in accordance with good engineering practices and shall address the following objectives:
  - a. to identify pollutant sources that may affect the quality of storm water discharges; and
  - b. to identify, assign, and implement control measures and management practices to reduce pollutants in storm water discharges.

The SWPP Plan may be combined with the existing spill prevention plan as required in accordance with Provision E.5. The SWPP Plan shall be retained on-site and made available upon request of a representative of the Board.

#### 2. Source Identification

The SWPP Plan shall provide a description of potential sources which may be expected to add significant quantities of pollutants to storm water discharges, or

which may result in non-storm water discharges from the facility. The SWPP Plan shall include, at a minimum, the following items:

- a. A topographical map (or other acceptable map if a topographical map is unavailable), extending one-quarter mile beyond the property boundaries of the facility, showing: the wastewater treatment facility process areas, surface water bodies (including springs and wells), and the discharge point(s) where the facility's storm water discharges to a municipal storm drain system or other points to waters of the State. The requirements of this paragraph may be included in the site map required under the following paragraph if appropriate.
- b. A site map showing:
  - i. Storm water conveyance, drainage, and discharge structures;
  - ii. An outline of the storm water drainage areas for each storm water discharge point;
  - iii. Paved areas and buildings;
  - iv. Areas of pollutant contact with storm water or release to storm water, actual or potential, including but not limited to outdoor storage, and process areas, material loading, unloading, and access areas, and waste treatment, storage, and disposal areas;
  - v. Location of existing storm water structural control measures (i.e., berms, coverings, etc.);
  - vi. Surface water locations, including springs and wetlands;
  - vii. Vehicle service areas.
- c. A narrative description of the following:
  - i. Wastewater treatment process activity areas;
  - ii. Materials, equipment, and vehicle management practices employed to minimize contact of significant materials of concern with storm water discharges;
  - iii. Material storage, loading, unloading, and access areas;
  - iv. Existing structural and non-structural control measures (if any) to reduce pollutants in storm water discharge;
  - v. Methods of on-site storage and disposal of significant materials.
- d. A list of pollutants that have a reasonable potential to be present in storm water discharge in significant quantities.

### 3. Storm Water Management Controls

The SWPP Plan shall describe the storm water management controls appropriate for the facility and a time schedule for fully implementing such controls. The appropriateness and priorities of controls in the SWPP Plan shall reflect identified potential sources of pollutants. The description of storm water management controls to be implemented shall include, as appropriate:

a. Storm Water Pollution Prevention Personnel

Identify specific individuals (and job titles) who are responsible for developing, implementing, and reviewing the SWPP Plan.

b. Good Housekeeping

Good housekeeping requires the maintenance of clean, orderly facility areas that discharge storm water. Material handling areas shall be inspected and cleaned to reduce potential for pollutants to enter the storm drain conveyance system.

c. Spill Prevention and Response

Identify areas where significant materials can spill into or otherwise enter the storm water conveyance systems and their accompanying drainage points. Specific material handling procedures, storage requirements, cleanup equipment and procedures should be identified, as appropriate. The necessary equipment to implement a clean up shall be available and personnel trained in proper response, containment and cleanup of spills. Internal reporting procedures for spills of significant materials shall be established.

d. Source Control

Source controls, such as elimination or reduction of the use of toxic pollutants, covering of pollutant source areas, sweeping of paved areas, containment of potential pollutants, labeling all storm drain inlets with "No Dumping" signs, isolation/separation of industrial from non-industrial pollutant sources so that runoff from these areas does not mix, etc.

e. Storm Water Management Practices

Storm water management practices are practices other than those which control the sources of pollutants. They include treatment/conveyance structures such as drop inlets, channels, retention/detention basins, treatment vaults, infiltration galleries, filters, oil/water separators, etc. Based on assessment of the potential of various sources to contribute pollutants to storm water discharges in significant quantities, additional storm water management practices to remove pollutants from storm water discharges shall be implemented and design criteria shall be described.

f. Sediment and Erosion Control

Measures to minimize erosion around the storm water drainage and discharge points such as riprap, revegetation, slope stabilization, etc. shall be described and implemented.

g. Employee Training

Employee training programs shall inform all personnel responsible for implementing the SWPP Plan. Training should address spill response, good housekeeping, and material management practices. New employee and refresher training schedules should be identified.

h. Inspections

All inspections shall be done by trained personnel. Material handling areas shall be inspected for evidence of, or the potential for, pollutants entering storm water discharges. A tracking or follow up procedure shall be used to ensure appropriate response has been taken in response to an inspection. Inspections and maintenance activities shall be documented and recorder. Inspection records shall be retained for five years.

i. Records

A tracking and follow-up procedure shall be described to ensure that adequate response and corrective actions have been taken in response to inspections.

4. An annual facility inspection shall be conducted to verify that all elements of the SWPP Plan are accurate and up to date. This results of this review shall be reported in the annual report to the Board on October 1 of each year.

### C. SLUDGE MONITORING AND REPORTING

1. When sewage sludge is either sent to a landfill or applied to land as a soil amendment it should be monitored as follows:

- a. Sewage sludge disposal shall be monitored at the following frequency:

<b>Metric tons sludge/365 days</b>	<b>Frequency</b>
0-290	Once per year
290-1500	Quarterly
1500-15,000	Six times per year
Over 15,000	Once per month

(Metric tons are on a dry weight basis)

- b. Sludge shall be monitored for the following constituents:

Land Application: As, Cd, Cr, Cu, Hg, Mo, Ni, Pb, Se, Zn  
Municipal Landfill: Paint filter test (pursuant 40 CFR 258)

Sludge-only Landfill: As, Cd, Ni, (if no liner and leachate system)

2. The sludge must meet the following requirements prior to land application. The discharger must either demonstrate compliance or, if it sends the sludge to another party for further treatment and/or distribution, must give the recipient the information necessary to assure compliance.
  - a. Exceptional quality sludge: Sludge that meets the pollutant concentration limits in Table III of 40 CFR Part 503.13, Class A pathogen limits, and one of the vector attraction reduction requirements in 503.33(b)(1)-(b)(8) is exceptional quality sludge and does not have to be tracked further for compliance with general requirements (503.12) and management practices (503.14).
  - b. Sludge used for agricultural land, forest, or reclamation shall meet the pollutant limits in Table I (ceiling concentrations) and Table II or Table III (cumulative loadings or pollutant concentration limits) of 503.13. It shall also meet the general requirements (503.12) and management practices (503.14) (if not exceptional quality), Class A or Class B pathogen levels with associated access restrictions (503.32) and one of the 10 vector attraction reduction requirements in 503.33(b)(1)-(b)(10).
  - c. Sludge used for lawn or home gardens must meet exceptional quality sludge limits.
  - d. Sludge that is sold or given away in a bag or other container shall meet the pollutant limits in either Table III or Table IV (pollutant concentration limits or annual pollutant loading rate limits) of 503.13. If Table IV is used, a label or information sheet must be attached that explains Table IV (see 503.14). The sludge must also meet the Class A pathogen limits and one of the vector attraction reduction requirements in 503.33(b)(1)-(b)(8).

#### **D. TREATMENT RELIABILITY**

1. The discharger shall, at all times, properly operate and maintain all facilities and systems of treatment disposal and control (and related appurtenances) which are installed or used by the discharger to achieve compliance with this order and permit. Proper operation and maintenance also includes adequate laboratory controls and appropriate quality assurance procedures. All of these procedures shall be described in an Operation and Maintenance Manual. The discharger shall keep in a state of readiness all systems necessary to achieve compliance with the conditions of this order and permit. All systems, both those in service and reserve, shall be inspected and maintained on a regular basis. Records shall be kept of the tests and made available to the Board. [40 CFR 122.41(e)]
2. Safeguard to electric power failure:

- a. The discharger shall, within ninety (90) days of the effective date of this permit, submit to the Board for approval a description of the existing safeguards provided to assure that, should there be reduction, loss, or failure of electric power, the discharger shall comply with the terms and conditions of its Order. Such safeguards may include alternate power sources, standby generators, retention capacity, operating procedures or other means. A description of the safeguards provided shall include an analysis of the frequency, duration, and impact of power failures experienced over the past five years on effluent quality and on the capability of the discharger to comply with the terms and conditions of the Order. The adequacy of the safeguards is subject to the approval of the Regional Board.
  - b. Should the Board not approve the existing safeguards, the discharger shall, within ninety (90) days of having been advised by the Board that the existing safeguards are inadequate, provide to the Board and the U.S. Environmental Protection Agency a schedule of compliance for providing safeguards such that in the event of reduction, loss, or failure of electric power, the permittee shall comply with the terms and conditions of this permit. The schedule of compliance shall, upon approval of the Board Executive Officer, become a condition of the Order.
  - c. If the discharger already has approved plan(s), the plan shall be revised and updated as specified in the plan or whenever there has been a material change in design or operation. A revised plan shall be submitted to the Board within ninety (90) days of the material change.
3. POTW facilities subject to this order and permit shall be supervised and operated by persons possessing certificates of appropriate grade pursuant to Division 4, Chapter 14, Title 23 of the California Code of Regulations.

## **E. GENERAL REPORTING REQUIREMENTS**

### **1. Signatory Requirements**

- a. All reports required by the order and permit and other information requested by the Board or USEPA Region 9 shall be signed by a principal executive officer or ranking elected official of the discharger, or by a duly authorized representative of that person. [40 CFR 122.22(b)]
- b. Certification

All reports signed by a duly authorized representative under Provision E.1.a. shall contain the following certification:

"I certify under penalty of law that this document and all attachments are prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who managed the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations. [40 CFR 122.22(d)]

2. Should the discharger discover that it failed to submit any relevant facts or that it submitted incorrect information in any report, it shall promptly submit the missing or correct information. [40 CFR 122.41(l)(8)]

### 3. False Reporting

Any person who knowingly makes any false statement, representation, or certification in any record or other document submitted or required to be maintained under this permit, including monitoring reports or reports of compliance or noncompliance shall be subject to enforcement procedures as identified in Section F of these Provisions.

### 4. Transfers

- a. This permit is not transferable to any person except after notice to the Board. The Board may require modification or revocation and reissuance of the permit to change the name of the permittee and incorporate such other requirements as may be necessary under the Clean Water Act.
- b. Transfer of control or ownership of a waste discharge facility under an National Pollutant Discharge Elimination System permit must be preceded by a notice to the Board at least 30 days in advance of the proposed transfer date. The notice must include a written agreement between the existing discharger and proposed discharger containing specific dates for transfer of responsibility, coverage, and liability between them. Whether an order and permit may be transferred without modification or revocation and reissuance is at the discretion of the Board. If order and permit modification or revocation and reissuance is necessary, transfer may be delayed 180 days after the Board's receipt of a complete application for waste discharge requirements and an NPDES permit.

### 5. Spill Prevention and Contingency Plans

The discharger shall file with the Board, for Executive Officer review and approval within ninety (90) days after the effective date of this Order, a technical report or a statement that the existing plan(s) was reviewed and updated, as



appropriate, on preventive (failsafe) and contingency (cleanup) plans for controlling accidental discharges, and for minimizing the effect of such events. The technical report or updated revisions should:

- a. Identify the possible sources of accidental loss, untreated or partially treated waste bypass, and polluted drainage. Loading and storage areas, power outage, waste treatment unit outage, and failure of process equipment, tanks and pipes should be considered.
- b. Evaluate the effectiveness of present facilities and procedures and state when they became operational.
- c. Predict the effectiveness of the proposed facilities and procedures and provide an implementation schedule containing interim and final dates when they will be constructed, implemented, or operational.

This Board, after review of the technical report or updated revisions, may establish conditions which it deems necessary to control accidental discharges and to minimize the effects of such events. Such conditions may be incorporated as part of this Order, upon notice to the discharger. If the discharger already has an approved plan(s) he shall update them as specified in the plan(s).

#### 6. Compliance Reporting

##### a. Planned Changes

The discharger shall file with the Board a report of waste discharge at least 120 days before making any material change or proposed change in the character, location or volume of the discharge.

##### b. Compliance Schedules

Reports of compliance or noncompliance with, or any progress reports on, interim and final compliance dates contained in any compliance schedule shall be submitted within 10 working days following each scheduled date unless otherwise specified within this order and permit. If reporting noncompliance, the report shall include a description of the reason for failure to comply, a description and schedule of tasks necessary to achieve compliance and an estimated date for achieving full compliance. A final report shall be submitted within 10 working days of achieving full compliance, documenting full compliance

##### c. Anticipated Non-compliance

All POTWs must provide adequate notice to the Board of:

- i. Any introduction of new pollutants into the POTW from an indirect discharger that would be subject to Sections 301 or 306 of the Clean Water Act if it were directly discharging those pollutants.
- ii. Any substantial or material change in the volume or character of pollutants being introduced into that POTW by an input source at the time of issuance of the permit.

Adequate notice shall include information on the quality and quantity of influent introduced into the POTW as well as any anticipated impact of the change on the quantity or quality of effluent to be discharged from the POTW.

- d. Non-compliance Reporting (Twenty-four hour reporting:)
  - i. The discharger shall report any noncompliance that may endanger health or the environment. All pertinent information shall be provided orally within 24 hours from the time the discharger becomes aware of the circumstances. A written submission shall also be provided within five working days of the time the discharger becomes aware of the circumstances. The written submission shall contain a description of the noncompliance and its cause; the period of noncompliance, including exact dates and times and, if the noncompliance has not been corrected, the anticipated time it is expected to continue; and steps taken or planned to reduce, eliminate, and prevent reoccurrence of the noncompliance.
  - ii. The following shall be included as information that must be reported within 24 hours under this paragraph:
    - (1) Any unanticipated bypass that exceeds any effluent limitation in the permit.
    - (2) Any upset that exceeds any effluent limitation in the permit.
    - (3) Violation of a maximum daily discharge limitation for any of the pollutants listed in this permit to be reported within 24 hours.
    - (4) The Board may waive the above-required written report on a case-by-case basis.

## **F. ENFORCEMENT**

1. The provision contained in this enforcement section shall not act as a limitation on the statutory or regulatory authority of the Board.

2. Any violation of the permit constitutes violation of the California Water Code and regulations adopted hereunder and the provisions of the Clean Water Act, and is the basis for enforcement action, permit termination, permit revocation and reissuance, denial of an application for permit reissuance; or a combination thereof.
3. The Board may impose administrative civil liability, may refer a discharger to the State Attorney General to seek civil monetary penalties, may seek injunctive relief or take other appropriate enforcement action as provided in the California Water Code or federal law for violation of Board orders.
4. It shall not be a defense for a discharger in an enforcement action that it would have been necessary to halt or reduce the permitted activity in order to maintain compliance with the conditions of this order and permit.
5. A discharger seeking to establish the occurrence of any upset (See Definitions, G. 24) has the burden of proof. A discharger who wishes to establish the affirmative defense of any upset in an action brought for noncompliance shall demonstrate, through properly signed contemporaneous operating logs, or other relevant evidence that:
  - a. an upset occurred and that the permittee can identify the cause(s) or the upset;
  - b. the permitted facility was being properly operated at the time of the upset;
  - c. the discharger submitted notice of the upset as required in paragraph E.6.d.; and
  - d. the discharger complied with any remedial measures required under A.4.

No determination made before an action for noncompliance, such as during administrative review of claims that noncompliance was caused by an upset, is final administrative action subject to judicial review.

In any enforcement proceeding, the discharger seeking to establish the occurrence of any upset has the burden of proof. [40 CFR 122.41(n)]

## G. DEFINITIONS

1. Bypass means the intentional diversion of waste streams from any portion of treatment facility.
2. Daily discharge means:

- a. For flow rate measurements, the average flow rate measured during a calendar day or during any 24-hour period reasonably representative of the calendar day for purposes of sampling.
  - b. For pollutant measurements, the concentration or mass emission rate measured during a calendar day or during any 24-hour period reasonably representative of the calendar day for purposes of sampling.
3. Daily Maximum Limit means the maximum acceptable daily discharge. For pollutant measurements, unless otherwise specified, the results to be compared to the daily maximum limit are based on composite samples.
  4. DDT and Derivatives shall mean the sum of the p,p' and o,p' isomers of DDT, DDD (TDE), and DDE.
  5. Duly authorized representative is one whose:
    - a. Authorization is made in writing by a principal executive officer or ranking elected official;
    - b. Authorization specifies either an individual or a position having responsibility for the overall operation of the regulated facility or activity, such as general manager in a partnership, manager, operator of a well or a well field, superintendent, position of equivalent responsibility, or an individual or position having overall responsibility for environmental matters for the company. (A duly authorized representative may thus be either a named individual or any individual occupying a named position.); and
    - c. Written authorization is submitted to the USEPA Region 9. If an authorization becomes no longer accurate because a different individual or position has responsibility for the overall operation of the facility, a new authorization satisfying the requirements above must be submitted to the Board and USEPA Region 9 prior to or together with any reports, information, or applications to be signed by an authorized representative.
  6. Hazardous substance means any substance designated under 40 CFR 116 pursuant to Section 311 of the Clean Water Act.
  7. HCH shall mean the sum of the alpha, beta, gama (Lindane), and delta isomers of hexachlorocyclohexane.
  8. Inadequately Treated Waste is wastewater receiving partial treatment but failing to meet discharge requirements.
  9. Incompatible pollutants are:

- a. Pollutants which create a fire or explosion hazard in the POTW;
  - b. Pollutants which will cause corrosive structural damage to the POTW, or wastewaters with pH lower than 5.0 pH units, unless the facilities are specifically designed to accommodate such wastewater;
  - c. Solid or viscous pollutants in amounts which will cause obstruction to the flow in the POTW resulting in interference;
  - d. Any pollutant, including oxygen-demanding pollutants (e.g., BOD) released into the wastewater system at a flow rate and/or pollutant concentration which will cause interference with the POTW.
  - e. Heat in amounts which will inhibit biological activity in the POTW and result in interference, or heat in such quantities that the temperature at the POTW treatment plant exceeds 40°C (104°F) unless the works is designed to accommodate such heat or the Board approves alternate temperature limits.
10. Indirect discharger means a non-domestic discharger introducing pollutants into a publicly owned treatment and disposal system.
11. Initial dilution is the process which results in the rapid and irreversible turbulent mixing of wastewater with receiving water around the point of discharge.
12. Mass emission rate is obtained from the following calculation for any calendar day:

$$\text{Mass emission rate (lb/day)} = \frac{8.345}{N} \left( \sum_{i=1}^N Q_i C_i \right)$$

$$\text{Mass emission rate (kg/day)} = \frac{3.785}{N} \left( \sum_{i=1}^N Q_i C_i \right)$$

In which 'N' is the number of samples analyzed in any calendar day. 'Q<sub>i</sub>' and 'C<sub>i</sub>' are the flow rate (MGD) and the constituent concentration (mg/L), respectively, which are associated with each of the 'N' grab samples which may be taken in any calendar day. If a composite sample is taken, 'C<sub>i</sub>' is the concentration measured in the composite sample and 'Q<sub>i</sub>' is the average flow rate occurring during the period over which samples are composited. The daily concentration measured over any calendar day of all constituents shall be determined from the flow-weighted average of the same constituents in the combined waste streams as follows:

N

$$C_d = \text{Average daily concentration} = \frac{1}{Q_t} (\sum_{i=1}^N Q_i C_i)$$

In which 'N' is the number of component waste streams. 'Q' and 'C' are the flow rate (MGD) and the constituent concentration (mg/L), respectively, which are associated with each of the 'N' waste streams. 'Q<sub>t</sub>' is the total flow rate of the combined waste streams.

13. Maximum allowable mass emission rate, whether for a 24-hour, weekly 7-day, monthly 30-day, or 6-month period, is a limitation expressed as a daily rate determined with the formulas in paragraph above, using the effluent concentration limit specified in the order and permit for the period and the specified allowable flow. (Refer to Section C of Part A of Self-Monitoring Program for definitions of limitation period)
14. Overflow is defined as the intentional or unintentional spilling or forcing out of untreated or partially treated wastes from a transport system (e.g. through manholes, at pump stations, and at collection points) upstream from the plant headworks or from any treatment plant facilities.
15. POTW means Publicly Owned Treatment Works.
16. POTW Removal efficiency is expressed as the percentage of the ratio of pollutants removed by the treatment facilities to pollutants entering the treatment facilities. Removal efficiencies of a treatment plant shall be determined using monthly averages of pollutant concentration of influent and effluent samples collected at about the same time and using the following equation (or its equivalent):
 
$$\text{Removal Efficiency (\%)} = 100 \times [1 - (\text{Effluent Conc.} / \text{Influent Conc.})]$$

When preferred, the discharger may substitute mass loadings and mass emissions for the concentrations.
17. Priority pollutants are those constituents referred to in 40 CFR S122, Appendix D and listed in the USEPA NPDES Application Form 2C, (dated 6/80) Items V-3 through V-9.
18. Sludge means the solids, semi-liquid suspensions of solids, residues, screenings, grit, scum, and precipitates separated from, or created in wastewater by the unit processes of a treatment system. It also includes but is not limited to, all supernatant, filtrate, centrate, decantate, and thickener overflow/underflow in the solids handling parts of the wastewater treatment system.
19. Storm Water means storm water runoff, snow melt runoff, and surface runoff and drainage. It excludes infiltration and runoff from agricultural land.

20. Toxic pollutant means any pollutant listed as toxic under Section 307(a)(1) of the Clean Water Act or under 40 CFR S401.15.
21. Total Identifiable Chlorinated hydrocarbons (TICH) shall be measured by summing the individual concentrations of DDT, DDD, DDE, aldrin, BHC, chlordane, endrin, heptachlor, lindane, dieldrin, PCBs and other identifiable chlorinated hydrocarbons.
22. Severe property damage means substantial physical damage to property, damage to the treatment facilities which causes them to become inoperable or substantial and permanent loss of natural resources which can reasonably be expected to occur in the absence of a bypass or overflow. It does not mean economic loss caused by delays in production.
23. Untreated waste is defined as raw wastewater.
24. Upset means an exceptional incident in which there is unintentional temporary noncompliance with effluent technology based permit limitations in the order and permit because of factors beyond the reasonable control of the discharger. It does not include noncompliance to the extent caused by operational error, improperly designed treatment facilities, inadequate treatment facilities, lack of preventive maintenance, or careless or improper operation.
25. Waste, waste discharge, discharge of waste, and discharge are used interchangeably in this order and permit. The requirements of this order and permit are applicable to the entire volume of water, and the material therein, which is disposed of to surface and ground waters of the State of California.

**MEMBER AGENCIES:**

Alameda

Alameda County

Alameda County Flood  
Control and Water  
Conservation District

Albany

Berkeley

Dublin

Emeryville

Fremont

Hayward

Livermore

Newark

Oakland

Piedmont

Pleasanton

San Leandro

Union City

Zone 7 of the Alameda  
County Flood Control  
District

# *STORMWATER QUALITY MANAGEMENT PLAN*

*July 2001 – June 2008*



Alameda Countywide  
Clean Water Program

A Consortium of Local Agencies





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**Figure D-2. Major Open Creeks and Waterbodies in Alameda County**

**Figure D-3. Boundaries of Alameda County watersheds**

## **ACRONYMS**

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ACCWP	Alameda Countywide Clean Water Program
BASMAA	Bay Area Stormwater Management Agencies Association
BMPs	Best Management Practices
CDPR	California Department of Pesticide Regulation
CWA	Clean Water Act
DTSC	Department of Toxic Substances Control
FIFRA	Federal Insecticide, Fungicide and Rodenticide Act
FY	Fiscal Year
GBP	Green Business Program
GIS	Geographic Information Systems
HHW	Household Hazardous Waste
I&IDC	Industrial and Illicit Discharge Control
II&ID	Illicit Discharge Controls and Industrial/Commercial Discharge Controls
IPM	Integrated Pest Management
MOA	Memorandum of Understanding
NAS	National Academy of Sciences
NPDES	National Pollutant Discharge Elimination System
p <sup>2</sup>	Pollution Prevention
PCBs	Polychlorinated biphenyls
PCOs	Pest Control Operators
PI/P	Public Information and Participation
PRPs	Pollutant Reduction Plans
RMAS	Regional Monitoring and Assessment Strategy
RMP	Regional Monitoring Program for Trace Substances
SUSMPs	Standard Urban Stormwater Mitigation Plans
SWMM	Storm Water Management Model
TIEs	Toxicity Identification Evaluations
TMDL	Total Maximum Daily Load
U.S. EPA	United States Environmental Protection Agency
WAMS	Watershed Assessment and Monitoring Subcommittee

## **DEFINITIONS**

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Act	Porter-Cologne Water Quality Control Act
BMPs	Best Management Practices – Practices Implemented by private industry and public agencies which prevent or reduce water pollution.
District	Alameda County Flood Control and Water Conservation District
Plan	Stormwater Quality Management Plan
Program	Alameda County Clean Water Program
Regional Board	California Regional Water Quality Control Board, San Francisco Bay Region
Stakeholders	People that live and work in a watershed
State Board	State Water Resources Control Board



# **SECTION 1 INTRODUCTION AND BACKGROUND**

## **INTRODUCTION**

The Alameda Countywide Clean Water Program (Program) is a consortium of agencies within Alameda County that discharge stormwater to the San Francisco Bay. This Stormwater Quality Management Plan (Plan) describes the Program's approach to reducing stormwater pollution.

There are five major sections to the Plan. The Background provides a brief history of water quality regulations. The Program Description describes the structure, accomplishments, and recent developments of the Program. The Component Work Plans describe the objectives and tasks of each Program component. The Pollution Reduction Plans describe the actions the Program and the member agencies will take to address specific pollutants that are impairing water quality. Lastly, the Performance Standards list specific tasks that the member agencies are required to perform.

The Plan for FY 2001/02 through 2007/08 is the Program's third stormwater quality management plan and will serve as the basis of the Program's third stormwater discharge permit from the California Regional Water Quality Control Board, San Francisco Bay Region (Regional Board). The Plan was submitted to the Regional Board 180 days prior to the expiration of the Program's second permit on February 19, 2002. The federal Clean Water Act (1972) requires stormwater dischargers to reduce pollutants to the maximum extent practicable. The Plan, in conjunction with the permit adopted

by the Regional Board, is designed to enable the consortium to meet that requirement.

## **BACKGROUND**

### **HISTORY OF THE CLEAN WATER ACT**

By the late 1960s, urbanization and industrialization had taken a toll on the nation's waters: many rivers and bays were visibly polluted. In response to growing public concern over water pollution, Congress passed the Clean Water Act (1972). The goals of the Clean Water Act are to restore the biological, physical, and chemical integrity of our nation's waters and to make all of our waters fishable and swimmable.

Section 402 of the Clean Water Act (CWA) established the National Pollutant Discharge Elimination System (NPDES) permit program. The NPDES permit program set nationwide permitting requirements for discharging pollutants into waterways. The limits varied by category of industry and were based on a level of treatment that was achievable using the best available technology. The 1987 amendments to the CWA required that municipal stormwater discharges obtain NPDES permit coverage. These amendments required municipalities to effectively prohibit non-stormwater discharges to their storm drain systems and to implement controls to reduce pollutants in stormwater to the maximum extent practicable.

**PORTER-COLOGNE WATER QUALITY CONTROL ACT**

In California, the State Water Resources Control Board (State Board) along with the nine Regional Boards has primary responsibility for regulating water quality. The State Board has overall responsibility for water quality regulation under division 7 of the Porter-Cologne Water Quality Control Act (Act). This Act also divides the state into nine hydrological basins, for local administration of the Act by the semiautonomous Regional Boards with coordination and oversight from the State Board. The Regional Boards have authority to regulate point source discharges, such as municipal stormwater discharges, through the adoption of waste discharge requirements under chapter 5.5 of the Act. In addition, the responsibility for implementing the NPDES permit program has been delegated to the State Board and its local Region Boards.

**RECENT DEVELOPMENTS**

The implementation of the CWA has been very effective in cleaning up our nation's waters. The reduction of pollution has been particularly dramatic for industrial and sanitary treatment plant discharges. For example, the amount of metals being discharged from these sources decreased by about 60 percent between 1986 and 1999 (T. Wu, personal communication, February 2001). However, many of our nation's waters still do not meet the goals set forth in the CWA. Two approaches to address this problem are being implemented, namely, the total maximum daily load (TMDL) program,

and the watershed management approach.

**TMDL Program**

A TMDL is an estimate of the maximum quantity of a pollutant that could be discharged to a body of water while still ensuring the attainment of water quality standards. The TMDL program was established by Section 303 of the CWA. Congress correctly presumed that even after the implementation of technology based controls, some water bodies would not meet water quality standards. For each water body that does not meet applicable standards (referred to as "impaired"), a TMDL must be established. After the TMDL is established, additional requirements are placed on sources of the pollutant so that the total quantity of the pollutant discharged to the water body from all sources is no greater than the established TMDL.

In response to lawsuits, the U.S. Environmental Protection Agency (U. S. EPA) has recently initiated an intensive effort to develop TMDLs for all impaired waters. In the San Francisco Bay region, TMDLs are scheduled to be developed for mercury, PCBs, chlorinated pesticides, diazinon, sediment, and several other pollutants.

**Watershed Management Approach**

A watershed is the area of land that drains to a specific body of water. USEPA defines the watershed management approach as having the following components: problem identification, stakeholder involvement, and integrated actions. The watershed management approach is similar to the TMDL approach in that both address

water quality problems in a comprehensive manner. The difference between the two is that the TMDL approach is primarily a command and control approach, whereas the watershed management approach focuses on developing cooperative solutions. Under the watershed management approach, people that live and work in a watershed (stakeholders) develop a consensus regarding the best solutions to watershed problems. The watershed management approach can also encompass issues such as flood control, habitat restoration, and water supply, which are not specifically regulated by the CWA. This Plan describes the Program's involvement in both the TMDL program and the watershed management approach.

### **SUSMPs**

SUSMPs (Standard Urban Stormwater Mitigation Plans) represent a new initiative by the State Board and Regional Boards to control the detrimental effects on water quality caused by new development and redevelopment. The Los Angeles Regional Water Quality Control Board initiated the use of SUSMPs, and under appeal to the State Board, its use was upheld in October 2000 as the statewide standard for what constitutes maximum extent practicable stormwater controls. In the Bay area SUSMPs will need to be tailored to fit local hydrologic and development conditions.

The Alameda Countywide Clean Water Program has long implemented the portion of the SUSMPs requiring the use of BMPs. One of the new parts is the requirement specifying that about 85 percent of the volume of runoff typical of an average wet season must be

treated. Another new part will be the requirement to minimize the rate of runoff that flows from a project site in order to prevent increased erosion of creek channels.

It is expected that SUSMPs will be increasingly used to impose requirements on new development and redevelopment that will be more specific and numeric.





## SECTION 2

## PROGRAM DESCRIPTION

### MISSION, VISION, AND STRATEGIC OBJECTIVES

#### Mission

*The mission of the Alameda Countywide Clean Water Program is to help local residents, businesses and municipalities meet the stormwater quality goals of the Clean Water Act.*

#### Vision

*We, the member agencies, see the Alameda Countywide Clean Water Program as an innovative, nationally recognized leader in efficient and effective stormwater management, protecting and preserving our natural water resources and the San Francisco Bay.*

**Strategic Objectives:** To accomplish its mission and vision, the Program has developed the following strategic objectives:

- Continue our self-directed, proactive approach fostering trust and respect from regulators and business and environmental groups;
- Produce tangible water quality improvements through expanded collaborations with other organizations;
- Communicate a clear vision of the Program's goals and objectives to the public, and to member agencies' staff, management, and elected officials; and,
- Improve communication links and working relationships among departments within member agencies

and between the Program and Regional Board staff.

### PROGRAM STRUCTURE

The following agencies are members of the Program: the cities of Alameda, Albany, Berkeley, Dublin, Emeryville, Fremont, Hayward, Livermore, Newark, Oakland, Piedmont, Pleasanton, San Leandro, and Union City; the County of Alameda; the Alameda County Flood Control and Water Conservation District (District); and Zone 7 of the District. The Program was established in 1991 through a Memorandum of Agreement (MOA). The MOA established a General Program and individual programs. The General Program carries out activities in common on behalf of the member agencies. The individual programs are implemented by each member agency. A copy of the MOA is included in Appendix A.

As part of its individual program, each of the member agencies is responsible for complying with the NPDES permit requirements for discharges from its municipally owned storm drain system. The NPDES permit finds that enforcement actions will, wherever possible, be pursued only against the individual agency responsible for the violation. As an area wide activity, the General Program will inform any of the member agencies about potential significant permit compliance problems that it becomes aware of and will offer suggested solutions.

There are eight components to the Program: Planning and Regulatory

## SECTION 2

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Compliance, Watershed Assessment, Monitoring and Special Studies, Public Information and Participation, Municipal Maintenance Activities, New Development and Construction Controls, Illicit Discharge Controls, and Industrial/Commercial Discharge Controls. Component objectives and tasks are described in Section 4. Individual Program activities are described in the Performance Standards (Section 5). Each component is coordinated through a subcommittee that is composed of representatives of the member agencies. All subcommittees report to the Management Committee which is the official decision making body for the Program.

General Program activities are funded by the member agencies through contributions proportional to their area and population. The General Program budget for fiscal year 2001-2002 is \$2.1 million. A copy of the General Program component tasks and budgets for fiscal year 2001-2002 is included in Appendix B.

### **PROGRAM ACHIEVEMENTS**

The Program has enjoyed significant achievements, such as, increasing public awareness, developing a model inspection program, initiating a watershed approach, and identifying diazinon as a significant stormwater toxicant. A few of the Program's achievements are described below; other achievements are described in the component work plans.

#### **Public Awareness**

A major focus of the Program's effort has been to raise the public's awareness of stormwater pollution and the public's role in preventing it. To accomplish that goal the Program initiated numerous activities; including, (1) participated in the Bay Area Stormwater Management Agencies Association's regional television advertising campaign "When Ants Invade," which promoted the use of less toxic pest control practices and won a national advertising industry award; (2) sponsored the development of innovative outreach programs such as *Bay Savers* and *Kids in Creeks*, which encourage watershed awareness and pollution prevention among elementary school students; (3) distributed over 100,000 educational brochures, fact sheets and promotional items; (4) stenciled over 10,000 drop inlets with the "No Dumping Drains to Bay" message; (5) provided over fifty community stewardship grants to local teachers and student groups, environmental groups, service clubs, homeowner associations, and other clean water partners; and (6) implemented two major point of purchase campaigns to educate consumers about less toxic alternatives to pesticides. These efforts have been very successful: in a recent survey of Alameda County residents, 45% of respondents mentioned stormwater runoff as a major cause of water pollution and 74% believed that their behavior could affect water quality.<sup>1</sup>

#### **Model Industrial/Commercial Stormwater Inspection Program**

In 1993 the Program's municipalities started to conduct stormwater inspections combined with educational outreach to businesses. Since then, more than 10,000 inspections have been

conducted. Based on an evaluation of approximately 1,200 businesses inspected two or more times, the accomplishments of this inspection and educational effort include the following: 1) The number of non-stormwater discharges decreased by about one-fourth; 2) a decline of almost one-half occurred in the number of businesses judged to have a high potential to discharge pollutants to stormwater; and 3) an increase was observed in the use of Best Management Practices. In some ways the program has served as a model as judged by the use of Program's municipal inspection staff in 2000 to help train staff from the Regional Boards; the Program's receipt of a state grant in 1996 to develop a statewide inspection handbook; and the use of several of the inspection program's ideas by other municipal stormwater programs in the Bay area.

### **Watershed Approach**

During the past five years the Program has worked closely with its member agencies and local organizations to begin building successful collaborations in local watersheds. The Program has funded the development of watershed maps, which have been very useful to community groups, and has developed a countywide geographic information system (GIS) that includes data on topography, soil type, impervious surfaces, creeks, storm drains, sanitary sewer lines, water quality, fisheries, and habitat quality. In addition, the Program's member agencies have provided funding to support the development of creek groups and have been participating in numerous ongoing watershed efforts, including, Sausal Creek, Alameda Creek, Laguna Creek, San Leandro Creek, San Lorenzo Creek,

and Lake Merritt. This has resulted in improved stewardship for these creeks and thousands of volunteer hours dedicated to advocacy, clean up, educational outreach, restoration and other improvements to water quality.

### **Diazinon**

When the Program conducted its stormwater pollutant characterization effort (1990 through 1992), it was not anticipated that current generation pesticides would cause impairment of local creeks. However, through the use of toxicity tests and toxicity identification evaluations, the Program found that diazinon, a widely used insecticide, was a significant cause of stormwater toxicity.<sup>2</sup> That finding led to the eventual listing of local creeks as being impaired due to diazinon. After determining that diazinon was a prevalent toxicant, the Program conducted several studies to determine the sources of diazinon in stormwater. One of these studies found that the application of diazinon in accordance with label directions may be responsible for much of the diazinon found in stormwater.<sup>3</sup> The results of that study were cited in U. S. EPA's recent assessment of diazinon that resulted in a national ban on the sale of diazinon for urban use after 2004.<sup>4</sup>

### **EVOLUTION OF THE PROGRAM**

A great deal has been accomplished over the past ten years. However, as the Program moves into its third permit, it faces significant challenges. In particular, the listings of the bay and creeks as impaired by specific pollutants will require increased efforts to reduce the discharges of these pollutants in

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stormwater prior to and as part of TMDLs. The increased focus on other stormwater impacts to local creeks will also require additional effort.

### Response to Impairment

The Regional Board conducts periodic reviews of data on water bodies in the region to determine if any pollutant is causing an impairment. As a result of the Regional Board's 1998 review of existing data, the State Board and U. S. EPA listed San Francisco Bay as impaired due to several pollutants, including, mercury, polychlorinated biphenyls (PCBs), diazinon, chlorinated insecticides, and copper. Several creeks in Alameda County are also listed as impaired due to diazinon.

There are often multiple sources of these pollutants, for example, sources may include industrial and sanitary discharges, air emissions and deposition, historic deposits, or stormwater discharges. To address the contribution of these pollutants coming from Alameda County's stormwater discharge, the Program has developed Pollutant Reduction Plans (see Section 4). These Pollutant Reduction Plans provide a description of the problem the pollutants are causing, the known or suspected sources of the pollutant, and the Program's approach to minimizing its discharge of the pollutant. Also included is a list of tasks the Program will complete during the next two years (i.e., FY 2001/02 and 2002/03). These work plans are based on our current understanding of the sources and the appropriate next steps. Beginning in 2002, proposed tasks for future years will be submitted to the Board along with the Program's Annual Report.

### Local Watershed Efforts

The previous stormwater management plan recognized that the Program should investigate the watershed management approach as an alternative method for solving local environmental problems. In contrast to the traditional command and control regulatory approach, the watershed approach is characterized by collaborative planning among the various stakeholders in a watershed. The solutions derived from this approach typically take longer to develop, but are more tailored to the unique problems and characteristics of individual watersheds. During the past five years the Program has worked closely with its member agencies and other local organizations to begin building successful collaborations in local watersheds. As expected, each watershed has a unique combination of environmental problems, existing organizations, and restoration opportunities, requiring a patient and flexible approach to developing solutions.

This Plan commits the Program to continuing and expanding the use of the watershed management approach. In addition to the extensive effort that will be conducted under the Watershed Assessment component, the Program will conduct the following activities: (1) provide support to watershed stewardship efforts (Public Information and Participation: Task 3); (2) incorporate results of watershed resource inventories into General Plan amendments (New Development: Performance Standard VII); and, (3) provide Program-wide coordination of watershed activities (Planning and Regulatory Compliance: Task 4). The Program and its member agencies will

also continue to work with key stakeholders in local watersheds to determine how the management of stormwater quality can contribute to local creek protection and improvement efforts. To guide the implementation of the watershed approach, the Program will develop a watershed framework. The framework will lay out specific goals and a process for the Program's and its member agencies' participation in watershed management efforts.

### **Increased Planning and Evaluation**

Work plans and performance standards are divided into components. As in the past, the implementation of each component will be guided by a subcommittee. This structure has been very effective at allowing the Program to focus on specific areas of activity. However, there remains a need for greater planning and coordination across components. The Program has taken a number of steps to address this need. First, to provide a Program-wide focus to our efforts, the Program has developed mission and vision statements as well as strategic objectives. Second, the Plan includes a task to establish and maintain a work group to provide Program-wide planning and coordination (Planning and Regulatory Compliance: Task 6). The work group will meet on a regular basis and be attended by representatives of the various subcommittees. The development and implementation of Pollutant Reduction Plans will also promote coordination across components.

Another ongoing challenge for the Program, as well as for other stormwater management programs, is evaluating the effectiveness of its stormwater

management practices. Due to the tremendous variability in stormwater flow and the ubiquitous nature of stormwater pollutants, it is extremely difficult to detect reductions in pollutant concentrations. Therefore, alternative evaluation methods need to be developed and employed. To address this, the Program has begun to develop methods of assessment for each major task in the component work plans. The Program will continue to develop and implement these methods of assessment over the course of the permit. The Program will also conduct periodic Program-wide evaluations of effectiveness (Planning and Regulatory Compliance: Task 6).

### **Notes**

<sup>1</sup> *Results of the 1999 Public Attitude and Awareness Survey Regarding Storm Water Pollution*. 1999, Jenkinson Associates: Sacramento, CA.

<sup>2</sup> Hansen, S.R., *Identity and Control of Toxicity in Storm Water Discharges to Urban Creeks*. 1995, S.R. Hansen and Associates: Concord, CA.

<sup>3</sup> Scanlin, J. and Feng, A., *Characterization of the Presence and Sources of Diazinon in the Castro Valley Creek Watershed*. 1997, Alameda Countywide Clean Water Program: Hayward, CA.

<sup>4</sup> USEPA Memorandum, *Water Resources Assessment for Diazinon*. May 10, 1999, Office of Prevention, Pesticides and Toxic Substances, U.S. Environmental Protection Agency: Washington, D.C.



## **SECTION 3      COMPONENT OBJECTIVE AND TASKS**

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### **PLANNING AND REGULATORY COMPLIANCE**

#### **Introduction**

This component encompasses the major planning, regulatory compliance, watershed management, and administrative activities of the Program. The Policy Level Subcommittee oversees this component's activities.

#### **Component Objectives**

1. Promote the implementation of effective and reasonable stormwater regulations by participating in regulatory processes. This may include advocating legislation that benefits member agencies.
2. Promote permit compliance by assisting member agencies with reporting and related activities.
3. Improve Program effectiveness by partnering with outside organizations.
4. Protect and improve the physical, chemical and biological integrity of waters in Alameda County through the development of watershed partnerships and the coordination of watershed management efforts.
5. Develop and implement measures to effectively reduce pollutants causing or threatening to cause impairment.
6. Promote Program coordination through Program-wide planning and evaluation.
7. Provide essential management and legal services.

#### **Major Tasks**

##### **1. Participate in the Regulatory Process:**

- Review and comment on draft legislation and proposed regulations affecting stormwater
- Confer with the Regional Board and other stakeholders during reissuance or amendment of permit
- Participate in TMDL development and implementation process
- Coordinate with other storm water programs through the Bay Area Stormwater Management Agencies Association and the California Stormwater Quality Task Force

**Task Evaluation:** The evaluation of this task may include: 1) a review of the Program's participation in the regulatory process; and 2) an evaluation of the effectiveness of that participation.

##### **2. Assist Members with Permit**

**Compliance:** A fundamental objective of the Program is to ensure that the member agencies comply with the requirements of their permit. The objective of this task is to assist member agencies with the reporting requirements and ensure that reports are submitted on schedule.



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- Develop deliverable report forms
- Compile and submit completed deliverable reports to the Regional Board by required dates
- Review member agencies' performance
- Provide additional assistance with permit compliance as requested by member agencies, such as by providing orientation to new staff

**Task Evaluation:** The evaluation of this task may include: 1) a review of the completeness, and timeliness of report submittals; 2) a review of what the Regional Board staff needs included in the reporting; and 3) an assessment of any impediments to reporting as part reviewing the effectiveness of reporting formats and processes.

- 3. Develop Partnerships:** Many public and private organizations have objectives that overlap with the Program's objectives, examples include, Alameda County Household Hazardous Waste Program, Green Business Program, and the Alameda County Waste Management Authority. By working together with these groups and others, the Program will be able to improve its cost-effectiveness. The Program has already begun to build working relationships with these groups and others. The purpose of this task is to expand upon those partnerships and to pursue opportunities to create additional partnerships.

- Identify and prioritize issues where partnerships could significantly improve effectiveness

- Seek to develop or enhance partnerships with public and private organizations that have similar interests

**Task Evaluation:** The evaluation of this task may include: 1) enumeration of new or expanded partnerships, or 2) assessment of the benefits of those partnerships.

**4. Facilitate Watershed Approach:**

The Program is engaged in promoting a watershed approach through activities within several components: the Watershed Assessment component provides technical assistance such as habitat assessments and watershed mapping; the Public Information and Participation component sponsors projects that increase watershed awareness; and, the New Development and Construction Site Controls component's performance standards incorporate results of watershed resource inventories into General Plan amendments. In addition, throughout the county member agencies are participating in numerous watershed efforts. The purpose of this task is to coordinate and assist with these activities.

- Assess roles for and develop relationships with potential watershed partners: Regional organization such as the East Bay Municipal Utility District, Alameda County Water District, East Bay Regional Park District, and the Urban Creeks Council are potential partners in several county watersheds.
- Establish a work group to promote information exchange

and coordination among watershed efforts

- Update Watershed Framework Document and implement as appropriate

**Task Evaluation:** The evaluation of this task may include: 1) the number of new or expanded partnerships, and 2) a survey of agency staff regarding the usefulness of the coordination effort.

**5. Support Pollutant Reduction**

**Plans:** The Program has developed measures to address specific pollutants that are believed to be causing impairment to local water bodies. Planning activities related to the implementation and evaluation of those Plans will be conducted under this task.

- Implement aspects of the Pollutant Reduction Plans that fall within this component
- Coordinate implementing and updating the Pollutant Reduction Plans

**Task Evaluation:** Evaluation may include: 1) assessment of the level of implementation; and 2) qualitative assessment of effectiveness.

**6. Plan and Evaluate:** Planning and evaluation are essential if the Program is to be effective. This task provides for establishing a work

group to coordinate planning and evaluation across all components.

- Evaluate Program performance and coordinate development of Program-wide annual work plans
- Develop and maintain newsletter and website

**Task Evaluation:** The evaluation for this task may include an assessment of the Program's planning and evaluation process.

**7. Provide Management Services:**

The objective of this task is to provide essential administrative services to the member agencies.

- Provide Program management, contracting, accounting, and other administrative services, and produce reports on Program activities, expenditures, and performance
- Facilitate the Policy and Management Committee meetings

**Task Evaluation:** The evaluation for this task may include a review of the reporting processes and assessment of areas for possible improvement.

## WATERSHED ASSESSMENT

### Introduction

The Program's objectives for monitoring and assessment have evolved during its first ten years. Early monitoring emphasized testing stormwater, dry weather discharges and sediment to assess pollutant loads and stormwater impacts on San Francisco Bay.

However, in August 1996 the Regional Board staff requested that the Program and other municipal stormwater programs in the region redirect their monitoring resources from fixed-station, wet-weather monitoring, to increased watershed assessment and long-term monitoring plans for creeks and other waterbodies.

In November 1999 the Regional Board staff released the Regional Monitoring and Assessment Strategy (RMAS) that describes a regional framework and schedule for assessment of pilot watersheds by various agencies. A letter sent to stormwater agencies in February 2000 affirmed that their participation in the RMAS would meet the intent of NPDES permit's requirements for assessing watersheds and estimating pollutant loading. The letter supported a functional approach to watershed assessment, which would vary according to the conditions and beneficial uses found in each watershed. The Program has incorporated this approach into its Watershed Assessment component.

These assessments will vary depending on the condition of the watershed. Functional assessment of relatively undeveloped watersheds may focus on habitat and flow conditions needed to sustain fishery resources and other creek-dependent life.

In contrast, urbanized creeks are usually highly altered by land use changes in their watersheds, and assessment of such systems might focus on their ability to support existing uses, such as non-contact recreation and industrial water supply. In a report funded by the Program, Gunther et al. (2000) identified potential indicators or benchmarks for evaluating the condition of a creek's beneficial uses. These include measurements of individual pollutants, characterization of the amount and timing of creek flow, and surveys of diversity and composition of plant and animal communities living in creeks and adjacent riparian areas.

The Program's 1996-2001 Plan included activities aimed at exploring waterbody-specific approaches for improving water quality and increasing awareness and stewardship by local residents. Experiences from these pilot watershed activities have led to development of the Alameda County Watershed Framework. The Watershed Framework is a working document that describes potential roles for the Program, member agencies, and others in local watershed efforts.

The Watershed Assessment component includes activities to coordinate, manage and present watershed-specific information and spatial data.

Component tasks also include refining a suite of indicators of creek health and tailoring the content and presentation of data to make it more useful to managers and other stakeholders of local watershed-based initiatives. Activities under the

Monitoring and Special Studies component continue to include monitoring pollutant trends, evaluating the effectiveness of BMPs, and conducting special studies that have regional scope or are applicable to multiple watersheds. Coordination and facilitation of watershed-based activities are incorporated into the Planning and Regulatory Compliance component.

### **Component Objectives**

1. Develop and maintain a GIS resource for watershed information
2. Use a variety of indicators to assess the functional condition of creeks and watersheds.
3. Provide useful watershed information to the Program and other watershed stakeholders
4. Evaluate component effectiveness

### **Major Tasks**

1. **Develop and Maintain GIS for Watershed Information:** A Geographical Information System (GIS) is the most effective way to manage and analyze complex and diverse types of watershed data. The Program initiated a GIS-based inventory of ten pilot watersheds in FY 2000/01, building on an existing system developed for the San Lorenzo Creek watershed by the District. The objective of this task is to build a coordinated resource for watershed information that can be used by the Program, its member agencies and other watershed partners.
  - Expand available countywide coverages through conversion and data sharing with other agencies
  - Develop task list and schedule for adding GIS data and tools based on

- priorities of Program and local watershed efforts
- Maintain and update coverages, metadata standards and data-sharing agreements
- Coordinate with Program members, Monitoring and other Program components to incorporate additional data types
- Coordinate with the Monitoring and Special Studies component to integrate stormwater and sediment monitoring databases and establish protocols for linking rainfall and flow data

**Task Evaluation:** The evaluation of this task may include 1) review of completeness and quality of GIS coverages; and 2) evaluation of levels of participation in data-sharing by members and other agencies

2. **Characterize Functional Attributes of Creeks and Potential for Stormwater Impacts:** Beneficial uses, such as fisheries and wildlife, depend on natural ecosystem functions of creeks which link physical and chemical processes with biological populations of animals and plants, both in the creek channel and in the watershed as a whole. Because these systems are complex, watershed managers seek quantifiable indicators that may be applied over a range of conditions to help screen and characterize problems. Regional and national proposals for various indicators must be evaluated, calibrated and

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refined for use in Alameda County creeks.

- Establish expected values for selected biological indicators (e.g., macroinvertebrates and fish) in relatively natural channels
- Explore ranges of application of additional measures of creek function, e.g., habitat, riparian buffers, and alterations to flow regime
- Promote consistent, effective indicator application among the Program, its members and other partners including volunteer monitors.
- Coordinate with regional initiatives and assessment strategies

**Task Evaluation:** The evaluation of this task may include 1) review of where various indicators have been applied; and 2) evaluation of indicators' consistency and usefulness in guiding management in pilot watersheds.

### 3. Provide Useful Information To Assist Watershed Management Efforts:

As the General Program and its member agencies increase their participation in local stakeholder meetings and watershed management groups, specialized assessment needs will arise. Effective information presentation and data reporting may require tailoring to a variety of audiences ranging from agency workers to regulators and community groups. Products might include guidance on GIS mapping approaches, supporting materials for grant applications, and "report cards" or descriptions of constraints and

opportunities for watershed management.

- Continue inventory and assessment of the pilot group of creek segments or lakes, and establish a plan for assessing other creeks or lakes within the County
- Work with member agencies and other watershed stakeholders in mapping and identifying data needs for individual watersheds
- Explore ways to inventory existing patterns of BMP application and other localized spatial data
- Develop models for data presentation for different types of representative watersheds
- Present watershed and other spatial data on the Program website and provide user-friendly guidance for its use
- Coordinate data definitions and data management structures through regular meetings with the Regional Board staff, BASMAA Monitoring Committee, and other partners
- Compile assessment data requested by Regional Board staff for water quality assessment reports (Clean Water Act section 305(b))

**Task Evaluation:** The evaluation of this task may include 1) evaluation of overall assessment effort; and 2) review of form, content and distribution methods for assessment information products, with comments and feedback from partners and other data users.

**4. Management and Evaluation of Component Effectiveness:** The Program will prepare reports, budgets and other items to assist with management and implementation of this component. The effectiveness of implementation will be evaluated as part of the annual report. Annual activities and work plans will be guided by (a) priorities and objectives developed under task 1; and (b) annual review of Watershed Management-related tasks conducted under the Planning and Regulatory Compliance component. Implementation of this component will initially focus on establishing a GIS resource (Task 1), and emphasis will gradually shift to providing other useful data to stakeholders.

**Task Evaluation:** The evaluation of this task may include 1) review of progress towards goals in the long-term strategy; and 2) comments and feedback from Program's Management Committee.

## MONITORING AND SPECIAL STUDIES

### Introduction

Since its inception, the Program has tried to improve its understanding of stormwater pollution and to develop effective ways to control pollutants through monitoring and related activities. It has participated in the Regional Monitoring Program for Trace Substances (RMP), which monitors water and sediment in the Bay, and it has also conducted testing of stormwater and sediment at an array of fixed storm drain and creek stations throughout the urbanized portion of the county. This monitoring helped to identify a number of pollutants of concern that could be impairing the bay and urban creeks. Current knowledge about these pollutants, and the evolving strategies for addressing them, are described in Section 4 (Pollutants of Concern) and the Pollutant Reduction Plans in Appendix C.

In 1996, the Regional Board staff directed the Program to cease fixed-station wet-weather monitoring and redirect resources to watershed assessment and development of the long-term monitoring strategy for creeks. A draft plan for Long Term Monitoring and Assessment (Gunther et al., 2000) identified the need to link Program monitoring objectives more closely to beneficial uses of waters. Because of the wide range of watershed factors that can affect a waterbody's ability to support beneficial uses, a separate Watershed Assessment component has been developed to collect and manage complex spatial data. Monitoring and Special Studies component tasks will focus on the occurrence, long-term trends and control strategies for pollutants of concern, including the development of a

long-term monitoring work plan for representative urban creeks.

The Program has conducted a variety of special studies to refine information needed to implement the requirements of previous Plans. Examples include studies of the effectiveness of specific BMPs, the use of Toxicity Identification Evaluations to identify diazinon as a probable source of toxicity in urban creeks, and studies to better identify the sources of diazinon and other pollutants.

The Program will continue to identify information gaps and conduct special studies on stormwater pollution to fill these gaps. These studies can be grouped into two categories: 1) studies focused on the pollutants of concern and other widespread pollutant problems; and 2) studies of pollutants responsible for more localized problems, such as litter and construction-related discharges. The implementation of BMPs to address pollutants that are local problems may need to be tailored to physical, social or jurisdictional conditions in specific watersheds. The evaluation of the effectiveness of these BMPs may need to consider conditions as well.

### Component Objectives

1. Improve characterization and tracking of pollutants of concern that are found in stormwater
2. Evaluate the effectiveness of stormwater BMPs
3. Provide technical information to member agencies about pollutants

- that may cause localized stormwater problems
4. Coordinate planning and reporting with related monitoring efforts
  5. Evaluate component effectiveness and develop ways to measure the Program's effectiveness over time, including information on cost effectiveness

### **Major Tasks**

1. **Characterize Concentrations and Long-Term Trends for Pollutants of Concern:** Section 4 (Pollutants of Concern) describes several pollutants that the Regional Board or U.S. EPA have identified as causing impairment of the bay or local creeks. Because the Regional Board needs to develop TMDLs for these pollutants it will require the Program's assistance in developing information about pollutant loading and changes in pollutant concentrations that result from the implementation of Pollutant Reduction Plans (Appendix C) and TMDLs. Past monitoring experience indicates that stormwater testing is useful for characterizing some constituents, and it will be continued at a long-term site on Castro Valley Creek. The Program will also sample sediment from creek beds, which is useful for surveying the occurrence of pollutants that are associated with fine particles.

Activities for this task are described in the Annual Monitoring Work Plans submitted to the Regional Board. In addition to participating in coordinated regional data collection, the Program will develop a strategy for creek monitoring that incorporates the following objectives:

- Review existing stormwater and sediment data to select effective sampling methodologies
- Evaluate long-term trends in pollutant concentrations and toxicity in urban runoff
- Establish expected baseline concentrations of mercury, PCBs and targeted organochlorine pesticides in sediment of creeks and storm drains and estimate loadings using available total suspended solids and discharge data.

The Program has a database with the results of the fixed-station stormwater and sediment monitoring results collected during 1988-1995. This database will be updated with pollutant data from relevant special studies conducted by the Program and other local entities. Additional database modules for yearly rainfall patterns and flow history for one or more benchmark sites will be added to assist with assessment of long-term trends in water quality. Objectives for improving data interpretation include:

- Incorporate grab sampling, rainfall and other types of data into the existing database
- Facilitate linkages among pollutant concentrations, rainfall and spatial GIS data

**Task Evaluation:** The evaluation of this task may include review of the Program's effectiveness in identifying long-term pollutant trends.



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### 2. Characterize Sources and Evaluate BMP Effectiveness for Pollutants of Concern:

Sources of pollutants must be understood in order to develop effective pollutant reduction measures. The impairments caused by the Pollutants of Concern are generally widespread because of the ubiquitous nature of the pollutants and the transport of many of these pollutants through the atmosphere. Because of the regional nature of these pollutants, the Program will need to coordinate closely with the Regional Board staff and with other BASMAA agencies. This task may involve a range of activities, including:

- Special studies of specific watersheds with high pollutant concentrations
- Special studies of sources or pathways
- Modeling pollutant transport in runoff
- Participation in coordinated regional studies such as the North Bay Copper Study
- Participation in national pollutant prevention initiatives such as the Brake Pad Partnership

Program members have implemented a variety of BMPs, but information about their effectiveness is not always readily available. While the new permit may incorporate additional provisions for treating runoff from new development, past studies by the Program and other stormwater agencies have shown that the effectiveness of treatment devices varies according to site-specific conditions. Evaluation of overall BMP effectiveness may necessitate evaluations of:

- Structural treatment controls
- Pollutant control tasks listed in the Pollutant Reduction Plans, such as fluorescent bulb recycling for mercury source control

**Task Evaluation:** The evaluation of this task may include 1) tracking changes in the level of understanding of pollutant sources and controls; and 2) identifying ways to improve the effectiveness and application of BMPs.

### 3. Assist Local Watershed Managers in Identifying Localized Stormwater Impacts and Provide Tools for Addressing These Impacts:

In contrast to the pollutants described in Section 4, some pollutants mainly affect waters nearby the source of the pollutant's release. Some beneficial uses, such as contact and non-contact recreation, are very location specific. Assessing stormwater impacts on these beneficial uses may involve a variety of site-specific factors, and the member agencies play a large role in choosing which specific factors and management objectives they would like better understood through studies. High-priority objectives identified by the Watershed Assessment and Monitoring Subcommittee include:

- Evaluate toxicity or other impacts on bay fisheries
- Characterize sediment and litter problems
- Evaluate fecal coliforms and other indicators of human

health risk for light contact recreation areas

- Provide technical assistance to local watershed managers by providing data and guidance information

**Task Evaluation:** The evaluation of this task may include 1) review of successes and limitations of various approaches to managing localized issues under different conditions; 2) assess feedback from the Program's member agencies and other users about the effectiveness of Program-produced data and guidance materials.

**4. Coordinate with and Support BASMAA and Other Regional Monitoring Efforts:**

The Regional Monitoring Program (RMP) is a collaborative effort to monitor the condition and health of San Francisco Bay. The Program, along with other NPDES-permitted dischargers, contributes to this effort annually. In addition, the BASMAA Monitoring Committee has worked with the Regional Board staff to establish the following three priorities for regional coordination of information: watershed assessment; BMP effectiveness; and characterization of pollutant loads and potential sources. The Program's participation in these regional activities increases opportunities for collaboration and coordination with other stormwater agencies.

- Continue participation in the RMP
- Participate in BASMAA Monitoring Committee and other regional monitoring groups

- Explore monitoring partnerships with other agencies and organizations

**Task Evaluation:** The evaluation of this task may include a review of useful information exchanged and partnerships that are initiated or enhanced.

**5. Management and Evaluation of Component Effectiveness:**

The Program will prepare reports, budgets and other items to assist with management and implementation of this component. The effectiveness of implementation will be evaluated as part of the annual report.

- Coordinate annual work plans to reflect the priorities of the Program's Long-Term Monitoring Plan
- Promote cost-effective monitoring by designing data collection to meet multiple monitoring objectives, where possible.
- Facilitate and support the Watershed Assessment and Monitoring Subcommittee meetings

**Task Evaluation:** The evaluation of this task may include 1) a review of work plan development process; and 2) evaluation of accomplishments against Program objectives.

## PUBLIC INFORMATION AND PARTICIPATION

### Introduction

Most people are unaware that the largest source of pollutants to local creeks, lakes and the bay comes from the stormwater that flows off the cityscape picking up drops of motor oil, brake pad dust, exhaust emissions, pesticides, dirt and litter and, in most cases, receiving no treatment. These sources of pollutants result from the small, incremental and collective activities of everyone in Alameda County. Public information and participation is one of the keys to preventing stormwater pollution. The better that everyone understands the importance of stormwater pollution, their own, often unintentional, contribution to the problem, and simple things that we can do about it, the cleaner our creeks and the bay will become.

This component of the program focuses on providing information to residents in order to enlist their help in preventing stormwater pollution. The Public Information and Participation Subcommittee oversees this component's activities. This subcommittee is also responsible for ensuring the consistency of terminology, format and style among all of the Program's educational outreach efforts.

A summary of the progress being made in public awareness is described in the Program Description Section under Program Achievements.

### Component Objectives

1. Educate residents about stormwater pollution problems.
2. Encourage residents to adopt less polluting and more environmentally beneficial behavior.
3. Assist member agencies with watershed awareness efforts and provide stewardship opportunities.
4. Improve public information and participation effectiveness through partnering with other organizations.
5. Evaluate component effectiveness and make improvements.

### Major Tasks

1. **Implement Targeted Outreach:**  
The Clean Water Program has been working with other municipal stormwater agencies through BASMAA to identify categories of pollutants and pollutant generating behavior to target as part of regional advertising and action campaigns. This pooling of resources has helped to generate more effective campaigns than could be achieved by working independently.

It is anticipated that future targeted campaigns will focus on helping to implement the Pollutant Reduction Plans for specific water quality impairing pollutants. The pollutants that appear to be priorities on the Regional Board's list include mercury, PCBs and dioxin compounds, and pesticides (diazinon, chlordane, dieldrin and DDT). Another possibility would be to develop and implement a countywide anti-littering campaign. The campaigns will focus primarily on targeting

residential sources and encouraging residents to prevent pollution.

The Public Information and Participation (PIP) Subcommittee will develop and update a list of priorities for helping to select future campaigns. Criteria for the selection of priorities will include that a significant portion of the pollutant-generating behavior originates from residents. It will be important to continue to evaluate the effectiveness of each campaign and not to focus too much on the same type of pollutant or category of pollutants.

The General Program will also collaborate with groups such as the Bay Area Air Quality Management District, the Alameda County Waste Management Authority, Home Builders Association of Northern California, and other groups to expand the impact of any targeted outreach.

- 2. Continue to Reinforce General Outreach Messages:** Existing PIP materials that the PIP Subcommittee determines are useful enough to continue in circulation will be updated, as needed, and reprinted or produced for each agency to distribute and for distribution by the General Program on its website and through other methods. The PIP Subcommittee may choose to have more of the existing materials translated into additional languages, if this has been identified as an effective way to reach groups whose primary language is not English. The continued reinforcement will also occur through increased collaboration with other public agencies and private organizations with common interests.

- 3. Provide Educational Support and Watershed Stewardship Support:** This task will include helping to educate students about stormwater pollution prevention and related environmental issues. The General Program has actively supported a number of school focused educational endeavors, including Bay Savers (targeted to fourth graders), Kids in Creeks/Gardens/Watersheds (targeted to teachers) and Estuary Action Challenge. The PIP Subcommittee will decide at least every two years which educational activities to support based on the known or expected effectiveness of the activity and how well it addresses the objectives of the PIP component.

This task will also involve continued support for the Community Stewardship Grant program.

Lastly, this task will include training for member agency staff responsible for PIP. This training may also be expanded to include other targeted groups such as was done with the *East Bay Watershed Management Symposium* in 1998 and *Turning the Tide: Balancing New Development and Clean Waters* symposium in 2001.

- 4. Assist Member Agencies Implement and Improve the Performance Standards:** This task will include assisting the member agencies to implement their PIP performance standards. This assistance may include undertaking any project that will

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result in additional tools and means for the member agencies to better implement the performance standards. In the past this has included such things as purchasing kiosk displays and dioramas for the member agencies to use at public events.

This task will also include review and, if needed, improvement in the performance standards at least every two years. This review will occur as part of PIP Subcommittee meetings. The evaluation information collected as part of Task 5 will be used to decide how and where to make improvements.

- 5. Manage Component and Evaluate and Improve Its Effectiveness:** The General Program will assist the PIP Subcommittee and its work groups to conduct its meetings and prepare any needed NPDES permit required reports and work plans. This task will also include assisting with the development of annual General Program component work plans and budgets.

The effectiveness of this component will be evaluated as part of the following types of activities, which are offered as examples:

- Conduct a public awareness survey similar to the one conducted in 2000.
- Evaluate the information being submitted as part of the annual reports.
- Survey member public agencies to obtain information about how well this component and the performance standards are working.
- Evaluate the Regional Board staff's reviews of the Clean Water

Program's performance in this area.

- Review information collected elsewhere of tangible progress. This may include tracking changes in behavior based on pre and post- campaign surveys paid through participation in BASMAA.

The PIP Subcommittee as part of developing its annual work plan and budget will consider improvements to the General Program at least annually.

## MUNICIPAL MAINTENANCE ACTIVITIES

### Introduction

Municipal maintenance staff comprises one of the largest group's of public employees whose everyday work sweeping and repairing streets, cleaning storm drains, and applying herbicides can directly help to prevent stormwater pollution. In addition, the hundreds of maintenance field personnel play an essential role in reporting on illicit discharges and pollution problems that need to be fixed. The maintenance staff also helped to spread the word about stormwater pollution prevention among its maintenance counterparts in other public agencies.

The Maintenance Subcommittee, which is one of the oldest in the Program, is responsible for helping to implement this component's activities.

### Component Objectives

1. Optimize pollutant removal during routine maintenance activities such as street sweeping and maintenance of storm drainage facilities.
2. Prevent or minimize discharges to storm drains and watercourses from road maintenance, parks, corporation yards and other publicly owned facilities.
3. Provide information and education about the Alameda Countywide Clean Water Program to agency employees.
4. Evaluate component effectiveness and make improvements.
5. Facilitate reporting.

### Achievements

One of the accomplishments of the Program has been to reach a consensus among the member agencies on how to implement the diverse activities involved in municipal maintenance so as to minimize the stormwater pollution. This resulted in the development of performance standards for street cleaning; storm drainage and watercourse maintenance; litter control; road repair and maintenance; and corporation yard operations.

One of the core maintenance areas has been the use of street sweeping to remove potential pollutants prior to their being flushed into local creeks and the bay. All of the municipalities report their street sweeping and storm drainage cleaning activities on a standardized monthly form. In Fiscal Year 1999/00 the collective street sweeping effort of all of the municipalities resulted in the sweeping of about one quarter of a million curb miles of street with the removal of over 78,000 cubic yards and 1,000 tons of material. These amounts are similar to what has been achieved in most recent years, except during the El Nino year in 1998 when the amount of material removed by sweeping was reduced probably because the persistent rains flushed material away before it could be swept up.

The Program has well attended annual training workshops for municipal maintenance staff. During the last three years this training has been augmented creatively by the sweeper rodeo and similar events to demonstrate Best Management

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Practices usage in an engaging manner. In addition, in 2000 the Program hosted an educational outreach workshop that was attended by representatives from public agencies outside of the Program and by PG&E.

### Major Tasks

#### 1. Implement and Assist with

**Performance Standards:** Each agency will implement the municipal maintenance performance standards presented in Section IV. The performance standards include the following major activities:

- Street Sweeping
- Storm Drain Cleaning
- Training
- Reporting

The General Program will work through the Maintenance Subcommittee to resolve implementation and consistency issues.

#### 2. Coordinate Maintenance-Related Activities with Other Subcommittees of the ACCWP, Other Agencies and Private Industries:

The subcommittee will work with appropriate staff from other Subcommittees of the ACCWP, park and recreation departments, and other public agencies and private industries whose activities are similar to or potentially affect municipal maintenance activities to identify activities of concern. Examples of other public agencies and private industries include PG&E, water suppliers and utilities, garbage collection companies, the Port of Oakland, golf courses, private recreational facilities and animal confinement areas.

#### 3. Optimize Data Management and Analysis:

The General Program will optimize ongoing collection, recording and analysis of maintenance data. This will include continuing to evaluate if the types of maintenance data being collected are useful and if other types of data should be collected. Examples of potential studies and data analysis include the following:

- Leaf collection programs
- Litter abatement programs

#### 4. Outreach and Training:

The General Program will facilitate outreach and training activities aimed at preventing discharges from maintenance activities, with direction from the Maintenance Subcommittee. This includes selecting the appropriate forum (e.g., workshops, round table meetings, work groups, inter/intra-agency coordination meetings, etc.) depending on the target audiences (e.g., ACCWP agencies, other agencies, property owners, residence, etc.). The Maintenance Subcommittee will also coordinate outreach activities with other ACCWP Subcommittees when the objectives of a planned outreach and training activity conducted by the Maintenance Subcommittee overlap with the objectives of another Subcommittee.

The Maintenance Subcommittee will identify a target audience at least once every two years; the Subcommittee will select the appropriate forum for the outreach depending on the selected audience.

The General Program will develop and update materials (such as BMP flyers, brochures, posters, etc.) that are needed to support outreach and training activities, as determined by the Maintenance Subcommittee.

**5. Manage Component and Evaluate and Improve Its Effectiveness:**

The General Program will assist the Maintenance Subcommittee and its work groups to conduct meetings and prepare any needed NPDES permit reports and work plans related to this component. This includes assisting with the development of annual General Program budgets. The following activities are examples of how the effectiveness of this component may be evaluated:

- Survey member agencies to obtain information about how well this component and the performance standards are working.
- Evaluate the information being submitted as part of the annual reports.
- Evaluate the Regional Board staff's reviews of the Clean Water Program's performance in this area.



## NEW DEVELOPMENT AND CONSTRUCTION CONTROLS

### Introduction

New development offers a unique opportunity to construct projects that prevent stormwater pollution. Historically projects were constructed by building up to or over culverted creeks, constructing drainage ways to convey runoff off of project sites quickly, and ignoring opportunities to prevent or treat stormwater runoff. These developments lead to the destruction of flood plains and alterations in the natural structure and function of creeks, as well as to increases in the amount of stormwater pollution.

Better ways to design and construct new projects have received a considerable amount of attention in recent years. In 1994 the Regional Board staff developed its *Staff Recommendations for New and Redevelopment Controls for Storm Water Programs*.

The concepts in this document were used to develop the performance standards for New Development. In 1998 the Program and other Bay area municipal stormwater programs developed through BASMAA the *Start at the Source* manual. This manual describes a comprehensive approach to planning environmentally sensitive developments that minimize increases in the amount of impervious cover and combine stormwater treatment systems into the landscaping. Additional models will be developed as part of meeting the new Standard Urban Stormwater Mitigation Plan requirements described in the Background Section under Recent Developments.

### Component Objectives

1. Identify and help implement source controls, site design measures and post-construction stormwater pollutant and hydromodification controls.
2. Assist with incorporating controls on impairing pollutants prior to and following completion of load and waste load allocations as part of a Total Maximum Daily Loads process.
3. Ensure that public works construction and maintenance projects conform to the same standards as private projects.
4. During construction promote the use of controls to reduce the discharge of pollutants to the maximum extent practicable and effectively control non-stormwater discharges.
5. Evaluate component effectiveness and make improvements.

### Achievements

The Clean Water Program has emphasized the development of tools to help implement this component of the Stormwater Quality Management Plan. This included developing suggested Conditions of Approval for residential, commercial and industrial developments and compiling a *Catalog of Structural Stormwater Quality Control Measures*. Training focused on Planning Commissioners and individual municipality planning and engineering staffs. Municipalities have begun to implement the *Start at the Source* types of stormwater design measures. This has included the use of

grassy swales at residential, commercial, industrial and public works developments in a number of cities and the District's construction and operation of a stormwater treatment pond draining about 500 acres of residential area in Fremont. With assistance from the Regional Board staff, other areas of emphasis have included improving controls on erosion and sedimentation and preventing the releases of construction related discharges.

### **Major Tasks**

#### **1. Identify How To Implement Source, Site Design, Post-Construction Stormwater Treatment and Hydromodification Controls:**

As part of the previous Stormwater Management Plan, the Clean Water Program emphasized the use of pollutant source controls and site planning measures, such as those found in the *Start at the Source* manual. The Regional Water Quality Control Board and municipal planning staff are interested in specifying more clearly how source, design, treatment and hydromodification controls need to be used as part of the maximum extent practicable control of pollutants from stormwater.

This task will include the following activities:

- Review the Santa Clara Valley Urban Runoff Pollution Prevention Program's work on implementing its new permit requirements that address these types of controls. This will also include identifying and reviewing useful approaches of other municipal stormwater programs in California and elsewhere.
- Identify and work with a stakeholder group to develop a

method for appropriately integrating pollutant and hydromodification controls as requirements for new development.

- Submit the Clean Water Program's agreed upon method for implementing pollutant and hydromodification controls to the Regional Board staff and, based on feedback, make any needed changes.
- Identify assistance that the Clean Water Program's member agencies will need in order to implement the new, agreed upon controls.
- Every two years review and, if appropriate, improve the agreed upon controls based upon implementation experience and other new information.

**Task Evaluation:** The evaluation of this task may include 1) determine whether the General Program was able to achieve consensus among the stakeholders regarding the new controls and 2) obtain feedback from the Regional Board staff on how well the agreed upon controls met its expectations.

#### **2. Help Implement Source, Site Design, Post Construction Stormwater Treatment and Hydromodification Controls:**

This task will include assisting the member agencies to implement the agreed upon more specific pollutant and hydromodification controls. This may include the following types of activities, which are offered as examples:

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- Modify and improve the performance standards to incorporate the agreed upon control methods.
- Develop and update the Conditions of Approval, development guidance and review checklists.
- Track and discuss at New Development Subcommittee meetings municipal case studies of new development/redevelopment projects that are illustrative of successes, problems and questions about the control method.
- Develop guidance on cost-effective ways to implement the controls, such as, updating the “Project Worksheet for Permanent Stormwater Quality Controls.”

**Task Evaluation:** The evaluation of this task may include: 1) assess the information being submitted as part of the annual reports; 2) obtain feedback from the municipalities about how successful the implementation of the controls has been; and 3) survey builders on how helpful the more specific controls and implementation tools have been and ways that they can be improved.

- 3. Assist with the Development of Watershed Information and Facilitate Its Use:** This task will involve identifying the watershed information needs of the member agencies so that this information may be collected for use by agency planning and engineering staff. The actual collection of most watershed information will be conducted as part of the Watershed Assessment component. This task will also include assisting the member agencies with the

use of watershed information that has been collected.

**Task Evaluation:** The evaluation of this task may include a survey of the agencies’ planning and engineering staffs to see how well their watershed information needs were met.

- 4. Promote Outreach and Training:**

This task will include reinforcing and expanding educational outreach to agency planning and engineering staff, Planning Commissions, City Councils, builders, and builders’ consultants and contractors. The next wave of this outreach and training will focus on helping everyone to understand and implement the more specific pollutant and hydromodification controls developed as part of Task 1. This outreach and training will include the following:

- Conduct at least one outreach and/or training event annually that is targeted to either agency staff or to the building industry. This may be conducted in collaboration with other agencies, organizations or groups.
- Develop and distribute outreach material that goes beyond the trifolds that have been developed in the past.
- Compile and distribute, in binders, to agency staff copies of all of the guidance and educational material that have been developed by the subcommittee.
- Develop and maintain a mailing list of designers,

builders, developers that may be used by member agencies to do outreach.

**Task Evaluation:** The evaluation of this task may include 1) the number of staff trained from each of the targeted groups; and 2) summaries of the feedback obtained from recipients of training and outreach.

5. **Manage Component and Evaluate and Improve Its Effectiveness:** The General Program will assist the New Development Subcommittee and its work groups to conduct its meetings and prepare any needed NPDES permit required reports and products. This task will also include assisting with the development of annual General Program work plans and budgets. As part of developing the annual work plan and budgets, the New Development Subcommittee will consider ways to improve the General Program.

**Task Evaluation:** The evaluation of this task may include: 1) review how well the municipalities are meeting the new NPDES permit requirements that affect new development and redevelopment, this may include summarizing the Regional Board staff's reviews of member agency performance in this area; and 2) review information collected elsewhere of tangible progress, such as changes in environmental indicators developed by the Stormwater Environmental Indicators Pilot Demonstration Project in Santa Clara Valley.

## ILLCIT DISCHARGE CONTROLS

### Introduction

One of the most visible reasons for having a Program is to eliminate pollution caused by materials being poured, spilled, dumped, washed, or discharged into the municipal storm drain system. One of the Clean Water Act's few explicit stormwater dictates is that permits include a "requirement to effectively prohibit non-stormwater discharges into the storm" drain systems. The federal regulations allow the discharge of some minor types of non-stormwater discharges, such as under specified conditions.

The Program has been proactive in identifying and eliminating illicit discharges to the municipal storm drain system. This has included enlisting the help of each agency's municipal maintenance and other field staff who are most likely to see what is being discharged to the storm drain system or dumped where it may become waterborne. A brief summary of the progress being made is described in the Achievements section below.

### Component Objectives

1. Control illicit discharges by conducting field surveys of the municipal storm drainage conveyance system and identifying and eliminating the sources of non-stormwater discharges.
2. Effectively coordinate spill response and clean-up with existing programs.
3. Optimize illicit discharge control activities through planning and prioritization.
4. Address discharges that may not be considered illicit if properly managed.
5. Partner with other Subcommittees, agencies, and groups to increase public awareness on how to effectively and efficiently prevent pollutant discharges to the storm drains.

### Achievements

The Program has conducted several training workshops for illicit discharge inspectors to improve member agencies' familiarity with Best Management Practices for identifying and eliminating illicit discharges. In 1995 the Program developed a standardized form for documenting illicit discharge findings and controls. This systematic approach has helped to identify the predominant types of illicit discharges so that additional, targeted educational outreach could be undertaken.

Since 1995 the member agencies have identified and eliminated approximately 5,000 illicit discharges. During this period the number of illicit discharges being found each year has about doubled and the number of illicit discharges that led to enforcement has approximately quadrupled. The increase in the number of illicit discharges being found may reflect an improvement by illicit discharge inspectors, maintenance staff, outside agency staff and the general public in identifying and reporting illicit discharges incidents.

## Major Tasks

### 1. Implement and Assist with

**Performance Standards:** Each agency will implement the performance standards specified in Section 5 for illicit discharge control activities. The performance standards include the following major activities.

- Developing a five-year Action Plan for conducting field surveys of the agency's watershed.
- Conducting field surveys.
- Investigating illicit discharge reports and conduct appropriate follow-up.
- Effectively eliminate illicit discharges through education and enforcement.

The Industrial & Illicit Discharge Control (I&IDC) Subcommittee will review the performance standards at least every two years and make any needed improvements. The General Program will work through the I&IDC Subcommittee to resolve implementation and consistency questions.

### 2. Assist Member Agencies Comply with Requirements for

**Conditionally Exempt Non-Stormwater Discharges:** The General Program will continue to facilitate compliance with non-stormwater discharges identified in the NPDES permit as conditionally exempt from discharge prohibitions to the storm drains. The General Program will work through the I&IDC Subcommittee and its work groups to identify effective control measures. The General Program will also facilitate the process for adding any non-stormwater discharges identified

to the list of conditionally exempt non-stormwater discharges, and developing the appropriate BMPs.

### 3. Track and Analyze Non-stormwater Discharge Reports:

Each agency submits quarterly summary reports on illicit discharge control activities as described in the performance standards. The General Program will collect and analyze this information for trends and other useful information to better plan and help improve illicit discharge control program activities, with direction from the I&IDC Subcommittee. For example, information on non-stormwater discharges can be used to identify needs for additional information or to develop discharge elimination/disposal priorities for categories of discharges.

### 4. Conduct Outreach and Training:

The General Program will facilitate outreach and training activities to prevent illicit discharges, with direction from the I&IDC Subcommittee. This includes selecting the appropriate forum (e.g., workshops, round table meetings, work groups, inter/intra-agency coordination meetings, etc.) depending on the target audiences (e.g., ACCWP agencies, other agencies, property owners, residences, etc.). The I&IDC Subcommittee will also coordinate outreach activities with other ACCWP Subcommittees when the objectives of a planned outreach and training activity conducted by the I&IDC Subcommittee overlap with the objectives of another

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Subcommittee. For example, the I&IDC Subcommittee will coordinate with the Watershed and Monitoring Subcommittee when conducting outreach activities that address pollutants targeted in Pollutant Reduction Plans.

The I&IDC Subcommittee will better define and identify the target audience at least once every two years; the Subcommittee will select the appropriate forum for the outreach depending on the selected audience. The General Program will develop materials (such as BMP flyers, brochures, posters, etc.) that are needed to support outreach and training activities, as determined by the I&IDC Subcommittee.

- 5. Manage Component and Evaluate and Improve Its Effectiveness:** The General Program will assist the I&IDC Subcommittee and its work groups to conduct meetings and prepare any needed NPDES permit reports and work plans related to this component. This includes assisting with the development of annual General Program budgets. The following activities are offered as examples of how the effectiveness of this component may be evaluated.
- Evaluate the information being submitted by ACCWP agencies as part of the annual reports.
  - Coordinate with the PIP Subcommittee to survey the general public on illicit discharges and BMPs to prevent the discharge of pollutants.
  - Evaluate the Regional Board staff's reviews of the Program's performance in this area.

## INDUSTRIAL/COMMERCIAL DISCHARGE CONTROLS

### Introduction

The prevention and control of stormwater pollution from commercial and industrial businesses is one of the major activities of the Program. The Program emphasizes educating businesses about methods to prevent and control stormwater pollution. Educational outreach to businesses has occurred primarily during facility inspections and through working with trade and business organizations on identifying appropriate Best Management Practices.

Educational outreach materials for the automotive repair shops and restaurants, the two most common businesses countywide, has included the development of brochures, posters, and flyers. In addition, there are manufacturers and other more industrial types of businesses that are required to have coverage under the California Industrial Stormwater NPDES General Permit. Since the municipalities are required to control any type of stormwater that discharges to their municipal storm drain system, the municipalities do not treat one type of business differently than another.

The Industrial & Illicit Discharge Control Subcommittee is responsible for overseeing the implementation of this component and the Illicit Discharge Controls component.

### Component Objectives

1. Reduce the amount of pollutants in stormwater runoff to the maximum extent practicable from industrial and commercial facilities.
2. Eliminate effectively non-stormwater discharges from industrial and

commercial facilities to the municipal storm drain system.

3. Identify and eliminate potential stormwater pollution sources through facility inspections, outreach activities, and appropriate follow-up including enforcement.
4. Provide incentives, both positive and regulatory, for businesses to comply with stormwater requirements.
5. Evaluate component effectiveness and make improvements.

A summary of the progress being made in preventing and controlling businesses' contribution to stormwater pollution is described in the Program Description Section under Program Achievements.

### Major Tasks

1. **Implement and Assist with Performance Standards:** Each agency will implement the performance standards specified in Section 5 for industrial/commercial discharge control activities. The performance standards include the following major activities.
  - Developing a five-year Inspection Plan and an annual Inspection Workplan for conducting business inspections.
  - Conducting business inspections.
  - Conducting outreach and enforcement to businesses to obtain compliance.

The five-year Inspection Plan is a one-time permit requirement. Each agency will



describe its industrial and commercial base, as well as business inspection priorities and procedures. The description will include an estimate of the number of industrial and commercial sites requiring inspection for the five-year permit period and the numbers of facilities under each business type.

The Industrial & Illicit Discharge Control (I&IDC) Subcommittee will review the performance standards at least every two years and make any needed improvements. The General Program will work through the I&IDC Subcommittee to resolve implementation and consistency questions.

2. **Develop BMP Guidance:** With direction from the I&IDC Subcommittee, the General Program will develop materials to support illicit discharge control and industrial/commercial discharge control activities. This includes identifying target audiences and the format (e.g., brochures, flyers, checklist, poster, etc.) of the guidance material best suited for the target audience.
3. **Track and Analyze Facility Inspection Reports:** Each municipality submits inspection information on the standard report form as described in the performance standards. The General Program will continue to collect and analyze this information for trends and other useful information to better plan and help improve business

inspection, outreach, and enforcement activities, with direction from the I&IDC Subcommittee. For example, information on the potential to discharge pollutants can be used to identify priority businesses for the following year's inspection or outreach activities.

4. **Conduct Outreach and Training:** The General Program will facilitate outreach and training activities to prevent pollutant discharges from business activities, with direction from the I&IDC Subcommittee. This includes providing incentives, both education/outreach and enforcement, for businesses to comply. The audience can include both agency and business groups or organizations. The I&IDC Subcommittee will also coordinate outreach activities with other ACCWP Subcommittees when the objectives of a planned outreach and training activity conducted by the I&IDC Subcommittee overlap with the objectives of another Subcommittee.

The I&IDC Subcommittee will identify a target audience at least once every two years; the Subcommittee will select the appropriate forum for the outreach depending on the selected audience.

**5. Manage Component and Evaluate and Improve Its Effectiveness:**

The General Program will assist the I&IDC Subcommittee and its work groups to conduct meetings and prepare any needed NPDES permit reports and work plans related to this component. This includes assisting with the development of annual General Program budgets. The following activities are offered as examples of how the effectiveness of this component may be evaluated:

- Evaluate the information being submitted by ACCWP agencies as part of the annual reports.
- Survey businesses on how the effectiveness of outreach and inspection activities described in this component and its performance standards.
- Evaluate the Regional Board staff's reviews of the ACCWP's performance in this area.



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## POLLUTANTS OF CONCERN

As a result of its 1998 assessment of water bodies in the Bay Area, the Regional Board listed San Francisco Bay as impaired due to the following pollutants: diazinon, mercury, polychlorinated biphenyls (PCBs), copper, nickel, chlordane, DDT, dieldrin, and selenium. The U.S. EPA subsequently added dioxin-like compounds as one of the bay's impairing pollutants; listed several creeks in Alameda County as impaired by diazinon; and listed Lake Merritt as impaired due to litter and low dissolved oxygen.

To address the contribution of these pollutants from stormwater, the Program is developing pollutant reduction plans (PRPs). PRPs provide a comprehensive list of actions the Program will take to further reduce the discharge of impairing pollutants that are the highest priority for the Regional Board: diazinon, mercury, copper, and PCBs (see Appendix C). This section of the Plan provides information on each of these pollutants, including, problem definition, sources, challenges, and the Program's approach to reducing the level of these pollutants in stormwater. Other pollutant reduction plans will be developed as needed.

### **DIAZINON**

#### **Problem Definition**

Diazinon is a widely used organophosphate insecticide that has been detected in creeks throughout the Bay Area. During storm events, the concentration of diazinon in local creeks is often high enough to be toxic to some

species of aquatic life. For example, 71% of stormwater samples collected from Bay Area creeks were lethal to a small crustacean, *Ceriodaphnia dubia*, and Toxicity Identification Evaluations (TIEs) have determined that diazinon was the primary cause of this toxicity (Katznelson, 1997). *C. dubia* is a standard U.S. EPA test species, and although it is not a resident species in local creeks, toxicity to *C. dubia* suggests that other aquatic insects that inhabit local creeks could also be adversely affected by the presence of diazinon. Based on the prevalence of stormwater toxicity and the results of the TIEs, the U.S. EPA listed Alameda, San Leandro, and San Lorenzo creeks as impaired by diazinon.

U.S. EPA has banned the sale of diazinon for urban use after 2004 due to concerns regarding potential environmental and human health impacts. However, the application of diazinon will be allowed to continue until the stock of diazinon sold prior to the end of 2004 has been depleted. Therefore, the level of diazinon in stormwater may continue to exceed toxic concentrations for several years after its sale is banned.

Diazinon is not the only insecticide found in Bay Area creeks. Other commonly used insecticides, such as chlorpyrifos, carbaryl, and malathion, also have been detected and may be contributing to toxicity. As diazinon and other insecticides such as chlorpyrifos are banned, other insecticides will be used in their place. The replacement

pesticides may cause equal or increased toxicity in stormwater discharges.

### Sources

The primary source of diazinon in Alameda County creeks is stormwater runoff from urbanized areas. Diazinon is applied by both professional and non-professional applicators. About half of the estimated 30,000 pounds of diazinon used in Alameda County in 1995 was applied by residents who purchased the product at retail outlets. The remainder was applied by commercial pest control applicators. The most common target pests were ants, fleas, and spiders (Scanlin and Cooper, 1997).

Although improper use or disposal may account for some of the diazinon in stormwater, recent studies suggest that a major source is use in accordance with label directions (Scanlin and Feng, 1997). Only a small amount of pesticide causes toxicity in creeks, therefore, even proper use could account for the toxic concentrations observed. For example, Scanlin and Feng (1997) often observed toxic concentrations in a creek where it was estimated that only 0.3% of the diazinon used in a small, urbanized watershed ended up in the creek. This percentage of pesticide entering runoff is what would be expected for runoff from proper use. For example, Balogh and Walker (1992), in a study of agricultural runoff, estimated the maximum runoff rate for most pesticides under normal conditions at between 0.5% and 1% of the total quantity applied, and initial results of a study to assess diazinon runoff from urban sites suggests that pesticide runoff from these sites is of about the same proportion as in agricultural applications (ACCWP).

### Challenges

There are major regulatory, economic, social and technical obstacles to significantly reducing the level of insecticides in stormwater runoff. Following is a brief description of some of these obstacles.

**Regulatory Obstacles:** Nationally, insecticides are regulated under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA). The criterion for acceptability under FIFRA is that “the insecticide *does not cause unreasonable adverse effects* to people or the environment when it is used according to the product label directions and restrictions” [emphasis added]. Under FIFRA, the economic benefit is weighed against the environmental impact when determining what is “unreasonable”. Under the Clean Water Act, however, the water quality standard is much more restrictive and is stated as “no toxics in toxic amounts”. The effect of this discrepancy is that one office of U.S. EPA may allow the use of an insecticide, while another office may require the development of a TMDL to address a water quality impairment due to its use.

In California, the use of insecticides is also regulated by the California Department of Pesticide Regulation (CDPR), and with the exception of some very limited authority granted to the county agricultural commissioner, local government is prohibited from regulating insecticide use (section 11501.1 of the California Code of Regulations).

**Economic Obstacles:** Pest control is a big business. Based on the estimated 15,000 pounds of diazinon (active

ingredient) sold annually, retail sales in Alameda County are in the neighborhood of \$250,000 annually for diazinon alone. In addition to retail sales, there are approximately 50,000 licensed applications of diazinon for structural and landscape pest control in Alameda County every year (Scanlin and Cooper, 1997). Assuming an average per-application cost of \$50, this use would generate over \$2 million annually. Considering the financial resources available to the pesticide industry, it would be difficult for the Program to compete effectively through the use of public outreach/advertising.

**Social Obstacles:** Some people do not like bugs, and view one spider or ant around their house as one too many. This strongly ingrained perception is difficult to alter. Many people will still choose to use insecticides even if they are aware of the harm it causes aquatic ecosystems.

**Technical Obstacles:** Preventing the improper use or disposal of diazinon will not solve the problem. Previous and ongoing studies (Scanlin and Feng, 1997; and ACCWP) indicate that a significant portion of diazinon applied according to label directions moves off-site and eventually ends up in creeks. Many other insecticides migrate in a similar fashion. An effective solution must involve the development of an insecticide formulation that does not migrate from the site of application or one that is toxic only to the target pest.

Direct treatment of runoff to reduce diazinon or other insecticides is impractical for two main reasons. It is difficult to treat a large volume of water in a short period of time as occurs during

storm events. Furthermore, diazinon in its dissolved form causes toxicity and it is not readily removed by the usual filtration or settling technologies.

### **Program's Approach**

**Lead by Example:** Although municipal use accounts for a small fraction of the insecticides used in the county, the member agencies believe they should set an example by ensuring that they minimize risk to the environment and human health. Their first step is to conduct a review of annual insecticide use to determine the quantity used and the targeted insects. The next step is to evaluate the audit results to determine if additional actions could be taken to minimize risk. The results of the audit and evaluation will be submitted to the Regional Board. Member agencies will review existing practices, policies and ordinances to determine where improvements can be made to minimize risk to the environment and human health to the maximum extent practicable. If it is determined that they are not adequate, additional or revised policies or ordinances will be adopted. A summary of the review and recommended revisions will be submitted to the Regional Board.

**Outreach to Residents:** Advertising Campaigns over the past four years the Program has spent over \$500,000 on outreach campaigns aimed at reducing the use of insecticides. For example, the Program participated in the Bay Area Stormwater Management Agencies Association's (BASMAA) regional television advertising campaign "When Ants Invade," which promoted less toxic pest control practices and won a national advertising industry award. The Program has also funded radio, billboard and

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newspaper ads. The Program will continue to employ various media to reach residential audiences and encourage the use of a less toxic, integrated pest management (IPM) approach.

Point of Purchase Campaign The Program is participating in the innovative "Our Water, Our World" IPM campaign. Through the campaign the Program encourages stores that sell insecticides to also stock and promote the sale of less-toxic alternatives. Over 20 stores in the county are currently participating. The Program will aggressively market the IPM campaign to other stores with the goal of having at least 40 stores participating within the next two years. Through the distribution of printed material and information on its website, the Program will promote the IPM campaign to residents

Distribution of Informational Material The Program has printed and distributed over 250,000 pesticide-related brochures, fact sheets and informational guides. These materials are distributed by the Program and its member agencies. The Program has been constructing and staffing a stormwater exhibit at the County Fair for the past seven years and has maintained a booth at the Home and Garden show twice a year. Member agencies have been distributing material at their offices and at events such as watershed festivals and Earth Day fairs. The Program will continue these activities and will also distribute material through its website ([www.cleanwaterprogram.com](http://www.cleanwaterprogram.com)).

**Outreach to Commercial Facilities:** Some commercial facilities hire licensed applicators or self-apply insecticides.

Through the Industrial/Commercial Discharge Control Component of the Program, the municipalities will conduct outreach to selected business sectors. The Program will develop or adapt outreach materials that are appropriate for specific business sectors. These materials will be distributed by the municipalities as part of their regular inspection programs. The Program intends to target retail food establishments in Fiscal Year 2001/02.

**Partner with Licensed Pest Control Applicators:** Licensed pest control applicators apply approximately half of the diazinon used in Alameda County (Scanlin and Cooper, 1997). Any successful effort to minimize the environmental impact associated with insecticide use will need to have the support of the licensed applicators. The Program is committed to working with the licensed applicators to develop an approach that will allow them to maintain their profitability and provide an effective service to their customers in a way that minimizes environmental impacts. The Program will contact licensed applicators in the county, and will work (with those who are willing) to set up a program to minimize water quality impacts from structural pest control applications. The Program will attempt to coordinate this effort with other programs such as the Bio-Integral Resource Center.

**Partner with Other Agencies:** County Agricultural Commission The Alameda County Agricultural Commission (Commission) has been very involved in the effort to reduce environmental impacts of insecticide use. Representatives of the Commission have attended the Urban Pesticide Committee

and other related meetings. The Program will coordinate with the Commission in the development of outreach efforts, particularly for licensed applicators.

Household Hazardous Waste There are three permanent household hazardous waste (HHW) facilities in Alameda County. The Program has coordinated with the HHW program in the past and will continue to coordinate with the HHW program to promote the proper disposal of insecticides.

**Monitoring and Special Studies:** The Program has taken a lead in evaluating the sources of diazinon in stormwater in the Bay Area. In fact, one of the Program's studies, Scanlin and Feng (1997), was cited extensively in U.S. EPA's diazinon reregistration (U.S. EPA, 1999). The Program will continue its effort to provide information that will assist in the development of effective control measures.

Develop an Application/Runoff Model The Program is in the process of developing a computer model of the application and runoff of insecticides from an urban area. Certain insecticides or formulations of insecticides may be more likely to be transported by stormwater. The SWMM-based model uses properties such as water solubility, vapor pressure, and environmental persistence to predict stormwater impacts of insecticide use. The Program believes that the model will be useful as a tool to evaluate the impact of alternative control strategies as well as in

evaluating the potential impacts of insecticides that will replace diazinon.

Track Trends in Diazinon Concentrations and Stormwater Toxicity

The Program will continue to track diazinon concentrations and toxicity in stormwater runoff to assess the effectiveness of its control activities and monitor the effect of the diazinon ban. A detailed sampling plan will be included in the Program's Long Term Monitoring Plan (draft available, August 2001).

**Participate in the Regulatory Process:**

The Program will coordinate with BASMAA, the California Stormwater Quality Task Force, and the Urban Pesticide Committee to provide data, express concerns, and request consideration of its issues in U.S. EPA's and CDPR's insecticide registration decisions.

## **MERCURY**

### **Problem Definition**

Human exposure to mercury has been shown to cause damage to the liver, kidneys, brain and central nervous system; resulting in loss of physical coordination, mental retardation blindness and even death. Developing fetuses and young children are especially susceptible to poisoning.



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Table 4-1: Estimated Annual Loadings of Mercury to San Francisco Bay

Source	Estimate of Annual Load (kg/yr)
Central Valley Watershed Sources	607
Within Basin Watershed Sources	168
Atmospheric Deposition	15
Sediment Remobilization	500
Wastewater Discharge	44
Total	1304

(Modified from Abu-Saba and Tang, 2000)

The National Academy of Sciences<sup>1</sup> (NAS) recently completed an independent study of the toxicological effects of methyl mercury to assist the U.S. EPA. Fish consumption is the major source of human exposure to methyl mercury in the U.S. The study found that chronic, low-level prenatal methyl mercury exposure from maternal consumption of fish has been associated with poor performance by offspring on neurobehavioral tests. The study found that these neurodevelopmental deficits are the most sensitive, well-documented effects of low-level, chronic exposure to methyl mercury. While the majority of the U.S. population has a low risk of adverse effects from methyl mercury exposure, individuals who regularly consume fish may have high methyl mercury exposure and demonstrate observable effects. The study also concluded "because of the beneficial effects of fish consumption, the long-term goal needs to be a reduction in the concentrations of MeHg in fish rather than a replacement of fish in the diet by other foods. In the interim, the best method of maintaining fish consumption and minimizing Hg [mercury] exposure is the consumption of fish known to have lower MeHg concentrations."

Analysis of fish tissue samples conducted on fish caught in the San Francisco Bay between 1994 and 1997 showed that concentrations of mercury exceeded established screening levels, suggesting potential health concerns for consumers of Bay fishes (Davis, 1998). Subsequent to the 1994 fish sampling, the California Office of Environmental Health and Hazard Assessment issued an interim Fish Consumption Advisory for all of San Francisco Bay, partly based on mercury concentrations.

### Sources and Loadings

Mercury is used in the manufacturing of such items as thermometers, fluorescent lamps, batteries, paints, and other household products. Of particular importance to the Bay Area is the presence of several large natural deposits of mercury within the San Francisco Bay watershed. Much of this mercury was mined during and after the Gold Rush for use in mining operations.

The two largest sources of mercury to Bay waters are inflow from Central Valley watersheds and remobilization of Bay sediment, which account for 46% and 38% of the total load respectively (see Table 4-1). Much of the mercury in

these two sources is a remnant of its historic use in amalgamating gold.

The next largest category of sources of mercury to Bay Waters, is input from local watersheds, which accounts for approximately 13% of the total load. This category encompasses numerous sources, the largest being mercury from the New Almaden mining area in Santa Clara County that accounts for about 30% of the load from local watersheds (that is, 4% of total Bay load). Other sources contributing to the load from local watersheds include air deposition and soil erosion. Local sources contributing to air deposition are not well quantified but significant sources are believed to include crematoria, cement processing plants, stationary and mobile sources of fossil fuel combustion, and broken fluorescent lamps. Some portion of this mercury is deposited on urbanized surfaces in the county and flows to the Bay in stormwater runoff.

### **Challenges**

Reducing levels of mercury in stormwater discharges poses a number of regulatory and technical challenges. Following is a brief description of some of these challenges.

**Regulatory Obstacles:** Many of the sources contributing mercury to stormwater runoff are beyond the control of local government, for example, some of the mercury is from global sources, and some is from local air sources, such as cement processing plants and crematoria that are regulated by the California Air Resources Board. The California Department of Toxic Substances Control (DTSC) under the Universal Waste Rule regulates the

recycling and disposal of fluorescent lamps.

**Technical Obstacles:** Because mercury bioaccumulates in the food web, minute quantities of mercury in water and sediment can be hazardous. As with other pollutants, removing these minute quantities of mercury from a large volume of water in a short period of time poses a significant challenge. In addition, standard treatment technologies such as detention basins and wetland treatment systems may actually increase the methylation of mercury. This would exacerbate the problem because methyl mercury is the form that bioaccumulates in fish the most rapidly.

### **Program's Approach**

#### **Focus on Fluorescent Lamps:**

Fluorescent lamps contain a small amount of mercury with most current generation lamps containing from 10 to 21 mg/bulb. Abu-Saba and Tang (2000) estimate that 13 million fluorescent lamps are disposed of each year in the Bay Area and from this 10-130 kg/year of mercury is released to the environment. Recycling technology is available, and the Regional Board staff has concluded that the recycling of fluorescent lamps is "one of the most effective, readily implementable measures" to reduce the discharge of mercury to the Bay (Abu-Saba and Tang, 2000).

**Lead by Example** As is the case with the use of insecticides, municipalities use only a tiny fraction of the fluorescent lamps used in the Bay Area. However, the member agencies believe they should set an example for county residents and businesses by ensuring that they minimize the risk to the environment

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and human health. The agencies first step will be to conduct a review of their current practices regarding the recycling or disposal of fluorescent lamps. The next step will be to evaluate the results of the survey to determine if these practices could be revised to minimize the risk of mercury release to the environment. The results of the survey and evaluation will be submitted to the Regional Board.

Outreach to Businesses The commercial sector is the largest user of fluorescent lamps. Therefore, the Program will target its initial outreach effort towards businesses. The Program will work with the business community to identify current fluorescent lamp recycling and disposal practices and potential obstacles to increasing the level of recycling. The Program plans to work with the commercial sector and relevant entities such as the Department of Toxic Substances Control (DTSC), the Household Hazardous Waste program, recycling facilities, and the Regional Board to minimize obstacles and provide incentives for recycling. The Program will also develop or adopt outreach material and distribute it to businesses, either through direct mail or in conjunction with the municipalities' Industrial/Commercial inspection program.

Support Changes to Fluorescent Lamp Regulations Current regulations allow businesses to dispose of up to 25 fluorescent lamps at a time as solid waste. The Program will attempt to work with DTSC and other agencies to support and encourage changes to regulations that would promote increased recycling of fluorescent lamps.

Coordinate with Green Business Program The Green Business Program (GBP) helps businesses comply with environmental regulations, and then go beyond compliance to conserve energy, water and other resources, and reduce pollution and waste ([www.abag.ca.gov/bayarea/enviro/gbus/gb.html](http://www.abag.ca.gov/bayarea/enviro/gbus/gb.html)). The Program has been a major supporter of the GBP for several years, and will coordinate with them to promote the recycling of fluorescent lamps at GBP facilities.

Coordinate with Household Hazardous Waste There are three permanent household hazardous waste (HHW) facilities in Alameda County. The Program will coordinate with the HHW program to promote the recycling of fluorescent lamps and other mercury containing products.

**Other Mercury Related Efforts:**  
Participate in the Regulatory Process  
The Program has been an active participant in the Regional Board's Mercury Council and will continue to support the Regional Board's effort to develop a reasonable approach to solving the mercury problem in the Bay. The Program will also coordinate with BASMAA and the California Stormwater Quality Task Force to develop or support legislation that will help reduce levels of mercury in the Bay.

Track Trends in Mercury Concentrations in Creek Sediment During FY 2000/01 the Program conducted an extensive survey of mercury levels in creek and storm drain sediments throughout the county (Gunther, et al., 2001). During FY 2001/01 the Program will conduct a follow up survey. The Program will

continue its effort to develop information that will assist in the development of effective control measures. The Program is in the process of developing a long-term monitoring plan that will incorporate sediment sampling for mercury. A detailed sampling plan will be included in the Program's Long Term Monitoring Plan (draft available, August 2001).

## **COPPER**

### **Problem Definition**

At very low concentrations, copper is beneficial to aquatic organisms, but at higher concentrations it can be extremely toxic. This toxicity to aquatic life can occur at levels that are not harmful to humans.

The Bay is currently listed as impaired due to copper. However, recent studies have suggested that the Bay should not be listed as impaired, and the Regional Board has indicated that copper may be removed from the list of impairing pollutants on the condition that activities are undertaken to prevent increases in discharges of copper.

### **Sources and Loadings**

Copper is a naturally occurring element that is found in many everyday items, including products associated with building construction, electronic equipment, automobiles, and agriculture. There are a number of significant sources for copper loadings to Bay, but the most significant is automotive vehicle usage. Automobile emissions often contain small amounts of copper. More significantly, brake pads can

contain as much as 20% copper by weight. Recent research suggests that brake pad wear may be the largest single contributor of copper to the Bay, adding as much as 40% of the copper in stormwater runoff (Regional Water Quality Control Plant, 1997).

Another potentially significant source of copper to urban runoff is from its use in building construction. The use of copper materials in ornamental applications, gutters, down-spouts, roofs, and algae-resistant treatments for shingles all have the potential for contributing copper to stormwater runoff. Additional significant sources of copper loadings to the Bay include industrial and wastewater discharges; the use of copper in agricultural operations and water treatment systems; and the erosion of native soils, which contain small quantities of copper.

### **Challenges**

Reducing copper levels in stormwater offers challenges similar to reducing diazinon and mercury for both source control and treatment. For example, the largest source of copper to stormwater is believed to be brake-pad wear. As local government agents, Program members are not able to regulate the manufacturing or use of brake pads. Treatment is also problematic since the dissolved form of copper causes toxicity and occasionally exceeds the chronic water quality standard. As with diazinon, dissolved constituents cannot be removed by standard treatment technologies, which rely on filtration or settling of particulates.

### **Program's Approach**

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**Brake Pad Partnership:** The Brake Pad Partnership is a nationwide effort to reduce the level of copper in brake pads. A coalition including stormwater programs, brake pad manufacturers, and the U.S. EPA are working together to find a solution. The partnership was initiated in the Bay Area, and the Program was one of its initial sponsors. The Program continues to support the effort and believes it is the best approach to addressing the problem.

**Copper in Building Materials:** Barron (2000) estimated that 20% of the copper in runoff from the Palo Alto (CA) area was from the use of copper in building materials. This was partly associated with a large number of luxury homes being constructed in that area at this time. The conditions in Alameda County may be quite different. However, the Program believes that this source of copper is worth looking into, since it could be significant and is one of the few areas where local governments have the potential to initiate a source control effort. The first step the Program will take will be to review construction practices in the county to assess their potential copper contribution. Based on the results of the assessment, municipalities will review and revise their practices if appropriate.

**Municipal Maintenance Activities:** Street sweeping has the potential to remove some of the copper from brake pad wear and other sources. The municipalities will continue their street sweeping activities in accordance with the municipal maintenance performance standards.

**Monitoring and Special Studies:** The Program will continue to track the

concentration of copper in stormwater runoff in accordance with its Long Term Monitoring Plan (draft available in August 2001), the Program will conduct field studies or literature reviews as necessary to assist with the development and implementation of control measures. The Program also is contributing funding to the North Bay Copper and Nickel Study to investigate the effects of copper on aquatic life.

## **POLYCHLORINATED BIPHENYLS**

### **Problem Definition**

U.S. EPA lists Polychlorinated Biphenyls (PCBs) as a potential carcinogen. Additionally, PCBs are suspected of having negative impacts on the human immune system, reproductive system, nervous system, endocrine system, and digestive system (additional health effects information available at <http://www.epa.gov/opptintr/pcb/effects.htm>). Although their manufacture is now banned in the United States, PCBs continue to pose a serious risk due to their persistence in the environment.

PCBs accumulate in fatty tissue, hence organisms with a higher fat content will tend to accumulate more PCBs than organisms with a lower fat content. This is important to human health in that several of the more common food fishes in the Bay (e.g., striped bass, white croaker) are marked by relatively high fat content. Sampling conducted on Bay food fishes between 1994 and 1997 showed that concentrations of PCBs in fish tissue exceeded screening values, suggesting potential health concerns for consumers of these fishes (Davis *et al.*, 1998). Subsequent to the 1994 fish

sampling, the California Office of Environmental Health and Hazard Assessment issued an interim fish consumption advisory for all of San Francisco Bay, partly based on PCB concentrations found in Bay fishes.

### **Sources and Loading**

PCBs were used in the past in a number of industrial and commercial applications; most importantly as coolants, lubricants, and insulators in electrical equipment such as transformers and capacitors. Additionally, PCBs at one time found many other uses in products such as paints, sealants, preservatives, and fire retardants.

In the mid-1960s, questions regarding the widespread presence of PCBs and their potential health impacts began to raise concern. Commercial production and import of PCBs into this country was banned by the U.S. EPA in 1979, though some manufacture of “closed system” products (having little potential for escape of PCBs from the system) was allowed to continue. By 1984, virtually all manufacture and distribution of products containing detectable levels of PCBs was banned by the U.S. EPA (Hetzl, 2000).

As with mercury, a large source of PCBs to the Bay water and biota is contaminated Bay sediment. The Regional Monitoring Program’s sampling effort has detected areas of contaminated sediment adjacent to heavily industrialized land use. Of particular interest to the Program are elevated concentrations found in the Oakland Estuary, San Leandro Bay, and Emeryville Crescent.

Additional contaminated sediment may still be moving towards the Bay from contaminated sites within local watersheds. An initial survey of creek and storm drain sediment conducted in 2000 found a few sites with elevated concentrations (Gunther, et al., 2001). A follow-up study will be conducted in 2001 to determine if sources can be identified.

### **Challenges**

The immediate obstacle to addressing PCB contamination is that the sources are dispersed and largely unidentified.

### **Program’s Approach**

**Monitoring and Special Studies:** The first step in addressing the discharge of PCBs in stormwater is to develop a better understanding of sources within the county. To do this the Program has initiated a multi-year study of the level of PCBs in creek and storm drain sediments throughout the county. A report on the initial round of sampling has been completed (Gunther et al., 2001). Follow-up sampling upstream of sites where elevated concentrations were found will be conducted during FY 2001-2001.

**Participate in the Regulatory Process:** The Program has been participating actively in the Regional Board’s TMDL stakeholder process and will continue to do so.

### **Notes**

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<sup>1</sup> National Research Council. 2000. Toxicological Effects of Methylmercury. Prepublication copy.



## **SECTION 5**

## **PERFORMANCE STANDARDS**

Performance standards that are implemented by member agencies exist for the following five areas of the Plan:

- Public Information and Participation
- Municipal Maintenance Activities
- New Development and Construction Controls
- Illicit Discharge Controls, and
- Industrial and Commercial Discharge Controls

These performance standards define a large part of what each member agency must do to implement the Plan and comply with the NPDES permit. In addition, the Plan's Pollutant Reduction Plans for specific impairing pollutants also describe what the member agencies need to do to implement the Plan. It is expected that agency-led activities in the Pollutant Reduction Plans that prove worthwhile for long-term implementation will eventually be integrated into the performance standards.

### **CHANGES FROM PREVIOUS PERFORMANCE STANDARDS**

The following performance standards are generally the same as during the previous SWMP. Some relatively minor modifications have been made to clarify and improve the performance standards. For example, the performance standards for Municipal Maintenance have been reduced and simplified by eliminating details about Best Management Practices and by retaining the more substantive sections that describe what the performance standards are intended to accomplish. A more substantive change

was to move requirements for insect management from these performance standards to the Pollutant Reduction Plans. This change reflects the priority that will be placed on controlling the use of insecticides, the still developing approach for controlling insecticides and the need to involve all of the departments within the member agencies in minimizing insecticide usage.

The improvements in the performance standards reflect the collective experience of everyone who has been implementing the performance standards. Each of the proposed changes was discussed at length by the subcommittee that is directly involved in helping the member agencies to understand and implement the performance standards.

### **OPPORTUNITY TO PROPOSE ALTERNATIVE PERFORMANCE STANDARDS**

As the Program continues to evolve, it is becoming increasingly important to recognize agency and watershed-specific differences. In order to allow appropriate tailoring and improvement of the performance standards, each agency retains the flexibility to propose alternative performance standards for its use that will accomplish equivalent or better water quality improvements than the area-wide performance standards described in the subsequent sections. Alternative agency-specific performance standards must be submitted in writing to the Regional Board's Executive Officer, and the alternative performance standards will not become effective until



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approved by the Executive Officer, and that approval will be presumed unless it is rejected in writing within 90 days of submittal.

### **FLOOD CONTROL DISTRICT RESPONSIBILITIES**

Some of the performance standards are appropriate for the Alameda County Flood Control and Water Conservation District (District) and Zone 7 of the District, and others are not. For example, the ACFC&WCD and Zone 7 do not conduct business inspection, nor do they sweep streets. Performance standards that each city, the county, ACFC&WCD and Zone 7 are responsible for implementing use the term "agency(ies)" in the performance standard. Performance standards that each city and the county are responsible for implementing, but not the District and Zone 7 of the District, use the term "municipality(ies)."

## PUBLIC INFORMATION AND PARTICIPATION

### I. PARTICIPATION IN PI/P SUBCOMMITTEE AND GENERAL PROGRAM ACTIVITIES

1. Each agency will designate a person responsible for implementing its Public Information/Participation (PI/P) activities and for acting as a liaison with the PI/P Subcommittee. This designated person will stay sufficiently informed by attending Subcommittee meetings or using other means to participate constructively in PI/P Subcommittee decisions and activities.
2. Each agency will chair the PI/P Subcommittee on a rotating basis so that the burden of providing leadership for the Program is shared in an equitable manner among all of the agencies.
3. Each agency will complete its PI/P quarter or semiannual deliverable reports within the schedule established by the General Program.

### II. INTERNAL AGENCY COMMUNICATION AND TRAINING

#### City Staff and Officials

Each agency is responsible for identifying, developing, and communicating information about the Program so that its clean water staff, new employees involved with the Program, agency managers, and elected

officials are well informed about their role in implementing the Program and the Program's requirements and progress. Each agency will provide information at least annually to these targeted groups.

#### Procedures and Training for Handling Telephone Calls from the Public about Stormwater

- Each agency will have a procedure that it follows for answering and efficiently routing stormwater related telephone calls to the appropriate municipal staff for handling.
- Agency staff assigned to answering or responding to telephone calls will be trained and familiar with the established procedures.

### III. USE OF PROGRAM OUTREACH

As described in Task 5 of the PIP component work plan (Section 3), the General Program will be responsible for conducting surveys to evaluate the effectiveness of public education and outreach efforts implemented by the member agencies and by the General Program.

#### Distribution of Program Information Pieces

- Each agency will be responsible for identifying, in a written plan maintained at its offices, how it will distribute copies of General Program informational materials.

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This plan will be available to the Regional Board upon request.

- Within two years of receiving its allotment from the General Program, each agency will have the goal of completing distribution of these materials to the target audience. Approximately one-half or more of the materials should be distributed within twelve months of receiving the allotment.
- Each agency will be responsible for tracking its inventory of General Program educational materials in order to be able to determine the need to re-order.

### **Storm Drain Inlet Stencils and Signs**

- Each municipality will have stenciled or in some other ways signed ninety percent of its municipality-owned storm drain inlets or conducted activities that are demonstrably equivalent in terms of achieving awareness by residents that materials should not be disposed down storm drains. Demonstrably equivalent means that the municipality will provide examples of comparable alternative activities or have available a valid survey to show that its residents are as aware of where storm drains lead as are residents in comparable communities with stencils or signs. A description of the demonstrably equivalent activities must be submitted in writing and approved in advance by the Regional Board's Executive Officer, and this approval will be presumed unless

disapproved in writing within 90 days of its submittal.

- As a goal all stencils and signs installed will be maintained sufficiently to be readable.
- In order to provide an educational opportunity, each municipality will optimize the use of local volunteers to assist with the stenciling or signage activities.

## **IV. AGENCIES' COMMUNITY OUTREACH PROGRAM**

### **General Needs**

The community outreach activity must be reasonably significant in terms of either the level of participation of the member agency and/or the number of people reached by the event.

Agencies will participate in community outreach activities from the areas listed below (under A. through F.) for the purpose of communicating the general stormwater pollution prevention message and complementing the General Program's specific message(s) for its targeted audience(s). Every other year at least one of these activities must be from Category F. The following provides the number of different activities that will be participated in annually:

Over 100,000 in population

- each municipality will participate in eight activities;

Between 50,000 and 100,000

- each municipality will participate in six activities;

Less than 50,000; Alameda County Flood Control and Water Conservation District (District); and Zone 7 of District

- each agency will participate in four activities.

**A. Participate in Existing Community Events**

Distribute ACCWP information by participating in existing community events (fairs, festivals, exhibits, etc.) held within its or a nearby jurisdiction. This participation may include the setting up of a booth, kiosk display, or other creative means of communicating the general stormwater pollution prevention message, using a specific message to a target group, or make a presentation to a local community service group.

**B. Plan/Implement New Community Events**

Play a major role in planning and staging a community or citywide event, examples include the following:

- Earth Day or other festival or fair;
- Business mixer;
- Seminar or target group; and/or
- Contests.

**C. Contact Media and Conduct Advertising**

Maintain local media contacts with local newspaper, radio, and television stations to be able to communicate the general stormwater pollution prevention

message, complement the General Program's specific targeted audience(s) and message(s) and complement regional PI/P activities. This local media contact may include: adaptation and/or development and distribution of stormwater related press releases or use of paid advertising including advertising in local telephone directories.

**D. Provide Program Information Through Other Venues**

The following types of venues may be used:

- Agency newsletter;
- Other municipal newsletter;
- Local magazine;
- Utility bill inserts;
- Mailing to target group; and
- WebPages.

**E. Develop and Implement Integrated Outreach Approaches**

This area includes activities, such as the following:

- Point of purchase display and giveaway;
- Plan, create and distribute videos;
- Create and stage a play;
- Develop special displays or kiosks for your message especially interactive ones (such as slides in movie theaters);
- Develop/implement program for school curriculum and provide equipment;
- Support and partner with

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other agencies to increase or improve pollution prevention capabilities (e.g., helping set up oil and/or antifreeze collection facilities); and

- Make and place signs on sweepers or other vehicles; and
- Place messages on workers' T-shirts.

### F. Develop Watershed Awareness

This area includes one or more of the following types of activities that are listed as examples:

- Identify and support a friends of a watershed group and encourage creek cleanups (or if this is infeasible, lagoon or shoreline cleanups) or adopt-a-creek or other volunteer monitoring and resource inventorying activities.
- Conduct a creek cleanup (or if this is not feasible, lagoon or shoreline cleanups) within its jurisdiction on an annual basis; and
- Participate in a local event in its jurisdiction or neighboring jurisdiction as part of the Coastal Commission's annual Coastal Clean-Up Day and/or as part of Earth Day.

### Special Needs

Each municipality will identify whether there are any special needs of some of its residents. An example of a special need would be if a significant percentage of the residents are native speakers of a language other than English or Spanish who would be able to better participate

in the municipality's stormwater pollution prevention efforts by having materials available in their native language.

If a municipality has identified a special need not being addressed by the General Program, it will, on its own or in collaboration with other member agencies, develop and distribute translated materials or other special materials needed to fill the special need.

### V. COORDINATION WITH SCHOOLS

1. If not being performed by others, each municipality will help to distribute to schools within its jurisdiction information provided by the General Program about its school outreach activities, such as, the Bay Savers, Kids in Creeks/Gardens/Marshes/Watersheds workshops, and community stewardship grants.
2. The General Program will continue to develop and produce materials for outreach to schools. Each municipality will make these materials available to schools in its jurisdiction, if not distributed by the General Program or other methods. This may include each municipality disseminating information on how to obtain copies of these materials if this is a more efficient way to achieve distribution.
3. Each municipality will also work with the local school district to encourage that appropriate stormwater pollution prevention and aquatic resource protection information will be taught to

school children within its jurisdiction.

## MUNICIPAL MAINTENANCE – GENERAL

The following General Performance Standards apply to all municipal maintenance activities.

### I. SPILL RESPONSE

1. If the spill is suspected to be toxic or hazardous materials, maintenance staff will call the public safety dispatcher, 911, and/or the local illicit discharge coordinator.
2. If non-hazardous materials are spilled, maintenance staff will contain the spill area immediately to prevent additional discharge of pollutants into the storm drain system and clean as soon as practicable.
3. Maintenance staff will report spills to, and work with, the agency's illicit discharge coordinator, or appropriate party, to determine the appropriate follow up response (e.g., track the source of the spill and identify product labels that have a bar code identifying the originating agency, contact Building and Planning Departments, send a clean-up bill to the responsible party, etc.).

### II. TRAINING

Each agency will train employees and contractors in the use of the Spill Response Performance Standards as appropriate.

### III. DISPOSAL OF WASTE

### MATERIAL AND CHEMICALS

1. Each agency will ensure proper handling and disposal of material removed from streets and storm drainage facilities to prevent discharges of pollutants to surface waters or groundwater.
2. Each agency will dispose of excess chemicals at an Alameda County Household Hazardous Waste Facility or other approved disposal location (or recycle the chemical.)
3. Each agency will properly dispose of or recycle used solvents/chemicals.

### IV. CONTRACTORS

1. Each agency shall incorporate the municipal maintenance performance standards into municipal contract specifications.
2. Each agency shall provide volunteers and contractors with educational material describing the Municipal Maintenance Performance Standards as appropriate.

## MUNICIPAL MAINTENANCE – STREET CLEANING

### I. STREET CLEANING FREQUENCY

1. Each municipality will clean streets on at least a monthly average unless an alternative schedule is approved as described in number 2 below. In calculating this average, the number of curb miles swept in a fiscal year divided by the number of curb miles within a municipality will equal twelve or greater. The removal of cars should be encouraged by having a fixed sweeping schedule. Sweeping will be prioritized to clean the streets that have been found to be typically the dirtiest and to conduct sweeping prior to the rainy season.
2. If a municipality chooses to clean streets less than on a monthly average the rationale for the alternative standard must be describe in a written action plan. The rationale should demonstrate that the alternative schedule is equivalent in terms of protecting water quality as the annual average sweeping. The action plan must be submitted to the Regional Board as part of the Mid Fiscal Year Report or the Annual Report. The alternative standard will not be effective until approved by the Regional Board's Executive Officer, and that approval will be presumed unless it is rejected in writing within 90 days of its submittal.

### II. STREET CLEANING OPERATION TO MAXIMIZE POLLUTANT REMOVAL

1. Each municipality will utilize, as appropriate, the Street Cleaning BMPs to maximize pollutant removal during sweeping activities. When purchasing new sweepers, each municipality will review alternative equipment and new technologies to maximize pollutant removal.

### III. PROBLEMS ASSOCIATED WITH EFFICIENT STREET CLEANING

#### *Getting Parked Cars Off Streets*

1. Each municipality will maintain a consistent sweeping schedule.
2. Each Agency will utilize, as appropriate, the Street Cleaning BMPs to keep curbed areas clear during street cleaning.

#### *Removing Large Accumulations of Leaves Just Prior to Sweeping*

Each municipality will have a leaf removal option available to residents. The leaf removal may be conducted by an entity other than the municipality, for example, curbside leaf pick up by a waste management company. Each municipality will utilize, as appropriate, the Street Cleaning BMPs for specific leaf handling methods.



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### *Maintaining Trees Near Streets*

Each municipality will provide operators with adequate resources to conveniently report trees interfering with street cleaning.

#### **IV. RECORD KEEPING**

1. Each municipality will track miles swept using a broom odometer or by tracking mileage only when cleaning (do not include mileage to an area).
2. Each municipality will track volume or weight of material removed.

## MUNICIPAL MAINTENANCE – STORM DRAIN FACILITIES AND WATERCOURSES

### I. ROUTINE INSPECTION AND CLEANING

1. Each agency will inspect, and clean as necessary, storm drainage facilities (inlets, culverts, V-ditches, pump stations, open channels, and watercourses), once a year on average unless an alternative schedule is approved as described in number 2 below. The inspections and needed cleaning will preferably occur prior to the rainy season. In calculating this average, some facilities may be inspected more than once per year and others less than once per year.
2. If an agency chooses to inspect, and clean as necessary, storm drainage facilities (inlets, culverts, V-ditches, pump stations, open channels, and watercourses), less than an annual average the rationale for the alternative standard must be described in a written action plan. The rationale should demonstrate that the alternative schedule is equivalent in terms of protecting water quality as the annual average inspection. The action plan must be submitted to the Regional Board as part of the Mid Fiscal Year Report or the Annual Report. The alternative standard will not be effective until approved by the Regional Board's Executive Officer, and that approval will be presumed unless it is rejected in writing within 90 days of its submittal.
3. When cleaning storm drainage facilities, each agency will remove the maximum amount of material at the nearest access point to minimize discharges to watercourses.
4. Each agency will maintain a storm drainage facility inspection and maintenance plan. The Plan includes:
  - a. Schedule for inspecting storm drainage facilities;
  - b. Rational for determining when to clean inlets, etc.;
  - c. Results of an evaluation to install additional screens or grates near or in inlets to inhibit discharge of litter, but where flooding is not a concern;
  - d. Identification of target areas that tend to accumulate excessive pollutants for cleaning and/or public education; and
  - e. Inventory of the storm drain system.
5. Unless provided for in an alternative plan approved by the Regional Board's Executive Officer, each agency will inspect twice a year storm drainage facilities that tend to accumulate excessive sediment and debris: prior to the rainy season to prevent flooding and discharge of pollutants and after the rainy season to remove sediment and debris.
6. Each agency will inspect storm drain inlets monthly during the wet season

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in areas suspected of containing illegal dumping, and clean as necessary.

### II. RECORD KEEPING

1. Each agency will report the amount of material removed when cleaning storm drainage facilities in monthly record keeping forms.
2. Each agency will document and track spill incidents and response to spill incidents either as described in the "Monthly Record Keeping Form" or as part of the Illicit Discharge Quarterly Summary Form.
3. Each agency will document and maintain the following records monthly for pump stations and watercourses:
  - a. Areas/sites inspected,
  - b. Silt and vegetation removal practices,
  - c. Areas where man-made materials are removed, type and estimate of quantity or weight removed,
  - d. Disposal practices and any testing results,
  - e. Spill incidents and follow-up actions,
  - f. Application of chemicals (type used, areas applied), and
  - g. Areas for possible improvements.

### III. INSPECTION AND MAINTENANCE

1. Each agency will inspect pump stations after the wet season and develop a schedule for maintenance activities prior to the next wet season.
2. Each agency will inspect trash racks and oil absorbent booms during or after significant storms. Remove debris in trash racks and replace oil absorbent booms as needed.

### IV. PERMITS AND OTHER REGULATORY REQUIREMENTS

Each agency will coordinate with the California Department of Fish and Game, the U.S. Army Corps of Engineers, and other agencies as appropriate in order to comply with regulatory requirements prior to commencing work.

### V. VEGETATION

See procedures in the Municipal Maintenance BMP Manual.

## MUNICIPAL MAINTENANCE – CORPORATION YARDS AND AUXILIARY STORAGE AREAS

### I. GENERAL BMPS

1. Each agency will ensure that necessary safety equipment and spill containment kits are readily accessible in areas where chemicals are used, in fueling areas, and in areas that have a potential for spills. Each agency will inspect safety equipment (eye flushing stations, etc.) regularly to ensure they are operational.
2. Each agency will assign one person the primary responsibility for ensuring that BMPs are implemented. This person will also be responsible for ensuring that all persons using the facility are aware of BMPs.
3. Each agency will stencil inlets to the storm drainage system with a message such as "No Dumping, Drains to Bay".
4. Each agency will conduct facility surveys annually - possibly in conjunction with hazardous materials management and/or spill prevention inspections.
5. Each agency will have a Storm Water Pollution Prevention Plan (SWPPP) for each corporation yard.
6. Each agency will inspect the yard routinely to ensure that there are no illegal discharges to the storm drain system and that during storms, pollutant discharges are controlled to the maximum extent

practicable.

7. Each agency will sweep the corporation yard. The agency will dispose of material removed from streets and storm drainage facilities often to eliminate exposure to rainwater and runoff to the storm drain system.

### II. WASHING VEHICLES/EQUIPMENT

1. Each agency will clean all vehicles/equipment on designated wash pad areas or off-site if needed so washwater drains to the sanitary sewer or is recycled.
2. Each agency will ensure that wash pad area and sump are large enough so that all washwater drains to the sanitary sewer or recycling system. The agency will re-grade area if necessary or install dikes to convey washwater.

### III. REFUSE HOLDING AREAS

Each agency will store material removed from storm drainage facilities and streets on a concrete or asphalt pad in a contained area. The agency will drain liquids to the sanitary sewer or allow it to evaporate. If feasible, the agency will cover the storage area during the rainy season.

### IV. FUEL DISPENSING AREAS

1. Each agency will store spill

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containment kits nearby. If spills occur, the agency will use dry methods to clean the fueling area and follow procedures in the Hazardous Materials Business Plan (HMBP) and/or Spill Prevention Control and Countermeasure Plan.

2. Each agency will maintain signs reminding people not to "top off" tanks.
3. Appropriate spill equipment will be used when mobile fueling is implemented.
4. Each agency will cover fuel dispensing areas, when feasible. The agency will not conduct fueling over open ground (ground should be covered by concrete or asphalt protected with a sealant).

### **V. CHEMICAL USAGE AND STORAGE**

1. Each agency will store paint and other chemicals in an approved covered containment area. If 55-gallon drums containing hazardous materials or wastes are stored outside, each agency will keep drums in an approved containment area.
2. Each agency will minimize use of chemicals. The agency will use water-based paints and non-toxic chemicals as much as possible.

### **VI. FLEET MAINTENANCE/VEHICLE PARKING AREAS**

1. Each agency will minimize leaks from vehicles by performing routine inspections, repairing vehicles with significant leaks, and employing drips pans where appropriate.
2. Each agency will periodically dry sweep the area.

## MUNICIPAL MAINTENANCE – LITTER CONTROL, ROAD REPAIR AND GRAFFITI REMOVAL

### LITTER

1. Each agency will provide an adequate number of litter receptacles in commercial areas and other litter source areas. Agencies will make every effort to contain litter in receptacles.
2. Each agency will ensure litter receptacles are maintained on a frequent enough basis to minimize or prevent spillage.
3. Each agency will document and maintain the following records monthly:
  - a. Areas targeted for litter removal
  - b. Total amount of material removed
5. Each agency will contain diesel oil used to lubricate or clean equipment or parts.

motor oil, diesel oil, concrete, broken asphalt, etc. whenever possible.

### II. ASPHALT/CONCRETE REMOVAL

Each agency will utilize, as appropriate, the Road Repair BMPs for protecting storm drain inlets prior to breaking up asphalt or concrete. The agencies will clean afterwards by sweeping up as much material as possible.

### III. PATCHING AND RESURFACING

1. Each agency will utilize, as appropriate, the Road Repair BMPs for protecting storm drain inlets prior to patching and resurfacing activities.
2. Agencies will not stockpile materials in streets, gutter areas or near storm drain inlets or creeks unless these areas are protected.
3. Agencies will never wash excess material from exposed aggregate concrete or similar treatments into a street or storm drain inlet. Each agency will designate an unpaved area for clean up and proper disposal of excess materials.

### ROAD REPAIR

#### I. General

1. Each agency will schedule excavation and road maintenance activities for dry weather, if feasible.
2. Each agency will perform major equipment repairs at the corporation yard, when practical.
3. When refueling or maintaining vehicles and equipment on-site, each agency will use a location away from storm drain inlets and creeks.
4. Each agency will recycle used

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### **IV. EQUIPMENT CLEAN UP/STORAGE**

Each Agency will clean equipment at the end of the day at the corporation yard, when possible, and will cover sprayers and patching and paving equipment to prevent rainfall from contacting pollutants.

### **GRAFFITI REMOVAL**

See graffiti removal BMPs in the Municipal Maintenance BMP Manual.

## NEW DEVELOPMENT AND CONSTRUCTION SITE CONTROLS

The following performance standards apply to all Clean Water Program member agencies for all construction activity including clearing, grading and excavation activities that result in the cumulative disturbance of 10,000 or greater square feet of land that would discharge stormwater to the municipally-owned storm drain system. A member agency may consider a project exempt from these performance standards if it would disturb less than 10,000 square feet of land and it does not cause substantial or potentially substantial adverse change in the quantity and/or quality of stormwater runoff generated from the site considering all four of the following conditions:

- The size of the project is negligible;
- The amount of land disturbed is insignificant;
- The potential impact on stormwater quality and quantity is insignificant; and
- The intensity of the construction activity is minimal.

### I. MEASURES AND POLICIES TO CONTROL THE QUALITY OF STORMWATER RUNOFF

1. Each agency will incorporate the New Development Subcommittee's conditions of approval into its standards for development, as appropriate.
2. Each agency will document permanent erosion and stormwater quality controls, controls during construction, and operation and maintenance of structural controls in conditions of approval for both public and private projects. Best

management practices (BMPs) will be selected from appropriate guidance materials.

3. Each agency will ensure that stormwater quality requirements are included in plans and contract specifications for municipal construction projects.
4. Each agency will implement design guidelines and practices that incorporate water quality protection measures for both public and private projects.

*The Following Will Be Implemented when General Plans and Ordinances are Amended:*

1. Each agency will review and update General Plan policies and implementation measures that help preserve and enhance water quality.
2. Each agency will review and update legal authority provided in erosion control and stormwater management and discharge control ordinances.

### II. EDUCATIONAL ACTIVITIES

1. Each agency will provide educational materials (BMP flyers, Blueprint for a Clean Bay, etc.) to municipal staff, developers, contractors, construction site operators, and owner/builders, as appropriate. (Requires coordination with the PIP Subcommittee.)
2. Each agency will educate:



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- Staff responsible for development application and plan review on stormwater quality issues and controls. Agencies will provide information on municipal design guidelines, ordinances, conditions of approval, contract specifications and protected sensitive areas.
  - Construction site inspectors on proper implementation and maintenance of erosion and sediment controls and materials/waste management BMPs.
  - Other municipal staff involved in development and redevelopment projects (e.g., capital improvement, public works, and/or building inspectors).
3. Each agency will provide pre-application materials containing information on stormwater controls and requirements to developers.
  4. Each agency will attach appropriate BMP information to building permits, as needed.
- III. DEVELOPMENT APPLICATION AND PLAN REVIEW**
1. Each agency will continue to evaluate the effects of development on stormwater runoff and wetlands in the CEQA process.
  2. Each agency will consider water quality impacts in the context of their review and possible approval of both public and private development projects.
- IV. EROSION AND SEDIMENTATION CONTROL**
1. Each agency will review its erosion control program for adequacy, and identify and implement any improvements needed in the following areas:
    - a. Enforcement authority (grading, erosion, and/or
  3. Agencies will require public and private development projects to include site planning and design techniques to prevent and minimize impacts to water quality. These may include the following:
    - a. Minimize land disturbance.
    - b. Minimize impervious surfaces, especially directly connected impervious areas.
    - c. Use of clustering.
    - d. Preservation of quality open space.
    - e. Maintain (and/or restore, if possible) riparian areas and wetlands as project amenities, establishing vegetation buffer zones to reduce runoff into waterways.
  4. Each agency will require public and private development projects to include permanent stormwater quality controls, as appropriate, if sufficient site planning measures are not implemented or feasible.

stormwater control ordinances).

- b. Minimum BMPs required.
  - c. Training and tools for inspectors.
  - d. Information for developers and contractors.
2. As a condition of issuance of a grading permit, each agency will require developers to prepare, submit to the agency for review and approval, and implement an effective erosion and sediment control plan or similar administrative document that contains erosion and sediment control provisions.
3. Each agency will require developers to provide permanent erosion and stormwater controls on plans submitted for projects.

**V. STATE GENERAL PERMIT**

Prior to construction of a project that disturbs  $\geq 5$  acres, each agency will require a copy of the Notice of Intent (NOI) sent to the State Water Resources Control Board for coverage under the Construction Activity Stormwater NPDES General Permit.

*The Following Will Be Implemented upon Adoption of the New Construction General Permit:*<sup>1</sup>

1. Prior to construction of a project that disturbs  $\geq 1$  acres, each agency will require a copy of the Notice of Intent (NOI) sent to the State

Water Resources Control Board for coverage under a Construction Activity Stormwater NPDES General Permit.

2. Prior to the construction of a project that requires the filing of an NOI, each agency will require a copy of the project's Stormwater Pollution Prevention Plan (SWPPP).

**VI. CONSTRUCTION SITE FIELD CONTROLS**

1. Each agency will require that project applicants prepare and submit a Stormwater Quality Protection Plan<sup>2</sup> prior to the start of construction activity, to demonstrate that the owner, developer, and/or contractor has evaluated BMPs and provided those appropriate for protection of stormwater quality during construction activities.
2. Each agency will coordinate construction inspections and enforcement of corrective actions with Regional Board staff, if appropriate.
3. Each agency will inspect construction sites for adequacy of stormwater quality control measures on a regular basis, with the frequency of inspections based on considerations such as the size of the project, its potential impact on stormwater quality, and the amount of construction activity.
4. For construction sites requiring erosion sediment control plans, each agency will inspect sites prior to the beginning of the wet season

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- each year, to ensure that measures have been taken to prevent erosion and minimize discharges of sediment from disturbed areas.
5. For construction sites requiring erosion sediment control plans, each agency will inspect sites following each major storm event or series of events during the wet season of each year, to observe the effectiveness of erosion sediment control measures.
  6. For project site inspections, inspectors will:
    - a. If available, review the Stormwater Quality Protection Plan prior to conducting the inspection.
    - b. Inspect for and effectively prohibit non-stormwater discharges, except those discharges which contain no pollutants.
    - c. Whenever possible, visually observe the quality of stormwater runoff after a major storm event.
    - d. Require proper implementation and maintenance of erosion sediment controls and material/waste management BMPs (e.g., covering stockpiled materials, designating work and storage areas) to minimize the discharge of pollutants.
    - e. If appropriate, document stormwater violations and corrective actions.

## VII. WATERSHED RESOURCE INVENTORY AND PLANNING

These activities will be coordinated with the Watershed Assessment and Monitoring (WAM) Subcommittee.

1. Each agency will develop and submit with the *Annual Report*<sup>3</sup> an approach and schedule for conducting a watershed management issues assessment based on guidance from the Regional Board and guidance being developed by the WAM Subcommittee as it becomes available.

*The Following Will Be Implemented when General Plans and Ordinances are Amended:*

1. Each agency will consider the criteria for sensitive areas as guidance when amending their General Plans.
2. Each agency will incorporate findings from the watershed resource inventories conducted by the WAM Subcommittee into General Plan amendments.

## VIII. POLICIES FOR MAINTAINANCE AND OPERATIONS OF FLOOD CONTROL CHANNELS AND WATER COURSES) –

These performance standards apply to all agencies that maintain creeks and flood control channels.

Each agency will consider potential benefits to habitat,

education, recreation, and water quality when planning flood control channel maintenance and improvements.

**IX. SUBCOMMITTEE MEETINGS AND WORKSHOPS**

1. At least one representative from each agency will attend the Program's New Development workshops.
2. Each agency will chair the New Development Subcommittee on a rotating basis so that the burden of providing leadership is shared equitably.
3. Each agency will designate a person responsible for implementing the New Development, Redevelopment, and Construction Site Controls Component and for acting as a liaison with the New Development Subcommittee. This designated person will stay informed sufficiently to participate in New Development Subcommittee decisions and activities.

## ILLICIT DISCHARGE CONTROLS

### I. ILLICIT DISCHARGE CONTROL INSPECTION PROGRAM –

These performance standards apply to all agencies.

1. Each agency will prepare a written Five-Year Action Plan that demonstrates the agency's commitment to conducting effective investigation, tracking, and elimination of illicit discharges and describes the level of effort for conducting these activities. The Action Plan will demonstrate that the agency has:
    - a. Identified, verified, and prioritized problem areas for investigation and/or repeat inspections.
    - b. Defined priority for investigation of all areas within their jurisdiction.
    - c. Demonstrated commitment to survey high priority areas annually.
    - d. Defined frequency of survey for second and/or third priority areas, until the entire agency's drainage area has been inspected at least once during the five-year period of the Action Plan.
    - e. Selected which agency or group will conduct the field surveys and estimated the number of labor hours required to implement the program. When more than one department is involved with conducting field surveys, determined how illicit discharge surveys and follow-up activities will be coordinated.
    - f. Established how activities will be documented.
    - g. Adopted the minimum enforcement procedures.
    - h. Developed procedures for enforcement or referral to an outside agency, including appropriate time periods for action.
- The Five-Year Action Plan will be submitted to the Regional Board by May 30, 2003.
2. Each agency will review annually and update as necessary its Five-Year Action Plan. The review will include an evaluation of field survey results from the previous year and an assessment of which types of non-stormwater discharges were most prevalent. Changes for the coming fiscal year will be submitted to the Regional Board by March 1.
  3. Each agency will ensure that designated illicit discharge inspectors are trained. Agencies

will provide inspectors with the knowledge and skills necessary to conduct effective field investigations, with guidance from the Industrial & Illicit Discharge Control (I&IDC) Subcommittee and Regional Board staff.

4. Each agency will develop or obtain accurate maps of the agency's storm drain system including major drain segments, reaches, and outfalls within the agency's jurisdiction.

## **II. CONDUCTING FIELD INVESTIGATIONS**

These performance standards apply to all agencies.

1. Each agency will conduct field investigations that include inspecting portions of the municipal storm drain system for potential sources of illicit discharges. Inspectors will:
  - a. Survey priority areas as defined in the Five-Year Action Plan and make observations. Record observed or suspected dry weather flows.
  - b. As possible, attempt to determine the type of flow and try to trace the flow to its source by following storm drain maps, inspecting manholes, and making surface observations. Record findings.
  - c. If the responsible party is identified, educate the party on the impacts of his or her

actions, explain the stormwater requirements, and provide BMPs. Initiate follow-up and/or enforcement procedures, if applicable. (Follow-up and enforcement activities are detailed further in Section III below.) Record activities.

2. Each agency will send at least one representative to General Program workshops to obtain additional training and share experiences with other agencies. The I&IDC Subcommittee will annually assess inspector training needs.

## **III. EVALUATING COMPLIANCE OF NON-STORMWATER DISCHARGER**

These performance standards apply to all agencies.

### *Follow-up Activities*

1. Each agency will continue inspection and follow-up activities until compliance is achieved. Record activities.
2. Agency staff will meet with the responsible party to discuss methods for eliminating the illicit discharge, including disposal options, recycling and possible discharge to the sanitary sewer, as appropriate. Provide ACCWP information to the responsible party. In the case of washwaters, refer to the incremental BMPs in *Recommended Discharge Elimination/Disposal Priorities for Washwaters* (September, 1994).

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3. If the discharge is traced to a business, inspectors will coordinate information on the illicit discharge with the industrial/commercial discharge control program.
4. The appropriate agency will begin enforcement procedures, if necessary.

### *Enforcement*

1. Agencies will conduct enforcement activities and report these activities as outlined in the *Protocol for Reporting Enforcement Activities (Protocols)*. These activities are set forth by the individual municipality ordinances.
2. Agencies will provide inspectors with sufficient authority to initiate enforcement procedures.

## IV. SPILL REPORTS/COMPLAINTS

These performance standards apply to all agencies.

Since a network of spill response and clean up programs already exists, establishing a new and separate stormwater response program would duplicate many of the services already being provided by these programs. The approach of the ACCWP illicit discharge control component is to supplement these services and respond to spill incidents that are not under the purview of previously existing clean-up programs. Within this context, each agency will implement the following performance standards.

1. Inspectors will investigate spill reports and/or complaints within their jurisdiction and record their activities.
2. Inspectors will become familiar with the existing spill response and clean-up programs that cover the agency's jurisdiction, and coordinate illicit discharge program activities with these existing programs.
3. Through internal communication and public education, agencies will encourage the use of "911" to report large or hazardous spills. If the use of "911" is not appropriate in a particular agency, establish and publicize an alternative telephone number for reporting spills.

4. Each agency will establish a mechanism for obtaining information about spill incidents so that source identification and follow-up actions can be conducted.
  5. Each agency will identify an appropriate role for its participation in spill response drills, in cooperation with other agencies or industries.
4. Each agency will describe training and coordination of staff involved with illicit discharges. This information will be incorporated into the ACCWP's annual reports to the Regional Board.

## **V. DOCUMENTATION AND REPORTING**

These performance standards apply to all agencies.

1. Each agency will summarize field investigations and follow-up activities using the Illicit Discharge Inspection Quarterly Summary Report form. These forms will be incorporated into the ACCWP's annual reports to the Regional Board.
2. Each agency will document the number and types of spill incidents reported and responded to within the agency's jurisdiction, based on direct calls, "911" dispatch records, referrals from the General Program, and other sources. (Agencies do not need to document automotive fluid spills for traffic accidents.) This information will be incorporated into the ACCWP's annual reports to the Regional Board.
3. Location of field investigations and incidents responded to must be tracked and recorded internally and be available for Regional Board



## INDUSTRIAL AND COMMERCIAL DISCHARGE CONTROLS

### I. INDUSTRIAL AND COMMERCIAL BUSINESS INSPECTION PROGRAM

These performance standards apply to all municipalities.

1. Each municipality will prepare a written five-year Inspection Plan that describes industrial and commercial sectors, as well as business inspection procedures and priorities. The five-year Inspection Plan will be submitted to the Regional Board by May 30, 2003.
  2. Each municipality will prepare annually a written Inspection Workplan that outlines specific steps the municipality will take to conduct effective inspections in the following year. The Inspection Workplan will include:
    - a. An evaluation of inspection results from the previous year to assess which industry types had the most impact on stormwater quality.
    - b. An estimate of the number of facilities to be inspected in the coming fiscal year listed by type of business. If a business is being inspected due to geographical location, then it will be listed by geographical sector.
    - c. An estimate of the number of high priority facilities that will be inspected in the coming fiscal year. The goal is to inspect the business community that has the potential to impact stormwater quality, at least once during the five-year permit period.
    - d. As appropriate, a summary of efforts to coordinate inter/intra-agency issues.
  3. Each municipality will ensure facility inspectors are adequately trained. This includes the knowledge and skills necessary to conduct effective stormwater inspections, with direction from the Industrial & Illicit Discharge Control (I&IDC) Subcommittee. This may include: stormwater regulations and requirements (including the municipality's ordinance, municipal stormwater permit, and the industrial stormwater general permit); the impacts of non-stormwater discharges to the storm drains; inspection techniques and procedures; follow-up and enforcement procedures; and stormwater BMPs.
- The Inspection Workplan for the coming fiscal year will be submitted to the Regional Board by March 1 of each year, except the FY 2003/4 workplan which will be submitted by May 30, 2003.

4. Each municipality will conduct outreach in addition to inspection activities, to inform facility representatives about appropriate stormwater BMP information. This may be satisfied by responding to telephone calls from business representatives, making presentations to business groups, or participating in focused outreach efforts coordinated by the I&IDC Subcommittee for targeted business groups.
5. Municipalities may coordinate outreach information with other ACCWP Subcommittees and other inspection programs.

## II. INSPECTION ACTIVITIES

These performance standards apply to all agencies.

1. Each agency will respond to complaints or referrals concerning a facility. The response may include actions such as: interviewing the caller concerning the specific nature of the discharge; inspecting the site; locating any non-stormwater discharges to the storm drains; informing the facility representative of appropriate stormwater BMPs; and conducting follow-up measures to ensure compliance is achieved.
2. Each municipality will update their list of businesses from the following as appropriate: inter/intra-agency referrals; other agency and department lists; business licenses; water/utility bills; etc.

### *Preparing for the Site Visit*

Inspectors will review existing information on the site and its regulatory history.

### *During the Site Visit*

1. Inspectors will review the facility layout to locate the storm drain system and/or stormwater drainage path for storage areas, process areas, vehicle and heavy equipment wash and maintenance areas, and stormwater sampling locations, if applicable.
2. Inspectors will review/inspect the following areas for the potential to discharge pollutants from non-stormwater discharges or exposure to runoff. The areas that are inspected will depend on facility operations.
  - a. Outdoor process/manufacturing areas;
  - b. Outdoor material storage areas;
  - c. Outdoor waste storage and disposal areas;
  - d. Outdoor vehicle and heavy equipment storage and maintenance areas;
  - e. Outdoor parking areas and

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- access roads;
  - f. Equipment on rooftops;
  - g. Outdoor wash areas;
  - h. Outdoor drainage from indoor areas; and
  - i. Stormwater conveyance system maintenance, and emergency response practices.
3. Inspectors will collect the information on the most recently adopted Standard Stormwater Facility Inspection Report Form.
  4. Inspectors will use the facility's SWPPP, if available, as a tool in assessing the facility's stormwater pollution control activities. This will not imply review or approval of the adequacy of the SWPPP.
  5. Inspectors will identify and inform the facility representative about problems and violation(s), if applicable. A schedule for correcting problems identified during the inspection and a means for verifying its implementation will be coordinated between the inspector and the facility representative. This information will also be noted on the inspection form.
  6. Inspectors will provide facility representatives with appropriate BMP information, education materials, and inter/intra-agency referrals as appropriate.
  7. Inspectors will obtain ongoing training to support inspection

activities and to continue to improve program implementation. Inspector(s) representing each municipality will attend General Program inspector training workshops. The Industrial & Illicit Discharge Control Subcommittee will annually assess inspector training needs.

### III. FACILITY COMPLIANCE EVALUATION

These performance standards apply to all agencies.

#### *Repeat/Follow-up Inspection*

1. The inspector will determine if the facility is in compliance with the municipality's stormwater ordinance (i.e., there are no unpermitted non-stormwater discharges and pollutant exposure to rain is minimized).
2. Inspectors will prioritize the facility for re-inspection. If a problem was identified during the inspection, inspectors will perform a follow-up inspection or initiate a self-certification process where the facility representative certifies in writing that the problem has been removed or corrected within the time specified by the inspector.
3. Inspectors will begin enforcement procedures as appropriate.

#### *Enforcement*

4. Agencies will conduct enforcement activities and report these activities as outlined in the *Protocol for Reporting Enforcement Activities*

adopted by the Industrial & Illicit Discharge Control Subcommittee and the Management Committee. These activities are set forth by the individual agency ordinances.

#### **IV. DOCUMENTATION AND REPORTING**

These performance standards apply to all agencies.

Each municipality will annually review inspection results and assess whether goals were met. The General Program will

summarize inspection activity, follow-up activities, and enforcement action taken against businesses determined to be in non-compliance. This review will be incorporated into the Program's *Annual Report* to the Regional Board.

#### **Notes**

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<sup>1</sup> Implement when State Board adopts a Construction Activity Stormwater NPDES General Permit for construction activities  $\geq 1$  acres.

<sup>2</sup> For projects that require a NOI, the SWPPP is equivalent to a Stormwater Quality Protection Plan.

<sup>3</sup> Approach and schedule to be submitted with the second *Annual Report* after permit adoption.



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## **SECTION 5**

Approach and schedule to be submitted with the second *Annual Report* after permit adoption.

Implement when State Board adopts a Construction Activity Stormwater NPDES General Permit for construction activities  $\geq 1$  acres.

For projects that require a NOI, the SWPPP is equivalent to a Stormwater Quality Protection Plan.

***Appendix A: Memorandum of Agreement***

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**AGREEMENT**  
**TO IMPLEMENT THE ALAMEDA COUNTY**  
**URBAN RUNOFF CLEAN WATER PROGRAM**

(Including First and Second Amendments)

AGREEMENT

PROVIDING FOR IMPLEMENTATION OF THE  
ALAMEDA COUNTY URBAN RUNOFF CLEAN WATER PROGRAM

THIS AGREEMENT is made and entered into this      day of      , 1991 by and between the following undersigned public agencies, all which are referred to collectively as the Parties.

ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, a public agency of the State of California;  
Zone 7 of ALAMEDA COUNTY FLOOD CONTROL AND WATER CONSERVATION DISTRICT, a local public agency of the State of California;  
COUNTY OF ALAMEDA, a subdivision of the State of California;  
CITY OF ALAMEDA, a municipal corporation of the State of California;  
CITY OF ALBANY, a municipal corporation of the State of California;  
CITY OF BERKELEY, a municipal corporation of the State of California;  
CITY OF DUBLIN, a municipal corporation of the State of California;  
CITY OF EMERYVILLE, a municipal corporation of the State of California;  
CITY OF FREMONT, a municipal corporation of the State of California;  
CITY OF HAYWARD, a municipal corporation of the State of California;  
CITY OF LIVERMORE, a municipal corporation of the State of California;  
CITY OF NEWARK, a municipal corporation of the State of California;  
CITY OF OAKLAND, a municipal corporation of the State of California;  
CITY OF PIEDMONT, a municipal corporation of the State of California;  
CITY OF PLEASANTON, a municipal corporation of the State of California;

CITY OF SAN LEANDRO, a municipal corporation of the State of California;  
and CITY OF UNION CITY, a municipal corporation of the State of California.

#### RECITALS

A. The 1986 Water Quality Control Plan for the San Francisco Bay Basin (Basin Plan), adopted by the Regional Water Quality Control Board in implementation of the Federal Clean Water Act, requires that the PARTIES develop a Program to control the discharge of pollutants from urban runoff.

B. In furtherance of their responsibilities pursuant to the Basin Plan, the PARTIES, have previously entered into a series of agreements to jointly fund the cost of preparing an action plan to evaluate nonpoint source pollutants, monitor identified pollutants and develop control measures to mitigate or reduce nonpoint sources of pollutants. Collectively, the measures undertaken pursuant to the previous agreements and anticipated to continue pursuant to this Agreement, are known as the Alameda County Urban Runoff Clean Water Program (hereinafter "Program"). The Program contains certain elements which provide a general benefit to the parties (such as monitoring, public education, program administration, etc.) and these elements of joint responsibility among the parties are termed the "General Program". In addition, the Program contains other elements which are an individual Party responsibility and which provide individual benefits (such as construction site controls, catch basin cleaning, and illicit and illegal connection

inspections, monitoring and enforcement), and these elements are termed the “Individual Programs”. A description of the General and Individual Programs’ elements, major tasks, schedules, and budgets will be developed as part of the “Work Plan for Cities in Alameda County, Alameda County, and the Alameda County Flood Control and Water Conservation District to file for a NPDES Permit” dated August 24, 1990.

C. The previous Agreements that have been executed are the following: The November 10, 1987 “Agreement Regarding Evaluation of the Non-Point Source of Water Pollution” and the October 17, 1989 “Agreement Regarding Implementation of Nonpoint Source Control Evaluation Program”. In addition there is a pending agreement titled “Agreement Regarding Development of a Proposed Alameda County Nonpoint Source Control Management Plan” which will provide funding through June 1991 for implementation of the August 24, 1990 work plan.

D. The PARTIES desire to continue the Program and to enter into this Agreement for the purpose of ensuring continued participation, in terms of cost and administrative responsibilities.

E. This Agreement does not amend or supersede any prior agreement among the PARTIES regarding the Program, but is to be read as in accord with and

implementation thereof.

F. The Alameda County Flood Control and Water Conservation District (District) is a local public agency of the State of California duly organized and existing and empowered to conserve water and to provide maintenance and flood control management of the water courses and has the authority to control the discharge of surface waters to its facilities. The County of Alameda and all of the cities therein are subdivisions of the State with authority to control the discharge of surface waters from their respective jurisdictions.

NOW, THEREFORE, THE PARTIES AGREE AS FOLLOWS:

1. A Management Committee is hereby created to provide overall program direction, review and recommend an annual budget for approval by the PARTIES, and budget oversight, all in accordance with the Alameda County Urban Runoff Clean Water Program. Management Committee members, and their alternates, shall be appointed by the City Manager or the equivalent of the respective Parties and a confirming letter sent to the authorized representative of the District. The Management Committee shall adopt bylaws for its governance.

- (a) Each Party to this agreement is allocated the number (or fraction thereof) of votes shown in Exhibit A. This allocation of voting strength is based on the formulas stated in Exhibit B to the Agreement.
- (b) A quorum for the conduct of business by the Management Committee shall be a majority of the voting Parties to the Agreement. The voting strength allocated to a Party shall not be considered in the determination of a quorum.
- (c) Approval of actions by the Management Committee shall require a two-thirds affirmative vote of all allocated votes as shown in Exhibit A.

No action shall be taken by the District which requires expenditures by any party other than the District without prior Management Committee approval.

2. Pursuant to direction of the Management Committee, the District shall administer and coordinate the Program, which duties include but are not limited to:
  - (a) Reapplying on behalf of the PARTIES to become co-applicants for a National Pollutant Discharge Elimination System (NPDES) permit;
  - (b) Preparing draft annual budget and, periodic status reports on Program activities and expenditure and distributing same to PARTIES at least annually;
  - (c) Consolidating and submitting reports prepared by the several PARTIES required by the NPDES permit;
  - (d) Letting and administering approved consultant contracts according to District policies and procedures and considering other members' requirements. All consultant contracts will contain hold harmless and indemnity provisions and insurance requirements for the benefit of all PARTIES;
  - (e) Conducting audits of consultant contracts in accordance with District policies and procedures;
  - (f) Maintaining knowledge of and advising the PARTIES regarding current and proposed state and federal policies, regulations and programs that impact nonpoint source pollutant control programs; assisting the PARTIES in development and presentation of positions on these issues before local, State, and Federal agencies;
  - (g) Preparing an annual report on the implementation of the Program;
  - (h) Representing the PARTIES in participation in the Bay Area Stormwater Management Agencies Association; and

- (i) Formally advising the appropriate State and Federal agencies of termination or amendment of this Agreement.

3. The PARTIES accept and agree to perform the following duties:

- (a) Each will authorize a representative to reapply for an NPDES permit as co-applicants with the other Parties;
- (b) Each will fully comply with the NPDES permit conditions applicable to its Individual Program and its identified portion of the General Program;
- (c) Each will select a representative and an alternate to participate in Management Committee meetings and other required meetings of the PARTIES;
- (d) Each will fund and implement its own Individual Program, and will fund and implement its share of the General Program. The District intends to provide funding to support new and expanded activities required by the General and Individual Programs for Cities locate in District zones with Benefit Assessment Programs. Such funding will be provided to the extent that it is available and with the concurrence of the applicable City if it results in deferring flood control projects.
- (e) Each will provide agreed upon reports (certified under penalty of perjury) to the District on compliance with applicable provisions of the NPDES permit and program implementation.

4. A proper accounting of funds and reports of all receipts and disbursements shall be made, including funds disbursed to individual parties for implementation of permit programs. Upon completion of the purposes of this Agreement, any surplus money on hand shall be returned in proportion to the

contributions made. In the event a Party terminates this Agreement, any unexpended portion of its share of cost funds shall be returned to it.

5. By agreement of the PARTIES, budget allocations and voting shares for the General Program shall be made according to a formula which for the municipalities allocates proportional shares based on a 50 percent weight given to the area and a 50 percent weight given to the population within each municipalities' jurisdiction (excluding open water and wetland areas of San Francisco Bay). The attached Exhibit B provides a copy of the formulas which are used to allocate costs. Each Parties' share of the General Program's costs for fiscal year 1991/92 will be according to the percentages provided in Exhibit A. Cost shares will be recalculated based on updated information on population and area using the formulas in Exhibit B for fiscal year 1992/93 and at appropriate future intervals as specified in the bylaws. The budget allocation for the Individual Programs shall be made directly by the individual responsible parties.

6. This Agreement shall have a term of six (6) years from the first day of April 1991, subject to automatic renewal for a five (5) year period in the absence of objection thereto made in writing by any Party 90 days in advance of the renewal date. This Agreement shall have an additional term of six (6) years from the first day of April 2002, subject to an additional automatic renewal for a five (5) year period in the absence of objection thereto made in writing by any Party 180 days in advance of the renewal date. The participation of any Party to this Agreement may be terminated by a two-thirds affirmative vote of all allocated votes in any year in which the funds necessary for its continued involvement are not appropriated by its legislative body.



7. The PARTIES shall retain the ability to individually (or collectively) request permit modifications and initiate permit appeals for permit provisions to the extent that a provision affects an individual party or group of PARTIES.

8. This agreement may be amended from time to time by written agreement of the Parties' governing bodies representing two-thirds or more of all allocated votes as shown in Exhibit A.

9. Participation in this Agreement may be terminated by any Party for any reason after the Party complies with all of the conditions of termination. The conditions of termination include the following: the Party shall notify all of the other Parties to the Agreement 90 days prior to its termination in the Agreement, the Party shall obtain its own NPDES permit for urban runoff, and the Party shall have its name deleted as a co-permittee of the Parties' NPDES permit. Any expenses associated with terminating the Agreement including but not limited to filing for and obtaining the individual NPDES permit and the amendment of the Parties' NPDES permit will be solely the responsibility of the Party terminating its participation in the Agreement.

10. It is understood and agreed that, pursuant to Government Code 895.4, each Party ("indemnitor") shall, to the extent permitted by law, defend, indemnify and save harmless each other Party, and its officers and employees from all claims, suits or actions of every name, kind and description resulting from indemnitor's performance of this Agreement, excluding any injuries, death, damage or liability resulting from the negligence or willful misconduct of the other Parties or their officers or employees.

***Appendix B: General Program Tasks and Budget for FY 2001/02***

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<b>Program Component</b>	<b>FY 2001/02 Budget</b>
Planning and Regulatory Compliance	\$519,000

Alameda Countywide Clean Water Program

**FY 2001/02 General Program Budget Summary**

Watershed Assessment	\$151,000
Monitoring and Special Studies	\$448,000
Public Information/Participation	\$555,000
Municipal Maintenance Activities	\$88,000
New Development and Construction Site Controls	\$82,000
Illicit Discharge Controls	\$46,000
Industrial and Commercial Discharge Controls	\$124,000
Contingency	\$87,000
<b>BUDGET TOTAL</b>	<b>\$2,100,000</b>

Alameda Countywide Clean Water Program

Planning and Regulatory Compliance General Program Work Plan and Budget - FY 2001/02

Task Number and Description	Rationale/Background (if necessary)	Budget	Schedule/ Due Date
<p><b>PRC-1. Participate in the Regulatory Process:</b></p> <ul style="list-style-type: none"> <li>• Review and comment on legislation and regulation affecting stormwater management. Confer with Regional board on permit reissuance. (Includes all legal assistance to the Program.)</li> <li>• Represent Program in TMDL and permit processes and on BASMAA and California Stormwater Quality Task Force.</li> </ul>	<p>Previously funded under Task 2.3 (Respond to Regulatory Initiatives). Previously part of Task 2.2 (Lead and Represent).</p>	<p>\$99,000 (\$59,000) (\$40,000)</p>	<p>Ongoing Ongoing</p>
<p><b>PRC-2. Assist with Permit Compliance:</b></p> <ul style="list-style-type: none"> <li>• Develop deliverable forms. Compile and submit required reports to Regional Board.</li> <li>• Review member agencies' performance and provide additional assistance with permit compliance.</li> </ul>	<p>Previously funded under Task 2.1 (Assist with Compliance). Previously funded under Task 2.4 (Continuous Improvement).</p>	<p>\$87,000 (\$52,000) (\$35,000)</p>	<p>Ongoing</p>
<p><b>PRC 3 &amp; 4. Develop Partnerships and Facilitate Watershed Approach:</b></p> <ul style="list-style-type: none"> <li>• The purpose of this task is to expand upon existing partnerships and to pursue opportunities to create additional partnerships.</li> <li>• The purpose of this task is to coordinate the Program's involvement in watershed management activities.</li> </ul>	<p>Previously part of Task 2.2 (Lead and Represent). Funding transferred from Watershed Assessment component.</p>	<p>\$40,000 (\$15,000) (\$25,000)</p>	<p>Ongoing</p>
<p><b>PRC 5. Control Measure Plans:</b></p> <ul style="list-style-type: none"> <li>• Implement the planning component tasks of the Control Measure Plans and coordinate the implementation and updating of Control Measure Plans</li> </ul>	<p>\$22,000 from Task 2.2 (Lead and Represent); \$28,000 in additional funding.</p>	<p>\$50,000</p>	<p>Ongoing</p>
<p><b>PRC 6. Planning and Evaluation:</b></p> <ul style="list-style-type: none"> <li>• Program planning, coordination and evaluation.</li> <li>• Newsletter and website.</li> </ul>	<p>Previously funded under Task 2.5.1. Previously funded under Task 2.6 (Website and Newsletter).</p>	<p>\$57,000 (\$20,000) (\$37,000)</p>	<p>Ongoing</p>
<p><b>PRC 7. Management Services</b></p> <ul style="list-style-type: none"> <li>• Program management, budgeting, contracting, accounting, and reporting.</li> <li>• Facilitate Management and Policy Level Subcommittee meetings and project management.</li> </ul>	<p>Previously funded under Task 2.5.2 (Management Services) Previously funded under Task 2.5.1</p>	<p>\$101,000 (\$61,000) (40,000)</p>	<p>Ongoing</p>
<p><b>PRC 8. Fees and Dues:</b></p>		<p>\$85,000</p>	

Alameda Countywide Clean Water Program

Planning and Regulatory Compliance General Program Work Plan and Budget - FY 2001/02

Task Number and Description	Rationale/Background (if necessary)	Budget	Schedule/ Due Date
<ul style="list-style-type: none"> <li>• Annual NPDES Permit Fee.</li> <li>• BASMAA and California SWQTF contributions</li> </ul>		(\$10,000) (\$75,000)	
<b>Total Budget</b>		\$519,000	

Alameda Countywide Clean Water Program

Watershed Assessment General Program Work Plan and Budget - FY 2001/02

Task Number and Description	Rationale/Background (if necessary)	Budget	Schedule/ Due Date
<p><b>WA-1. Develop and maintain a GIS resource for watershed information:</b></p> <ul style="list-style-type: none"> <li>• Continue mapping of pilot watersheds, and fill high-priority data needs such as digital conversion of available data or maps. Priorities and map projects to be developed in consultation with the local co-permittees or other watershed partners, and in coordination with other regional efforts.</li> <li>• Develop framework for long-term inventory of other Alameda County watersheds. Identify needs and priorities for incorporating data.</li> </ul>	<p>These tasks are all based on the Draft SWQMP, and support Objective #1 of the BASMAA Regional Monitoring Strategy.</p>	<p>\$55,000 (\$45,000) (\$10,000)</p>	<p>Ongoing  Target completion January 2002</p>
<p><b>WA-2. Use a variety of indicators to assess the condition of streams and watersheds:</b></p> <ul style="list-style-type: none"> <li>• Coordinate development of creek indicators (macroinvertebrate community, flow or imperviousness) with the proposed Stream Protection Policy and other regional initiatives.</li> <li>• Provide resources and training to citizen monitoring groups that are working with local watershed partners. May use services for training and technical assistance provided by Watershed Assessment Resource Center or other regional information sources.</li> </ul>		<p>\$30,000 (\$15,000) (\$15,000)</p>	<p>Ongoing</p>
<p><b>WA-3. Provide useful watershed information to the Program and other watershed stakeholders:</b></p> <ul style="list-style-type: none"> <li>• Continue testing and application of selected indicators for contact recreation and human health risk (e.g. microbiological, chemical); provide tools and guidance to co-permittees and other local managers.</li> <li>• Conduct local pilot projects or assist member agencies in conducting watershed inventory and planning.</li> <li>• Prepare watershed maps and other creek information for display on ACCWP website.</li> </ul>		<p>\$56,000 (\$16,000) (\$30,000) (\$10,000)</p>	<p>Ongoing</p>
<p><b>WA-4. Reporting and component management:</b></p> <ul style="list-style-type: none"> <li>• Develop budgets, manage projects, compile reports, and evaluate component activities.</li> </ul>		<p>\$10,000</p>	<p>Ongoing</p>
		<p><b>Total Budget</b></p>	
		<p>\$151,000</p>	

Alameda Countywide Clean Water Program

Monitoring and Special Studies General Program Work Plan and Budget - FY 2001/02

Task Number and Description	Rationale/Background (if necessary)	Budget	Schedule/ Due Date
<p><b>MS-1. Characterize and track pollutants of concern in urban runoff:</b></p> <ul style="list-style-type: none"> <li>• Required contribution to Regional Monitoring Program for Trace Substances.</li> <li>• Continue sediment sampling for Mercury, PCB and organochlorine pesticides, and investigate potential sources in high priority watersheds as requested by Regional Board staff to support TMDL development.</li> <li>• Review past Program fixed-station sampling data and develop statistically sound design for long-term monitoring plan to track metals, pesticides and toxicity.</li> <li>• Conduct stormwater monitoring in accordance with long-term plan.</li> <li>• Refine database of past sampling data; incorporate additional data types and develop queries or other user interfaces to facilitate analysis of long-term trends.</li> </ul>	<p>These tasks are based on the Draft SWQMP, and support Objective #2 of the BASMAA Regional Monitoring Strategy.</p> <p>An anticipated increase in the annual RMP fee has been estimated at 10% for calendar year 2002.</p> <p>One-time allocation for review of past data and preparation of long-term plan, to be updated after several years of sampling.</p>	<p>\$267,000</p> <p>(\$147,000)</p> <p>(\$50,000)</p> <p>(\$30,000)</p> <p>(\$15,000)</p> <p>(\$25,000)</p>	<p>Ongoing</p>
<p><b>MS-2. Evaluate the effectiveness of urban runoff BMPs:</b></p> <ul style="list-style-type: none"> <li>• Conduct special studies focusing on TMDL priority pollutants and their sources. These studies may include: planning of data collection for future TMDLs; local source identification; identification or refinement of specific control measures.</li> <li>• Conduct studies to assist establishment of local design standards for treatment and retention of runoff from new developments and redevelopment areas, similar to the SUSWMP requirements being discussed in relation to Santa Clara's NPDES permit renewal.</li> </ul>	<p>These tasks are based on the Draft SWQMP, and support Objective #3 of the BASMAA Regional Monitoring Strategy.</p> <p>ACCWP's next NPDES permit is likely to include similar requirements, pursuant to recent "Bellflower" decision.</p>	<p>\$75,000</p> <p>(\$35,000)</p> <p>(\$40,000)</p>	<p>Ongoing</p>
<p><b>MS-3. Provide technical information on management issues involving urban runoff:</b></p> <ul style="list-style-type: none"> <li>• Conduct special studies to address data gaps or management issues concerning pollutants of concern and urban runoff impacts.</li> <li>• Provide miscellaneous technical on-call support as needed.</li> </ul>	<p>These tasks support stormwater management and pollution prevention by co-permittees</p>	<p>\$37,000</p> <p>(\$27,000)</p> <p>(\$10,000)</p>	<p>Ongoing</p>

Alameda Countywide Clean Water Program

Monitoring and Special Studies General Program Work Plan and Budget - FY 2001/02

Task Number and Description	Rationale/Background (if necessary)	Budget	Schedule/ Due Date
<b>MS-4. Coordinate with RMP and BASMAA:</b> <ul style="list-style-type: none"> <li>• Participate in BASMAA Monitoring Committee, RMP technical review, other regional stakeholder discussions.</li> </ul>		\$24,000	Ongoing
<b>MS-5. Reporting and component management:</b> <ul style="list-style-type: none"> <li>• Facilitate and support Watershed Assessment and Monitoring Subcommittee.</li> <li>• Develop component budgets, track expenditures, conduct special studies needs assessment, evaluate component activities and manage component tasks.</li> </ul>		\$45,000 (\$20,000) (\$25,000)	Ongoing
<b>Total Budget</b>		\$448,000	



Alameda Countywide Clean Water Program

Public Information/Participation General Program Work Plan and Budget - FY 2001/02

Task Number and Description	Rationale/Background (if necessary)	Budget	Schedule/ Due Date
<p><b>PIP 1. Implement targeted outreach:</b></p> <ul style="list-style-type: none"> <li>Targeted campaigns will focus on helping to implement the control measure plans for specific water quality impairing pollutants. The pollutants that appear to be priorities on the Regional Board's list include mercury, PCBs and dioxin compounds, and pesticides. The campaigns will focus primarily on targeting residential usage and encouraging residents to prevent pollution.</li> </ul>	<p>Regional Advertising Campaign Local Placement of Advertising Collaboration with BASMAA and others</p>	<p>\$205,000 (\$100,000) (\$95,000) (\$10,000)</p>	<p>Ongoing</p>
<p><b>PIP 2. Continue to reinforce storm water messages:</b></p> <ul style="list-style-type: none"> <li>This task supports reinforcing general and specific storm water messages.</li> </ul>	<p>IPM partnership Media Relations Outreach Events</p>	<p>\$41,000 (\$21,000) (\$10,000) (\$10,000)</p>	<p>Ongoing</p>
<p><b>PIP 3. Support educational and watershed-based approaches:</b></p> <ul style="list-style-type: none"> <li>This task will provide support for programs that educate students about stormwater pollution (for example, Bay Savers, Kids in Creeks, or Estuary Action Challenge), the Community Stewardship Grants program, and outreach events such as the <i>Watershed Symposium</i>.</li> </ul>	<p>Bay Savers Aquatic Outreach Institute Estuary Action Community Stewardship Symposium BAEER Fair</p>	<p>\$170,000 (\$56,000) (\$70,000) (\$15,000) (\$17,500) (\$10,000) (\$2,500)</p>	<p>Ongoing</p>
<p><b>PIP 4. Support municipalities:</b></p> <ul style="list-style-type: none"> <li>This task includes: developing and obtaining promotional materials for use by the municipalities; updating, reprinting, and distributing existing ACCWP materials; and, responding to requests for information from the public and member agencies.</li> </ul>	<p>Materials Support</p>	<p>\$74,000  (\$50,000) (\$24,000)</p>	<p>Ongoing</p>
<p><b>PIP 5. Component management and evaluation:</b></p> <ul style="list-style-type: none"> <li>This task includes: subcommittee support, component evaluation, task management, and the development of work plans and budgets.</li> </ul>	<p>Subcommittee Support \$20,000 Component Evaluation \$7,000 Component Management \$40,000</p>	<p>\$67,000 (\$20,000) (\$7,000) (\$40,000)</p>	<p>Ongoing</p>
<b>Total Budget</b>		<p>\$555,000</p>	

Alameda Countywide Clean Water Program

Municipal Maintenance Activities General Program Work Plan and Budget - FY 2001/02

Task Number and Description	Rationale/Background (if necessary)	Budget	Schedule/ Due Date
<p><b>MN-1. Implement and Assist with Performance Standards:</b></p> <ul style="list-style-type: none"> <li>• Each agency will implement the performance standards for municipal maintenance activities. The performance standards include the following major activities:                             <ul style="list-style-type: none"> <li>- Street Sweeping</li> <li>- Storm Drain Cleaning</li> <li>- Conducting Training</li> <li>- Reporting</li> </ul> </li> <li>The General Program will work through the Maintenance Subcommittee to resolve implementation and consistency issues.</li> </ul>	<p>Performance standards are the primary method for implementing the SWMP and complying with requirements of the NPDES permit.</p>	<p>\$15,000</p>	<p>Ongoing</p>
<p><b>MN-2. Coordinating Maintenance-Related Activities with Other Subcommittees of the ACCWP, Other Agencies and Private Industries:</b></p> <ul style="list-style-type: none"> <li>• The subcommittee will work with appropriate staff from other Subcommittees of the ACCWP, park and recreation departments, and other public agencies and private industries whose activities are similar to or potentially affect municipal maintenance activities to identify activities of concern. Examples of other public agencies and private industries include PG&amp;E, water suppliers and utilities, garbage collection companies, the Port of Oakland, golf courses, private recreational facilities and animal confinement areas, private recreational facilities and construction contractors.</li> </ul>	<p>Coordination among agencies and industries whose activities affect municipal maintenance will result in greater efficiency and effectiveness in meeting this component's goals.</p>	<p>\$15,000</p>	<p>Ongoing</p>
<p><b>MN-3. Optimize Data Management and Analysis:</b></p> <ul style="list-style-type: none"> <li>• The General Program will optimize ongoing collection, recording and analysis of maintenance data. This will include continuing to evaluate if the types of maintenance data being collected are useful and if other types of data should be collected. Examples of potential studies and data analysis include the following:                             <ul style="list-style-type: none"> <li>- Leaf collection programs</li> <li>- Litter abatement programs.</li> </ul> </li> </ul>	<p>This task is based on the SWMP.</p>	<p>\$15,000</p>	<p>Ongoing</p>
<p><b>MN-4. Outreach and Training:</b></p> <ul style="list-style-type: none"> <li>• The General Program will facilitate outreach and training activities aimed at preventing discharges from maintenance activities, with direction from the Maintenance Subcommittee. This includes selecting the appropriate forum (e.g., workshops, round table meetings, work groups, inter/intra-agency coordination meetings, etc.) depending on the target audiences (e.g., ACCWP agencies, other agencies, property owners, residence, etc.).</li> <li>• The Maintenance Subcommittee will also coordinate outreach activities with</li> </ul>	<p>Outreach activities will educate maintenance staff and the public about the ACCWP's goals related to municipal maintenance and provide information on how the public can help the municipalities achieve these goals.</p>	<p>\$33,000</p>	<p>Ongoing</p>

Alameda Countywide Clean Water Program

Municipal Maintenance Activities General Program Work Plan and Budget - FY 2001/02

Task Number and Description	Rationale/Background (if necessary)	Budget	Schedule/ Due Date
<p>other ACCWP Subcommittees when the objectives of a planned outreach and training activity conducted by the Maintenance Subcommittee overlap with the objectives of another Subcommittee.</p> <p><b>MN-5. Manage Component and Evaluate and Improve its Effectiveness:</b></p> <ul style="list-style-type: none"> <li>• The General Program will assist the Maintenance Subcommittee and its workgroups to conduct meetings and prepare any needed NPDES permit reports and work plans related to this component. This includes assisting with the development of annual General Program budgets. The following activities are examples of how the effectiveness of this component may be evaluated: <ul style="list-style-type: none"> <li>- Survey member public agencies to obtain information about how well this component and the performance standards are working.</li> <li>- Evaluate the information being submitted as part of the annual reports.</li> <li>- Evaluate the Regional Board staff's reviews of the Clean Water Program's performance in this area.</li> </ul> </li> </ul>	<p>This task is based on the SWWMP.</p>	<p>\$10,000</p>	<p>Ongoing</p>
<b>Total Budget</b>		<p>\$88,000</p>	

Alameda Countywide Clean Water Program

New Development and Construction Site Controls General Program Work Plan and Budget - FY 2001/02

Task Number and Description	Rational/Background (if necessary)	Budget	Schedule/ Due Date
<p><b>ND-1. Identify More Specific Stormwater Controls for New Development:</b></p> <ul style="list-style-type: none"> <li>Identify and work with a stakeholder group to develop a method for integrating pollutant and hydromodification controls. Submit method to Regional Board staff and make changes based on their feedback.</li> <li>Identify assistance needed by ACCWP agencies to implement these controls.</li> </ul>	<p>This task is based on the SWMP and Regional Board interest in more directly specifying how treatment, hydromodification, source and design controls, will be used.</p>	<p>\$18,000</p>	<p>06-30-2002</p>
<p><b>ND-2. Assist with Implementation of More Specific Stormwater Controls:</b></p> <ul style="list-style-type: none"> <li>Perform activities identified by New Development Subcommittee as helpful to implementation of the new, more specific controls such as: incorporate the controls into performance standards; develop revised Conditions of Approval and other planning materials; provide information on successful development/redevelopment projects employing the controls and information on cost-effective ways to implement the controls; and assist with implementation of any new development control measures related to a specific pollutant.</li> </ul>	<p>This task is based on the SWMP and municipal planning staff's need to implement treatment, hydromodification, source and design controls.</p>	<p>\$18,000</p>	<p>Ongoing</p>
<p><b>ND-3. Assist Development and Facilitate Use of Watershed Information:</b></p> <ul style="list-style-type: none"> <li>Identify watershed information needs related to New Development. Communicate these needs to the Watershed Monitoring and Management Subcommittee.</li> <li>Facilitate municipal planning and engineering staffs use of this information as it becomes available.</li> </ul>	<p>This task is based on the SWMP and the ACCWP's emphasis on watershed management.</p>	<p>\$3,000 (\$1,000) (\$2,000)</p>	<p>Ongoing</p>
<p><b>ND-4. Promote Outreach and Training:</b></p> <ul style="list-style-type: none"> <li>Conduct one outreach and/or training event to a target group (agency staff or building industry) chosen by the New Development Subcommittee.</li> <li>Develop and distribute outreach materials with direction from New Development Subcommittee. Compile and distribute guidance and educational material to agency staff.</li> </ul>	<p>This task is based on the SWMP. The focus of training and outreach materials will be on the specific pollutant and hydromodification controls developed in Task 7.1.</p>	<p>\$18,000 (\$10,000) (\$8,000)</p>	<p>06-30-2002</p>

Alameda Countywide Clean Water Program

New Development and Construction Site Controls General Program Work Plan and Budget - FY 2001/02

Task Number and Description	Rational/Background (if necessary)	Budget	Schedule/ Due Date
<p><b>ND-5. Assist with NPDES Permit Requirements, Reports, and Budgets:</b></p> <ul style="list-style-type: none"> <li>Provide support for monthly New Development Subcommittee meetings and any needed work group meetings. Prepare reports, budgets, and other items to assist with implementation and documentation of this component. Evaluate effectiveness of this component so that the New Development Subcommittee can make improvements to the General Program.</li> </ul>	<p>This task is based on the SWMP and the ACCWP desire to implement a process of continuous improvement.</p>	<p>\$25,000</p>	<p>Ongoing</p>
<b>Total Budget</b>		<p>\$82,000</p>	

Alameda Countywide Clean Water Program

Illicit Discharge Controls General Program Work Plan and Budget - FY 2001/02

Task Number and Description	Rational/Background (if necessary)	Budget	Schedule/ Due Date
<p><b>ID-1. Implement and Assist with Performance Standards:</b></p> <ul style="list-style-type: none"> <li>Provide input and direction on the next Stormwater Management Plan and permit application based on comments from the I&amp;DC Subcommittee.<sup>1</sup> Review component performance standards and update as needed.</li> </ul>	<p>This task is based on the SWMP. Performance standards are reviewed annually, and updated as necessary.</p>	<p>\$1,000</p>	<p>Ongoing 01-01-2002</p>
<p><b>ID-2. Assist Member Agencies Comply with Requirements for Conditionally Exempt Non-Stormwater Discharges:</b></p> <ul style="list-style-type: none"> <li>Facilitate compliance with conditionally exempt non-stormwater discharges. Work with the I&amp;DC Subcommittee to identify effective control measures. Facilitate process for adding new conditionally exempt non-stormwater discharges and developing appropriate BMPs.</li> </ul>	<p>This task is based on the SWMP, the municipal stormwater NPDES permit, and "Table 5. Summary of Conditionally Exempt Discharges, Follow-up, and Schedule" of the ACCWP 1997/98 Annual Report.</p>	<p>\$7,000</p>	<p>09-15-2002</p>
<p><b>ID-3. Track and Analyze Non-Stormwater Discharge Reports:</b></p> <ul style="list-style-type: none"> <li>Collect and analyze information on illicit discharge control activities reported in the ACCWP agencies' quarterly summary reports. Analyze information to detect trends and to improve planning and management of illicit discharge control program activities, with direction from the I&amp;DC Subcommittee.</li> </ul>	<p>This task is based on the SWMP and the municipal stormwater NPDES permit.</p>	<p>\$20,000</p>	<p>03-15-2002 &amp; 09-15-2002</p>
<p><b>ID-4. Conduct Outreach and Training:</b></p> <ul style="list-style-type: none"> <li>Facilitate outreach and training activities to prevent illicit discharges, with direction from the I&amp;DC Subcommittee. Develop materials to support outreach and training activities.</li> <li>Identify a target audience and select appropriate outreach activity at least once every two years.</li> </ul>	<p>This task is based on the SWMP.</p>	<p>\$12,000 (\$2000) (\$10,000)</p>	<p>07-01-2002</p>
<p><b>ID-5. Manage Component and Evaluate and Improve Its Effectiveness:</b></p> <ul style="list-style-type: none"> <li>Assist I&amp;DC Subcommittee and its workgroups to conduct meetings and prepare NPDES permit reports, work plans and associated budgets related to this component.</li> </ul>	<p>This task is based on the SWMP. All agencies will submit their action plan using the same form to help ensure the information reported is consistent countywide.</p>	<p>\$6,000</p>	<p>12-15-2001 03-15-2002 &amp; 09-15-2002</p>
<b>Total Budget</b>		<p>\$46,000</p>	

<sup>1</sup> The majority of the budget for I&DC Subcommittee coordination of illicit discharge control consistency issues is included in Task 9.2.

Alameda Countywide Clean Water Program

Industrial and Commercial Discharge Controls General Program Work Plan and Budget - FY 2001/02

Task Number and Description	Rational/Background (if necessary)	Budget	Schedule/ Due Date
<p><b>ICD-1. Assist with the Implementation of Business Inspections, Enforcement and Educational Outreach Activities:</b></p> <ul style="list-style-type: none"> <li>Assist Agencies to implement business inspections and related performance standards and encourage Program-wide consistency under the auspices of the Industrial/Commercial &amp; Illicit Discharge Control (I&amp;IDC) Subcommittee and its work groups.</li> <li>Review performance standards and make improvements on a biannual or more frequent basis.</li> </ul>	<p>This task is based on SWMP. <i>Illicit Discharge Control Program coordination is incorporated into this budget.</i></p>	<p>\$45,000</p>	<p>Ongoing</p>
<p><b>ICD-2. Develop BMP Guidance Materials:</b></p> <ul style="list-style-type: none"> <li>Identify target audiences and which format to use for materials under the direction of the Industrial/Commercial &amp; Illicit Discharge Control Subcommittee. Produce materials.</li> </ul>	<p>This task is based on SWMP. Guidance materials will support both illicit discharge control and industrial/commercial discharge control activities.</p>	<p>18,000</p>	<p>Ongoing</p>
<p><b>ICD-3. Track and Analyze Facility Inspection Reports:</b></p> <ul style="list-style-type: none"> <li>Collect and analyze facility inspection report forms. Discuss findings with and perform additional analysis at the request of the Industrial/Commercial &amp; Illicit Discharge Control Subcommittee.</li> </ul>	<p>This task is based on SWMP.</p>	<p>\$20,000</p>	<p>Ongoing</p>
<p><b>ICD-4. Conduct Outreach and Training:</b></p> <ul style="list-style-type: none"> <li>Identify a target audience (agency, business groups or industrial/ commercial associations), select appropriate forum for outreach under the direction of the Industrial/Commercial &amp; Illicit Discharge Control Subcommittee. Conduct outreach or training activity(s) on a biannual or more frequent basis. When common objectives exist, coordinate training or outreach events with other General Program subcommittees.</li> </ul>	<p>This task is based on the SWMP.</p>	<p>\$15,000</p>	<p>06-30-2003</p>
<p><b>ICD-5. Assist with NPDES Permit Requirements, Reports, Budgets and Evaluation of Industrial Discharge Control Activities:</b></p> <ul style="list-style-type: none"> <li>Support the meetings of the Industrial/Commercial &amp; Illicit Discharge Control Subcommittee and work groups. Prepare reports, budgets and other items necessary for administering this component and ensuring NPDES Permit compliance. Evaluate effectiveness of component through business surveys, analysis of agency annual report submittals and Regional Board staff's reviews. Based on evaluation, suggest policy and procedure improvements.</li> </ul>	<p>This task is based on the SWMP.</p>	<p>26,000</p>	<p>Ongoing</p>
<p><b>Total Budget</b></p>		<p>\$124,000</p>	

## ***Appendix C: Pollutant Reduction Plans***

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**Table C-1- Diazinon Pollutant Reduction Plan: FYs 2001/02 and 2002/03**

**These plans will be replaced by new plans when available according to the reissued NPDES permit's requirements**

Area of Activity	Specific Tasks	Schedule	Conducted by:
<b>Municipal Activities</b>			
<b>MA-1:</b> Survey agency use of insecticides	<ol style="list-style-type: none"> <li>1) Conduct survey of insecticide use by municipal employees or contractors.</li> <li>2) Assess results of survey and develop a plan to minimize the potential for municipal use of insecticides to impact storm water quality.</li> <li>3) Begin implementation of recommended activities</li> </ol>	<ol style="list-style-type: none"> <li>1) FY 01/02</li> <li>2) FY 01/02</li> <li>3) FY 01/02</li> </ol>	<ol style="list-style-type: none"> <li>1) Municipalities/ Program</li> <li>2) Municipalities/ Program</li> <li>3) Municipalities</li> </ol>
<b>MA-2:</b> Train municipal employees who use insecticides about insecticide-related surface water toxicity, proper use and disposal of insecticides, and less-toxic methods of prevention and control.	<ol style="list-style-type: none"> <li>1) Conduct survey of established training requirements for municipal employees who use insecticides. Report on results.</li> <li>2) Assess results of survey and develop a plan to augment existing training activities.</li> <li>3) Implement training activities</li> </ol>	<ol style="list-style-type: none"> <li>1) FY 01/02</li> <li>2) FY 01/02</li> <li>3) FY 01/02</li> </ol>	<ol style="list-style-type: none"> <li>1) Municipalities/ Program</li> <li>2) Planning Comp.</li> <li>3) Municipalities/ Planning Comp.</li> </ol>
<b>MA-3:</b> Integrated Pest Management (IPM) practices, policies, or ordinances.	<ol style="list-style-type: none"> <li>1) Review established IPM practices, policies, or ordinances. Determine if additional practices, policies or ordinances should be developed. Submit written report on findings and recommended actions to Regional Board.</li> <li>2) Compile examples of IPM practices, policies, and ordinances and provide to member agencies. Assist member agencies with implementation as appropriate.</li> <li>3) Implement recommendations from Task 1.</li> </ol>	<ol style="list-style-type: none"> <li>1) FY 01/02</li> <li>2) FY 01/02</li> <li>3) FY 01/02</li> </ol>	<ol style="list-style-type: none"> <li>1) Municipalities/ Program</li> <li>2) Planning Comp.</li> <li>3) Municipalities</li> </ol>

**Table C1- Diazinon Pollutant Reduction Plan: FYs 2001/02 and 2002/03**

These plans will be replaced by new plans when available according to the reissued NPDES permit's requirements

Area of Activity	Specific Tasks	Schedule	Conducted by:
<b>Outreach</b>			
<p><b>OR-1 Outreach to Residents:</b> Continue to develop and distribute information to the general public on pesticide-related toxicity, proper use and disposal of pesticides, and less-toxic methods of pest prevention and pest control.</p>	<ol style="list-style-type: none"> <li>1) Support "Our Water, Our World" point of purchase campaign.</li> <li>2) Develop distribution plan for insecticide related outreach materials.</li> <li>3) Implement distribution plan</li> </ol>	<ol style="list-style-type: none"> <li>1) FY 01/02</li> <li>2) FY 01/02</li> <li>3) FY 01/02</li> </ol>	<ol style="list-style-type: none"> <li>1) P/I/P Comp.</li> <li>2) Municipalities and P/I/P Comp.</li> <li>3) Municipalities and P/I/P Comp.</li> </ol>
<p><b>OR-2 Outreach to Commercial Facilities:</b> Provide information to selected businesses (e.g., restaurants, and supermarkets) about insecticide-related surface water toxicity, proper use and disposal of insecticides, and less-toxic methods of prevention and control.</p>	<ol style="list-style-type: none"> <li>1) Select business sector and develop or adopt outreach material</li> <li>2) Distribute Material in conjunction with Industrial/Commercial Inspection Program</li> </ol>	<ol style="list-style-type: none"> <li>1) FY 01/02</li> <li>2) FY 02/03</li> </ol>	<ol style="list-style-type: none"> <li>1) II&amp;ID Comp. / Planning Comp.</li> <li>2) Municipalities</li> </ol>
<b>Develop Partnerships</b>			
<p><b>DP-1 PCOs:</b> The Program will contact licensed applicators in the county, and will work with those who are willing, to set up a program to minimize water quality impacts from structural pest control applications.</p>	<ol style="list-style-type: none"> <li>1) Contact licensed applicators and coordinate development of IPM approach</li> <li>2) Begin implementation of IPM approach</li> </ol>	<ol style="list-style-type: none"> <li>1) FY 01/02</li> <li>2) FY 02/03</li> </ol>	<ol style="list-style-type: none"> <li>1) Planning Comp.</li> <li>2) Planning Comp.</li> </ol>
<p><b>DP-2 HHW facilities:</b> Continue to support and promote household hazardous waste collection as an important insecticide disposal option for residents.</p>	<ol style="list-style-type: none"> <li>1) HHW info on P<sup>2</sup> Outreach material.</li> <li>2) Conduct meeting(s) with HHW staff to discuss additional opportunities for coordination.</li> <li>3) Begin Implementation of activities developed in Task 2.</li> </ol>	<ol style="list-style-type: none"> <li>1) Ongoing</li> <li>2) FY 01/02</li> <li>3) FY 01/02</li> </ol>	<ol style="list-style-type: none"> <li>1) P/I/P Comp.</li> <li>2) Planning Comp.</li> <li>3) Program or municipalities as appropriate</li> </ol>
<p><b>DP-3 Agricultural Commission:</b></p>	<ol style="list-style-type: none"> <li>1) Conduct meeting(s) with County Agriculture staff to coordinate development of outreach for PCOs.</li> </ol>	<ol style="list-style-type: none"> <li>1) FY 01/02</li> </ol>	<ol style="list-style-type: none"> <li>1) Planning Comp.</li> </ol>

**Table C1- Diazinon Pollutant Reduction Plan: FYs 2001/02 and 2002/03**

These plans will be replaced by new plans when available according to the reissued NPDES permit's requirements

Area of Activity	Specific Tasks	Schedule	Conducted By
<b>Monitoring</b>			
<b>M-1:</b> Use monitoring and science to investigate local impacts and sources.	<ol style="list-style-type: none"> <li>1) Develop insecticide application/runoff model.</li> <li>2) Track long term trends in storm water toxicity and insecticide concentrations (will be included in long-term monitoring plan)</li> </ol>	<ol style="list-style-type: none"> <li>1) FY 01/02</li> <li>2) Ongoing</li> </ol>	<ol style="list-style-type: none"> <li>1) Monitoring Comp.</li> <li>2) Monitoring Comp.</li> </ol>
<b>Regulatory</b>			
<b>R-1:</b> Participate in the pesticide regulatory processes as appropriate.	<ol style="list-style-type: none"> <li>1) Provide written comments to Regional Board, U.S. EPA and California Department of Pesticide Regulation as appropriate.</li> <li>2) Provide monitoring data to Regional Board, U.S. EPA and California Department of Pesticide Regulation as appropriate.</li> </ol>	<ol style="list-style-type: none"> <li>1) Ongoing</li> <li>2) Ongoing</li> </ol>	<ol style="list-style-type: none"> <li>1) Planning Comp.</li> <li>2) Monitoring Comp.</li> </ol>
<b>Coordination</b>			
<b>C-1:</b> Coordinate implementation of the PRP.	<ol style="list-style-type: none"> <li>1) Establish work group to coordinate implementation across components, develop reporting forms and assist municipalities.</li> <li>2) Coordinate with BASMAA, the California Storm Water Quality Task Force and the Urban Pesticide Committee as appropriate.</li> </ol>	<ol style="list-style-type: none"> <li>1) Ongoing</li> <li>2) Ongoing</li> </ol>	<ol style="list-style-type: none"> <li>1) Planning Comp.</li> <li>2) Planning Comp.</li> </ol>
<b>Evaluation</b>			
<b>V-1:</b> Evaluate implementation of the PRP	<ol style="list-style-type: none"> <li>1) Review each of the action items and develop and conduct evaluations as appropriate.</li> <li>2) Report on the results of the evaluations to the Regional Board</li> </ol>	<ol style="list-style-type: none"> <li>1. Annually</li> <li>2. Annually</li> </ol>	<ol style="list-style-type: none"> <li>1. Planning Comp.</li> <li>2. Planning Comp.</li> </ol>

Table C2- Mercury Pollutant Reduction Plan: FYs 2001/2, 2002/3 and 2003/4

These plans will be replaced by new plans when available according to the reissued NPDES permit's requirements

Area of Activity	Specific Tasks	Schedule	Conducted by:
<b>Municipal Activities</b>			
<b>MA1 Fluorescent Bulb Recycling</b>	<ol style="list-style-type: none"> <li>1) Conduct survey of fluorescent bulb recycling practices currently employed by municipalities.</li> <li>2) Assess potential for improvement in recycling practices.</li> <li>3) Implement improved practices</li> </ol>	<ol style="list-style-type: none"> <li>1) FY 02/03</li> <li>2) FY 02/03</li> <li>3) FY 03/04</li> </ol>	<ol style="list-style-type: none"> <li>1) Municipalities</li> <li>2) Municipalities</li> <li>3) Municipalities</li> </ol>
<b>MA2- Mercury Reduction Policies/Ordinances</b>	<ol style="list-style-type: none"> <li>1) Assess feasibility of implementing purchasing policies to reduce the use of mercury containing products.</li> <li>2) Implement activities from assessment as appropriate.</li> </ol>	<ol style="list-style-type: none"> <li>1) FY 02/03</li> <li>2) FY 03/04</li> </ol>	<ol style="list-style-type: none"> <li>1) Municipalities</li> <li>2) Municipalities</li> </ol>
<b>Outreach</b>			
<b>OR1- Outreach to Businesses:</b> Work with business community to increase level of fluorescent lamp recycling.	<ol style="list-style-type: none"> <li>1) Identify obstacles to increased fluorescent lamp recycling.</li> <li>2) Work with appropriate entities to try to minimize obstacles.</li> </ol>	<ol style="list-style-type: none"> <li>1) FY 02/03</li> <li>2) FY 02/03</li> </ol>	<ol style="list-style-type: none"> <li>1) Planning Comp.</li> <li>2) Planning Comp.</li> </ol>
<b>OR2- Outreach to Residents:</b> Develop and distribute information to the general public on mercury related hazards, proper use and disposal of mercury containing products, and mercury free alternatives.	<ol style="list-style-type: none"> <li>1) Develop mercury related outreach program</li> <li>2) Conduct public outreach</li> </ol>	<ol style="list-style-type: none"> <li>1) FY 02/03</li> <li>2) FY 03/04</li> </ol>	<ol style="list-style-type: none"> <li>1) P/I/P Comp.</li> <li>2) P/I/P Comp. and/or Municipalities</li> </ol>
<b>Partner with Other Agencies</b>			
<b>P1- Household Hazardous Waste:</b> Continue to support and promote household hazardous waste collection as a mercury disposal option for residents.	<ol style="list-style-type: none"> <li>1) HHW info on P<sup>2</sup> Outreach material.</li> <li>2) Conduct meeting(s) with HHW staff to discuss opportunities for coordination.</li> <li>3) Begin implementation of activities developed in Task 2.</li> </ol>	<ol style="list-style-type: none"> <li>1) Ongoing</li> <li>2) FY 01/02</li> <li>3) FY 02/03</li> </ol>	<ol style="list-style-type: none"> <li>1) P/I/P Comp.</li> <li>2) Planning Comp.</li> <li>3) Program or municipalities as appropriate</li> </ol>

Table C2- Mercury Pollutant Reduction Plan: FYs 2001/2, 2002/3 and 2003/4

These plans will be replaced by new plans when available according to the reissued NPDES permit's requirements

Area of Activity	Specific Tasks	Schedule	Conducted by:
<p><b>P2- Green Business Program:</b></p>	<ol style="list-style-type: none"> <li>1) Evaluate funding Green Business Program</li> <li>2) Assess potential for improving Green Business Program's fluorescent bulb recycling component</li> <li>3) Promote Program's and municipalities' use of Green Businesses</li> <li>4) Promote public's use of Green Businesses</li> </ol>	<ol style="list-style-type: none"> <li>1) FY 01/02 &amp; 02/03</li> <li>2) FY 01/02</li> <li>3) Starting 02/03</li> <li>4) Starting 02/03</li> </ol>	<ol style="list-style-type: none"> <li>1) II&amp;ID Corp.</li> <li>2) II&amp;ID Corp.</li> <li>3) Planning Comp. and Municipalities</li> <li>4) P/I/P</li> </ol>
<p><b>Regulatory Involvement</b></p>			
<p><b>R1:</b> Participate in the mercury TMDL process.</p>	<ol style="list-style-type: none"> <li>1) Attend mercury TMDL meetings as appropriate.</li> <li>2) Provide written comments to U.S. EPA and the Regional Board as appropriate.</li> <li>3) Support legislation to reduce mercury use.</li> </ol>	<ol style="list-style-type: none"> <li>1) Ongoing</li> <li>2) Ongoing</li> <li>3) Ongoing</li> </ol>	<ol style="list-style-type: none"> <li>1) Planning Comp.</li> <li>2) Planning Comp</li> <li>3) Planning Comp</li> </ol>
<p><b>R2:</b> Fluorescent Bulb Recycling</p>	<ol style="list-style-type: none"> <li>1) Encourage the Department of Toxic Substances Control to promote recycling of fluorescent bulbs through revisions to Universal Waste Rule.</li> </ol>	<ol style="list-style-type: none"> <li>1) Ongoing</li> </ol>	<ol style="list-style-type: none"> <li>1) Planning Comp.</li> </ol>
<p><b>Monitoring</b></p>			
<p><b>M1:</b> Use monitoring and science to investigate local impacts and sources.</p>	<ol style="list-style-type: none"> <li>1) Conduct survey of stream sediments to assess concentrations and loading of mercury.</li> <li>2) Conduct additional surveys or special studies as appropriate.</li> </ol>	<ol style="list-style-type: none"> <li>1) FY 01/02</li> <li>2) As appropriate</li> </ol>	<ol style="list-style-type: none"> <li>1) Monitoring Comp.</li> <li>2) Monitoring Comp.</li> </ol>
<p><b>Coordination and Evaluation</b></p>			
<p><b>CE1:</b> Coordinate implementation of the mercury PRP.</p>	<ol style="list-style-type: none"> <li>1) Coordinate implementation across components.</li> <li>2) Coordinate with BASMAA, the Regional Board, and U.S. EPA as appropriate.</li> </ol>	<ol style="list-style-type: none"> <li>1) Ongoing</li> </ol>	<ol style="list-style-type: none"> <li>1) Planning Comp.</li> </ol>
<p><b>CE2:</b> Evaluate implementation of the mercury PRP</p>	<ol style="list-style-type: none"> <li>1) Review each of the action items and develop and conduct evaluations as appropriate.</li> <li>2) Report on the results of the evaluations to the Regional Board</li> </ol>	<ol style="list-style-type: none"> <li>1) Annually</li> <li>2) Annually</li> </ol>	<ol style="list-style-type: none"> <li>1) Planning Comp.</li> <li>2) Planning Comp.</li> </ol>

Table C3- Copper Pollutant Reduction Plan: FYs 2001/2 and 2002/3

These plans will be replaced by new plans when available according to the reissued NPDES permit's requirements

Area of Activity	Specific Tasks	Schedule	Conducted by:
<b>Brake Pad Partnership</b>			
<b>B-1: Brake Pad Partnership</b>	1) Contribute funds to support Brake Pad Partnership effort.	1) FY 01/02 & 02/03	1) Planning Comp.
<b>Municipal Activities</b>			
<b>MA1: Architectural uses of copper</b>	1) Assess feasibility and effectiveness of reducing the use of copper in roofs or gutters. 2) Implement actions based on results of assessment.	1) FY 01/02 2) FY 02/03	1) New Development and Monitoring Comp. 2) Municipalities
<b>MA2: Street Sweeping</b>	1) Continue street sweeping in accordance with Municipal Maintenance Performance Standard.	1) Ongoing	1) Municipalities.
<b>MA3- Outreach to Businesses:</b> Conduct outreach to selected business sector (e.g., metal finishers, pool maintenance, auto repair) regarding BMPs to reduce copper discharge.	1) Select Business Sector and Develop Outreach 2) Distribute material in conjunction with Industrial/Commercial inspection program	1) FY 02/03 2) FY 03/04	1) II&ID Comp. 2) Municipalities
<b>Monitoring</b>			
<b>M-1: Use monitoring and science to investigate local impacts and sources.</b>	1) Track long term trends for copper concentrations in storm water. (Will be included in long-term monitoring plan.) 2) Conduct special studies as appropriate	1) Ongoing 2) As appropriate	1) Monitoring Comp. 2) Monitoring Comp.
<b>Coordination</b>			
<b>C-1: Coordinate implementation of the CMP.</b>	1) Coordinate implementation across components. 2) Coordinate with BASMAA, the Brake Pad Partnership, and others as appropriate.	1) Ongoing 2) Ongoing	1) Planning Comp. 2) Planning Comp.
<b>Evaluation</b>			
<b>V-1: Evaluate implementation of the CMP</b>	1) review each of the action items and develop and conduct evaluations as appropriate. 2) report on the results of the evaluations to the Regional Board	1) Annually 2) Annually	1) Planning Comp. 2) Planning Comp.

Table C4- PCBs Pollutant Reduction Plan: FYs 2001/02 and 2002/03

These plans will be replaced by new plans when available according to the reissued NPDES permit's requirements

Area of Activity	Specific Tasks	Schedule	Conducted by:
<p><b>Monitoring</b></p> <p><b>M-1:</b> Use monitoring and science to further investigate local impacts and sources.</p>	<p>1) Conduct survey of stream sediments to assess concentrations and loadings of PCBs.</p> <p>2) Conduct follow-up activities to track sources of PCBs</p> <p>3) Assess potential for ongoing discharges of PCBs from industrial facilities or other sources.</p> <p>4) Develop a plan to reduce discharges of PCBs in runoff from the county.</p>	<p>1) FY 01/02</p> <p>2) FY 01/02</p> <p>3) FY 01/02</p> <p>4) FY 02/03</p>	<p>1) Monitoring Comp.</p> <p>2) Monitoring Comp.</p> <p>3) Monitoring Comp.</p> <p>4) Monitoring Comp.</p>
<p><b>Regulatory</b></p>			
<p><b>R-1:</b> Participate in the PCB TMDL process as appropriate.</p>	<p>1) Provide written comments on draft documents the Regional Board as appropriate.</p> <p>2) Provide monitoring data to the Regional Board as appropriate.</p>	<p>1) Ongoing</p> <p>2) Ongoing</p>	<p>1) Planning Comp.</p> <p>2) Monitoring Comp.</p>
<p><b>Evaluation</b></p>			
<p><b>V-1:</b> Evaluate implementation of the PRP</p>	<p>1) reviewing each of the action items and develop and conduct evaluations as appropriate.</p> <p>2) report on the results of the evaluations to the Regional Board</p>	<p>1) Annually</p> <p>2) Annually</p>	<p>1) Planning Comp.</p> <p>2) Planing Comp.</p>

## ***Appendix D: Figures***

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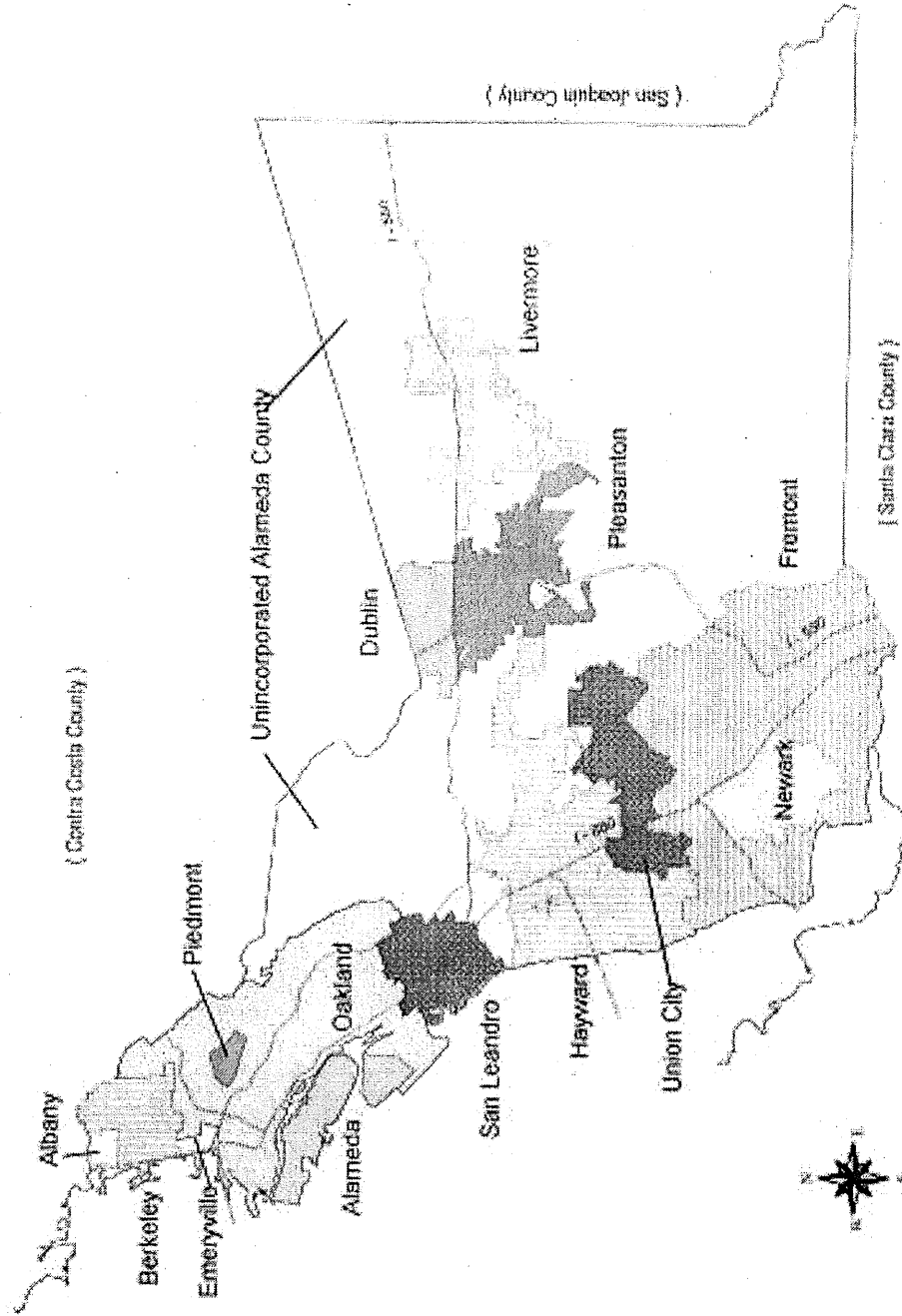
**Figure D-1. Alameda County Municipalities**

**Figure D-2. Major Open Creeks and Waterbodies in Alameda County**

**Figure D-3. Boundaries of Alameda County watersheds**

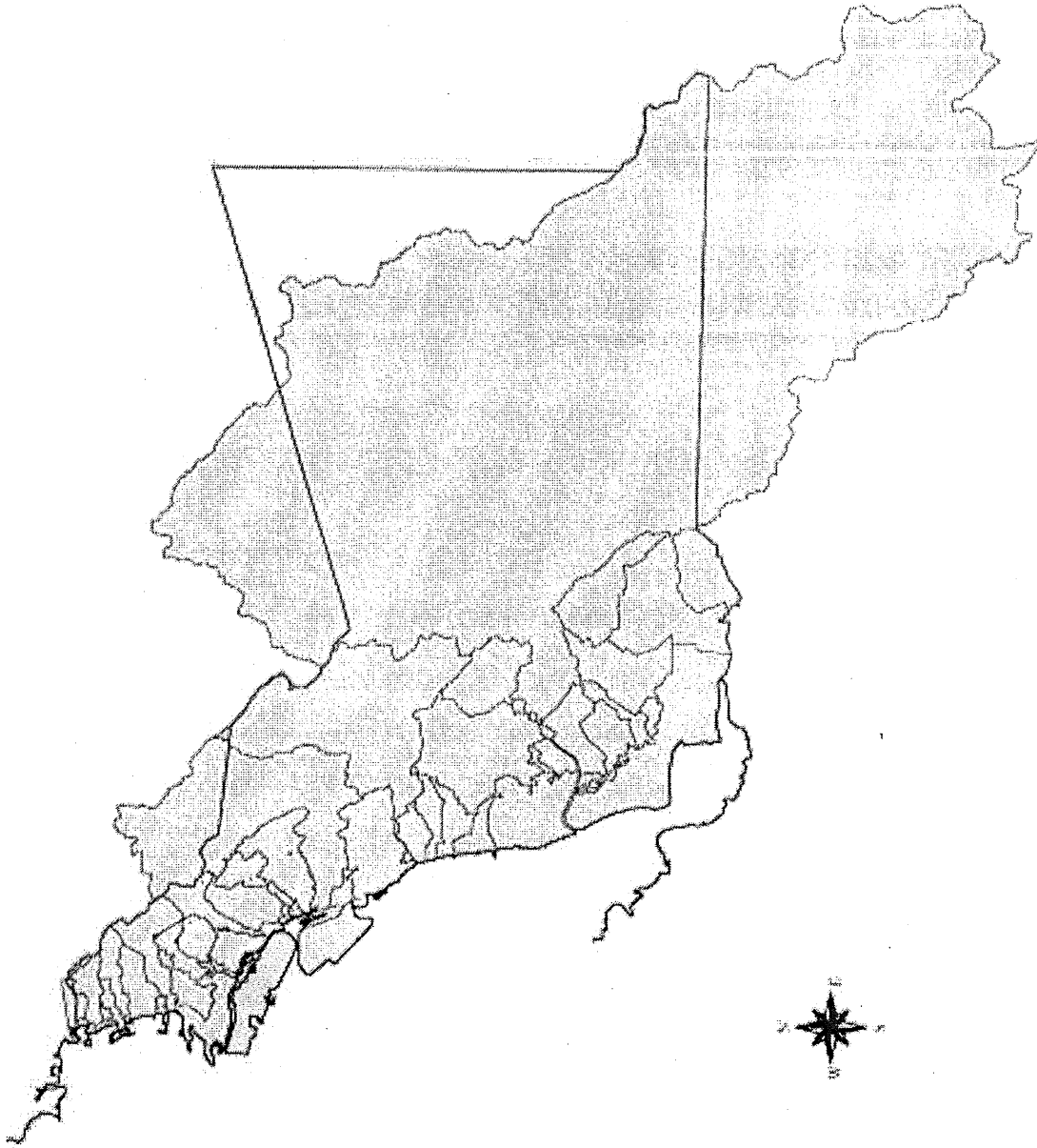


Alameda County Municipalities  
Figure D-1





**Boundaries of Alameda County Watershed  
Figure D-3**





**EXHIBIT 3 TO TEST CLAIM**  
**Alameda Countywide Program - Summary of Co-Permittees' Mandated Costs**

MRP Provision	Name	Permittee Costs									
		Alameda	Alameda County	Albany	Berkeley	Dublin	Emeryville	Fremont	Hayward	Livermore	% Contribution
C.8	PRIOR PERMIT	\$12,407	\$36,956	\$3,126	\$15,236	\$7,808	\$3,126	\$49,756	\$34,527	\$17,654	
	2010	\$15,033	\$44,777	\$3,787	\$18,460	\$9,461	\$3,787	\$60,285	\$41,834	\$21,390	
	2011	\$38,789	\$115,538	\$9,772	\$47,633	\$24,412	\$9,772	\$155,555	\$107,945	\$55,192	
C.10	PRIOR PERMIT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
	2010	\$462,796	\$458,004	\$129,409	\$234,876	\$434,569	\$102,334	\$827,705	\$835,874	\$491,160	
	2011	\$462,889	\$462,574	\$133,120	\$235,105	\$433,140	\$106,154	\$830,216	\$831,954	\$490,034	
C.11/C.12	PRIOR PERMIT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
	2010	\$1,110	\$3,307	\$280	\$1,363	\$699	\$280	\$4,452	\$3,089	\$1,580	
	2011	\$5,339	\$15,902	\$1,345	\$6,556	\$3,360	\$1,345	\$21,410	\$14,857	\$7,596	
<b>TOTALS</b>											
	PRIOR PERMIT	\$12,407	\$36,956	\$3,126	\$15,236	\$7,808	\$3,126	\$49,756	\$34,527	\$17,654	
	2010	\$478,939	\$506,087	\$133,475	\$254,699	\$444,728	\$106,401	\$892,442	\$880,797	\$514,129	
	2011	\$507,017	\$594,014	\$144,237	\$289,293	\$460,912	\$117,271	\$1,007,181	\$954,756	\$552,823	
MRP Provision	Name	Permittee Costs									
		Newark	Oakland	Piedmont	Pleasanton	San Leandro	Union City	ACFCO	Zone 7	Total	% Contribution
C.8	PRIOR PERMIT	\$8,414	\$67,435	\$3,126	\$15,989	\$15,067	\$15,679	\$3,126	\$3,126	\$312,556	
	2010	\$10,194	\$81,705	\$3,787	\$19,372	\$18,256	\$18,996	\$3,787	\$3,787	\$378,698	
	2011	\$26,304	\$210,825	\$9,772	\$49,987	\$47,105	\$49,017	\$9,772	\$9,772	\$977,161	
C.10	PRIOR PERMIT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
	2010	\$368,612	\$922,058	\$30,825	\$426,438	\$797,457	\$230,176	\$342,226	\$107,810	\$7,202,329	
	2011	\$367,516	\$929,938	\$34,933	\$426,800	\$793,179	\$232,706	\$322,222	\$101,390	\$7,193,871	
C.11/C.12	PRIOR PERMIT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	
	2010	\$753	\$6,034	\$280	\$1,431	\$1,348	\$1,403	\$280	\$280	\$27,965	
	2011	\$3,620	\$29,017	\$1,345	\$6,880	\$6,483	\$6,746	\$1,345	\$1,345	\$134,490	
<b>TOTALS</b>											
	PRIOR PERMIT	\$8,414	\$67,435	\$3,126	\$15,989	\$15,067	\$15,679	\$3,126	\$3,126	\$312,556	
	2010	\$379,559	\$1,009,797	\$34,892	\$447,241	\$817,060	\$250,575	\$346,292	\$111,877	\$7,608,992	
	2011	\$397,441	\$1,169,780	\$46,049	\$483,667	\$846,768	\$288,469	\$333,339	\$112,506	\$8,305,521	



**DECLARATION OF JAMES SCANLIN  
IN SUPPORT OF TEST CLAIM**

I, James Scanlin, declare as follows:

1. I make this declaration based upon my own personal knowledge, except for matters set forth herein on information and belief, and as to those matters I believe them to be true, and if called upon to testify, I could and would testify competently to the matters set forth herein.

2. I have received the following degrees: Bachelor of Science, Political Economy of Natural Resources, University of California, Berkeley; Master of Public Administration, California State University, East Bay; Registered Environmental Assessor, State of California.

3. I am employed by the Alameda County Public Works Agency as an Associate Environmental Compliance Specialist. In that position, I serve as lead staff member working on behalf of the Alameda County Flood Control and Water Conservation District ("District"), a division of the Public Works Agency, for the Alameda Countywide Clean Water Program ("Alameda Countywide Program" or "Program"). The District has the responsibility to administer and coordinate the Alameda Countywide Program.

4. The Alameda Countywide Program is a consortium made up of the cities of Alameda, Albany, Berkeley, Dublin, Emeryville, Fremont, Hayward, Livermore, Newark, Oakland, Piedmont, Pleasanton, San Leandro, and Union City; the County of Alameda; the District; and Zone 7 of the District (collectively, the "Permittees"). The Program was created in 1991 through a Memorandum of Agreement ("MOA"). Among other things, the MOA established a General Program, which carries out activities in common on behalf of the Permittees. The MOA also established a management structure and funding mechanism to carry out General Program activities.

5. I have held my current position since 1999. In this role, I have primary responsibility on behalf of the District for administration and coordination of Alameda Countywide Program activities. My duties include preparing annual budgets and expenditure reports, coordinating and submitting required program-wide reports to the Regional Water Quality Control

Board (San Francisco Bay Region) (“Regional Water Board”), and advising the Permittees on compliance with federal and state laws, regulations, and orders.

6. The Permittees are subject to the Municipal Regional Stormwater NPDES Permit, issued by the Regional Water Board, Order No. R2-2009-0074 (NPDES Permit No. CAS612008) (the “MRP”). I have reviewed the MRP and I know and understand its requirements.

7. I have also reviewed and I know and understand the requirements of Order No. R2-2003-0021 (NPDES Permit No. CAS0029831) issued by the RWQCB on February 19, 2003 as amended by Order No. R2-2007-0025 on March 14, 2007 (the “Prior Permit”), under which the ACCWP member agencies were Permittees.

8. Based on my understanding of the Prior Permit and the MRP, I believe the MRP requires the Permittees to perform new activities that are unique to local governmental entities that were not required by the Prior Permit.

9. The MRP’s new activities include the following:

(a) Monitoring

(i) Requirements. Section C.8 of the MRP requires the Permittees to implement a number of water quality monitoring programs that were not required by the Prior Permit.

(1) Provision C.8.b requires an increased level of participation in the Regional Monitoring Program for water quality in the San Francisco Bay Estuary (“RMP”). In addition to increased direct contributions to the RMP, Alameda Countywide Program staff participation is expected to increase by roughly 9% per year in order to provide greater coordination between RMP and MRP objectives for this provision. (MRP at 65).

(2) Provision C.8.c requires a substantially increased level of monitoring effort relative to the Prior Permit by greatly expanding both the number of sites that must be monitored per year and the number of monitoring parameters. (MRP at 65-71). These parameters and sites include:



- Algae bioassessment including expanded physical habitat measurements (20 sites/yr)
- Chlorine (23 sites/yr)
- General Water Quality logger (6 sites/yr)
- Toxicity – Water Column (6 sites/yr)
- Toxicity – Bedded Sediments (3 sites/yr)
- Pollutants – Bedded Sediments (3 sites/yr)
- Stream Surveys (9 miles/yr)
- Total Phosphorus (20 sites/yr)
- Dissolved Orthophosphate (20 sites/yr)
- Total Nitrogen (20 sites/yr)
- Nitrate (20 sites/yr)
- Ammonia (20 sites/yr)
- Silica (20 sites/yr)
- Chloride (20 sites/yr)
- Dissolved Organic Carbon (DOC) (20 sites/yr)

(3) Provision C.8.d.iii requires a new type of project that was previously not required under the Prior Permit (Geomorphic Project). This project will require project design, field work, analysis, interpretation and reporting. (MRP at 71-73).

(4) Provision C.8.e requires substantially increased levels of effort for (1) pollutants of concern monitoring, and (2) long-term monitoring.

a. *Pollutants of Concern Monitoring*: The MRP requires the Permittees to undertake the following new and additional monitoring efforts for pollutants of concern, relative to the Prior Permit (MRP at 73-75):

i. Two stations are required to be monitored by the Alameda Countywide Program instead of one, involving new costs for development and maintenance of the second stations;

ii. Due to numerous pollutants to be sampled, both the new and existing station will require additional setup (purchasing equipment, installation, calibration of equipment) of monitoring equipment prior to beginning to monitor annually at one station in October 2011 and another beginning in October 2012;

iii. A minimum of four storms have to be sampled per year at each station. While previous monitoring sampled an average of seven storms per year, there will be increased costs for each event, for mobilizing larger field crews, setup and preparation of sampling equipment, and post-storm sample collection, and transport to laboratory. This increased effort would more than double the annual average cost at just one station compared to the previous five-year period.

iv. Numerous pollutants or analytes are required to be monitored (see MRP at 73-75). For completely new analytes, the costs of analysis along with costs associated with specialized protocols or extra field visits for some pollutants significantly increases the annual average cost.

b. *Long-Term Monitoring.* Provision C.8.e.ii requires long-term monitoring at specific stations, pursuant to specific protocols. (MRP at 74). In Alameda County, Permittees are responsible for monitoring at either Alameda Creek or the Lower San Leandro Creek. The Alameda Countywide Program's monitoring requirements under the Prior Permit did not call for monitoring designed to detect long-term trends. This is a new requirement, involving additional resources to collect samples and analyze them for sediment toxicity and a number of new sediment chemistry parameters.

c. *Sediment Delivery Estimate/Budget.* Provision C.8.e.vi requires the Permittees, by July 1, 2011, to develop "a design for a robust sediment delivery estimate/sediment budget in local tributaries and urban drainages." (MRP at 76). The study itself must be implemented by July 1, 2012. The Prior Permit contained no requirement to design or implement sediment delivery studies. This is an entirely new program under the MRP.

(5) Provision C.8.f requires the Permittees to encourage "citizen monitoring," although it does not define this term. (MRP at 76). This is an entirely new requirement. Increases associated with this provision include "reasonable efforts to seek out citizen and stakeholder information and comment regarding waterbody function and quality," and annually demonstrating "that they have encouraged citizen and a stakeholder observations and reporting of waterbody conditions" by reporting on these outreach efforts.

There are no specific increases in number of monitoring sites or parameters associated with this provision, but level of coordination (i.e., staff time) required is greater than the existing level.

(6) Provision C.8.g requires specific contents and format for reporting monitoring data. Under the Prior Permit, the Alameda Countywide Program prepared an annual report which included a description of the Permittees' data collected over the previous fiscal year, and general interpretation of the results. The new, separate annual Urban Creeks Monitoring Report required by the MRP prescribes roughly similar report contents, but due to the increased number of data parameters and programs, the total level of reporting effort by the Program will increase.

(7) Provision C.8.h requires the Permittees to develop significant updates or additions to existing field standard operating procedures and train field staff to allow for monitoring data to be collected by the Alameda Countywide Program using "SWAMP comparable" methods defined by the State Water Resources Control Board's Surface Water Ambient Monitoring Program. Additionally, new data management systems must be developed and managed at significant costs, as the MRP requires data to be reported electronically to the Regional Water Board in "SWAMP comparable" formats. Monitoring data quality assurance procedures (also SWAMP comparable) also have to be developed, documented and adhered to by the Program at all times, which requires an additional level of effort (staff time) compared to previous quality assurance procedures conducted by the Program under the Prior Permit. (MRP at 77-78).

(b) Trash

(i) Requirements. Section C.10 of the MRP requires the Permittees to implement a number of trash-related programs that were not required by the Prior Permit.

(1) Provision C.10.a requires several specified actions to reduce trash loads from municipal separate storm sewer systems ("MS4s"), including developing Short-Term Trash Load Reduction Plans designed to attain 40% trash load reductions from MS4s by July 1, 2014 (C.10.a.i, MRP at 84). These plans must describe, among other things,

new control measures and best management practices that each Permittee will increase and/or implement to achieve the 40% reduction. Additionally, Permittees are required to determine baseline trash loads from each MS4 and tracking methods to account for trash load reductions (C.10.a.ii, MRP at 84), and installing and maintaining specified numbers of full trash capture devices (C.10.a.iii, MRP at 85). Each of these requirements represent new programs that were not required by the Prior Permit.

(2) Provision C.10.b requires Permittees to identify, clean up, and assess the material removed from specified numbers of trash “hot spots” annually, based on population or acreage of retail/wholesale commercial land within each jurisdiction (for population-based permittees). (MRP at 85-86). This is a new requirement not required by the Prior Permit.

(3) Provision C.10.c requires Permittees to submit Long-Term Trash Load Reduction Plans and implementation schedules by February 1, 2014. (MRP at 86). This plan will require implementation methods and practices designed to attain a 70% trash load reduction from MS4s by July 1, 2017, and a 100% reduction by July 1, 2022. This is a new program as such plans were not required by the Prior Permit.

(4) Provision C.10.d requires the Permittees to report annually on its trash load reduction efforts and maintain records documenting these actions and their effects. (MRP at 86-87). These reporting requirements are new programs not required by the Prior Permit.

(c) Mercury and PCBs

(i) Requirements. Sections C.11 and C.12 of the MRP require Permittees to implement pilot projects to divert dry weather and first flush stormwater flows to publicly owned treatment works (“POTWs”). Collectively, all Permittees under the MRP must select five pump stations and five alternates for feasibility studies and pilot diversion studies, must implement flow diversion at five pump stations, and must analyze results, as appropriate, in annual reports. (MRP at 91, 99). The studies and pilot projects are new programs that were not required by the Prior Permit.

10. Costs. The estimated costs allocated to each of the Alameda Countywide Program Permittees during each year of the term of the MRP are summarized below and are detailed in Exhibits A-C to this declaration.

(a) General Assumptions. The anticipated costs stated below are reasonable estimates based on available information and best professional judgment of myself and other Alameda Countywide Program staff, taking into account San Francisco Bay Area market rates for Program and Permittee staff, outside consultants and services, and materials. Where appropriate, additional assumptions are identified in the subsections below, detailing costs for each MRP program area.

(b) Provision C.8 Costs.

(i) Prior Permit Costs. The Permittees' Program-wide cost for monitoring activities under each year of the Prior Permit was an average of approximately \$312,556.<sup>1</sup>

(ii) FY 2010 Costs. The estimated Program-wide cost for implementing monitoring activities mandated by MRP Provision C.8 for Fiscal Year ("FY") 2010-2011 will be \$378,698.

(iii) FY 2011 Costs. The estimated Program-wide cost for implementing monitoring activities mandated by MRP Provision C.8 for FY 2011-2012 will be \$977,161.

(iv) Assumptions. The above cost estimates reflect San Francisco Bay Area market conditions and are based upon personnel costs for field and office work that typically range from \$100 to \$175 per hour and unit costs for chemical and biological laboratory analyses that typically vary between approximately \$10 and \$3,000 per analysis (see discussion of Provisions C.8.c and C.8.e above for specific required analyses).

(v) Cost Allocations. Each Co-Permittee's share of the Provision C.8 costs listed above is detailed in Exhibit A to this Declaration. Pursuant to the Alameda

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<sup>1</sup> This assessment reflects a best professional judgment comparison of previous monitoring activities to MRP requirements. However, some previous tasks have no analogous MRP permit provisions, and these tasks have not been included in the analysis of costs under the Prior Permit.

Countywide Program's MOA, cost allocations for shared responsibilities (the General Program) are made according to a formula ("Funding Formula") for which the Permittees' proportional shares are based on a 50 percent weight given to the area and a 50 percent weight given to the population within each Permittee's jurisdiction (excluding open water and wetland areas of San Francisco Bay). The minimum allocation for each Permittee is 1% of total Program costs. Allocations are revised periodically to reflect changes in the Permittees' relative populations. The current cost allocations for each Permittee based on the Funding Formula are identified in each Exhibit to this Declaration. All monitoring costs are allocated according to the Funding Formula.

(c) Provision C.10 Costs.

(i) Prior Permit Costs. Under the Prior Permit, Permittees did not incur any costs specifically attributable to the MRP's trash-related requirements.

(ii) FY 2010 Costs. The estimated total cost for implementing trash-related activities mandated by MRP Provision C.10 for FY 2010-2011 will be \$7,202,329.

(iii) FY 2011 Costs. The estimated total cost for implementing trash-related activities mandated by MRP Provision C.10 for FY 2011-2012 will be \$7,193,871.

(iv) Assumptions. I and other Alameda Countywide Program staff, as well as staff for other Programs made up of MRP permittees in other Bay Area counties, have collaborated to identify a set of best management practices and control measures that we believe will be necessary in order to achieve the 40% trash load reduction from MS4s by July 1, 2014, as required by Provision C.10.a. These practices and measures, which are to be determined by individual Permittees through their own planning processes, may include a combination of the following:

- Targeted enforcement
- Public education and outreach
- Targeted trash bin/container management
- Single use plastic/paper bag ordinances
- Polystyrene ordinances
- Increased street sweeping and/or storm drain system maintenance (in future permit years)

We have projected Program-wide costs to implement these measures (required by C.10.a.i), as well as the costs associated with specific tasks necessary to implement the remaining C.10 provisions (including determination of baseline trash loads and tracking methods; planning, design, installation, purchase, operation, and maintenance of full trash capture devices; identification, cleanup, and assessment of specified numbers of "hot spots"; long-term trash load reduction planning; and reporting).

(v) Cost Allocations. Each Permittee's share of the Provision C.10 costs listed above is detailed in Exhibit B to this Declaration. Certain measures identified to implement Provision C.10.a (c.g., baseline trash loading estimates and trash load reduction tracking methods) are General Program tasks that will be funded by the Permittees according to the Funding Formula. However, cost allocations for other measures to implement Provision C.10 have been determined based on individual permittees' urban geographical areas, miles required to be covered by increased street sweeping, required full trash capture areas, and/or required number of trash hot spots for cleanup, as appropriate.

(d) Provision C.11.f/C.12.f Costs.

(i) Prior Permit Costs. Under the Prior Permit, Permittees did not incur any costs associated with the mandated diversion studies.

(ii) FY 2010 Costs. The estimated total cost for implementing diversion study activities mandated by MRP Provisions C.11.f and C.12.f for FY 2010-2011 will be \$27,965.

(iii) FY 2011 Costs. The estimated total cost for implementing diversion study activities mandated by MRP Provisions C.11.f and C.12.f for FY 2011-2012 will be \$134,490.

(iv) Assumptions. I and other Alameda Countywide Program staff, as well as staff for other Programs made up of MRP permittees in other Bay Area counties, have collaborated to identify the individual tasks and associated projected costs necessary to implement the five pump station diversion studies required by the MRP. For the Alameda Countywide Program Permittees, these tasks over the next two fiscal years will include

coordination with other MRP permittees via the Bay Area Stormwater Management Agencies Association and significant costs for project planning, permits, administration, legal counsel, and reporting. The Alameda Countywide Program's share of the regional cost to implement these requirements is estimated to be 29.8%.

(v) Cost Allocations. Each Co-Permittee's share of the Provision C.11.f/C.12.f costs listed above is detailed in Exhibit C to this Declaration. Co-Permittee allocations for the C.11.f/C.12.f costs, as shown in Exhibit C, are generally based on the Funding Formula.<sup>2</sup>

(e) Total Costs.

(i) Based on the foregoing, the Co-Permittees' aggregate cost to implement all of the C.8, C.10, and C.11f/C.12.f provisions listed above in FY 2010-2011 is estimated to be approximately \$7,608,992.

(ii) The Co-Permittees' aggregate cost to implement all of the C.8, C.10, and C.11f/C.12.f provisions listed above in FY 2011-2012 is estimated to be approximately \$8,305,521.

11. With the exception of the partial potential funding source set forth below, I am not aware of any dedicated state or federal funds that are or will be available to pay for these increased costs.

(a) Pursuant to the American Recovery and Reinvestment Act ("ARRA"), the San Francisco Estuary Partnership ("SFEP") has been awarded \$5 million from the State Water Resources Control Board's Clean Water State Revolving Fund to purchase trash capture devices and provide them to cities and counties throughout the Bay Area, according to a formula based on population and permit requirements. Participation by municipalities, which is voluntary, will require contracting with the Association of Bay Area Governments and compliance with ARRA and Revolving Fund requirements. Therefore, the ARRA funds represent a potential funding source to offset certain costs to comply with the Provision C.10

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<sup>2</sup> Certain Co-Permittee allocations in future years of the MRP, however, may be based on additional factors other than the Funding Formula.

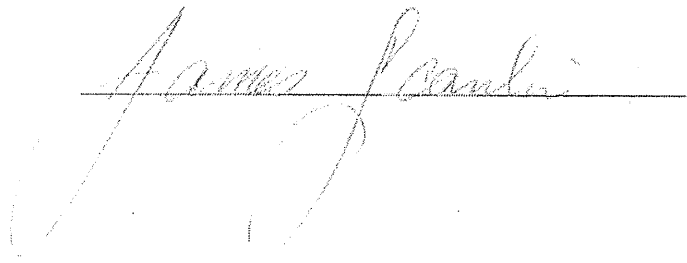


trash-related requirements, although these funds are not guaranteed or dedicated for any particular Permittee and it is not yet known which Permittees will receive funding from this source. The portion of the ARRA funds projected to be available to each Permittee is set forth in Exhibit D to this Declaration.

12. I am not aware of any other non-local agency funds that are or will be available to pay for these increased costs.

Executed this 9th day of September 2010 at Hayward, California.

I declare under penalty of perjury that the foregoing is true and correct.

A handwritten signature in cursive script, appearing to read "James J. Scandini", is written over a horizontal line. The signature is written in dark ink and is somewhat stylized.



**EXHIBIT A TO SCANLIN DECLARATION  
Alameda Countywide Program - Co-Permittees' Costs to Implement Provision C.8 of Municipal Regional Permit**

MRP Provision	Name	Permittee Costs																		
		Alameda 3.97%	Alameda County 11.82%	Albany 1.00%	Berkeley 4.87%	Dublin 2.50%	Emeryville 1.00%	Fremont 15.92%	Hayward 11.05%	Livermore 5.65%										
C.8.b	SF Bay Monitoring (RMP)																			
	C.8.b - PRIOR PERMIT	\$6,361	\$18,948	\$1,603	\$7,812	\$4,003	\$1,603	\$25,510	\$17,702	\$9,051										
	C.8.b - 2010	\$6,830	\$20,344	\$1,721	\$8,387	\$4,298	\$1,721	\$27,390	\$19,007	\$9,718										
C.8.c	Creeks Status Monitoring																			
	C.8.c - PRIOR PERMIT	\$4,798	\$14,291	\$1,209	\$5,892	\$3,020	\$1,209	\$19,240	\$13,352	\$6,827										
	C.8.c - 2010	\$2,044	\$6,088	\$515	\$2,510	\$1,286	\$515	\$8,197	\$5,688	\$2,908										
C.8.d	Monitoring Projects																			
	C.8.d - PRIOR PERMIT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
	C.8.d - 2010	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
C.8.e.i	Pollutants of Concern																			
	C.8.e.i - PRIOR PERMIT	\$792	\$2,358	\$199	\$972	\$498	\$199	\$3,175	\$2,203	\$1,126										
	C.8.e.i - 2010	\$953	\$2,838	\$240	\$1,170	\$600	\$240	\$3,821	\$2,651	\$1,356										
C.8.e.ii	Long Term Monitoring																			
	C.8.e.ii - PRIOR PERMIT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
	C.8.e.ii - 2010	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
C.8.e.vi	Sediment Delivery Estimate/Budget																			
	C.8.e.vi - PRIOR PERMIT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
	C.8.e.vi - 2010	\$193	\$575	\$49	\$237	\$122	\$49	\$774	\$537	\$275										
C.8.f	Citizen Monitoring																			
	C.8.f - PRIOR PERMIT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
	C.8.f - 2010	\$238	\$709	\$60	\$292	\$150	\$60	\$955	\$663	\$339										
C.8.g	Reporting																			
	C.8.g - PRIOR PERMIT	\$456	\$1,360	\$115	\$661	\$287	\$115	\$1,831	\$1,270	\$650										
	C.8.g - 2010	\$800	\$2,384	\$202	\$983	\$504	\$202	\$3,209	\$2,227	\$1,139										
C.8.h	Monitoring Protocols/Data Quality																			
	C.8.h - PRIOR PERMIT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0										
	C.8.h - 2010	\$4,025	\$11,988	\$1,014	\$4,942	\$2,533	\$1,014	\$16,140	\$11,200	\$5,727										
TOTALS																				
	PRIOR PERMIT TOTAL	\$12,407	\$36,956	\$3,126	\$15,236	\$7,808	\$3,126	\$49,756	\$34,527	\$17,654										
	2010 TOTAL	\$15,033	\$44,777	\$3,787	\$18,460	\$9,461	\$3,787	\$60,285	\$41,834	\$21,390										
2011 TOTAL																				
		\$38,789	\$115,538	\$9,772	\$47,633	\$24,412	\$9,772	\$155,555	\$107,945	\$55,192										

Distribution among co-permittees shown using FY2009-10 formula (not in effect for all of previous permits)

**EXHIBIT A TO SCANLIN DECLARATION  
Alameda Countywide Program - Co-Permittees' Costs to Implement Provision C.8 of Municipal Regional Permit**

MRP Provision	Name	Co-permittee Costs										Total									
		Newark 2.69%	Oakland 21.65%	Piedmont 1.00%	Pleasanton 5.12%	San Leandro 4.82%	Union City 5.02%	AGFCB 1.00%	Zone 7 1.00%	Total											
C.8.b	SF Bay Monitoring (RMP)																				
	C.8.b - PRIOR PERMIT	\$4,314	\$34,574	\$1,603	\$8,198	\$7,725	\$8,039	\$1,603	\$1,603	\$1,603	\$1,603	\$1,603	\$1,603	\$1,603	\$1,603	\$1,603	\$1,603	\$1,603	\$1,603	\$160,250	
	C.8.b - 2010	\$4,632	\$37,122	\$1,721	\$8,802	\$8,294	\$8,631	\$1,721	\$1,721	\$1,721	\$1,721	\$1,721	\$1,721	\$1,721	\$1,721	\$1,721	\$1,721	\$1,721	\$1,721	\$1,721	\$172,057
	C.8.b - 2011	\$4,724	\$37,864	\$1,755	\$8,978	\$8,460	\$8,803	\$1,755	\$1,755	\$1,755	\$1,755	\$1,755	\$1,755	\$1,755	\$1,755	\$1,755	\$1,755	\$1,755	\$1,755	\$1,755	\$175,498
C.8.c	Creeks Status Monitoring																				
	C.8.c - PRIOR PERMIT	\$3,254	\$26,077	\$1,209	\$6,183	\$5,826	\$6,063	\$1,209	\$1,209	\$1,209	\$1,209	\$1,209	\$1,209	\$1,209	\$1,209	\$1,209	\$1,209	\$1,209	\$1,209	\$1,209	\$120,864
	C.8.c - 2010	\$1,386	\$11,109	\$515	\$2,634	\$2,482	\$2,583	\$515	\$515	\$515	\$515	\$515	\$515	\$515	\$515	\$515	\$515	\$515	\$515	\$515	\$51,491
C.8.d	C.8.c - 2011	\$12,419	\$99,533	\$4,613	\$23,599	\$22,239	\$23,141	\$4,613	\$4,613	\$4,613	\$4,613	\$4,613	\$4,613	\$4,613	\$4,613	\$4,613	\$4,613	\$4,613	\$4,613	\$4,613	\$461,328
	Monitoring Projects																				
	C.8.d - PRIOR PERMIT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C.8.d	C.8.d - 2010	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	C.8.d - 2011	\$2,517	\$20,173	\$935	\$4,783	\$4,507	\$4,690	\$935	\$935	\$935	\$935	\$935	\$935	\$935	\$935	\$935	\$935	\$935	\$935	\$935	\$93,500
	Pollutants of Concern																				
C.8.e.i	C.8.e.i - PRIOR PERMIT	\$537	\$4,302	\$199	\$1,020	\$961	\$1,000	\$199	\$199	\$199	\$199	\$199	\$199	\$199	\$199	\$199	\$199	\$199	\$199	\$199	\$19,942
	C.8.e.i - 2010	\$646	\$5,178	\$240	\$1,228	\$1,157	\$1,204	\$240	\$240	\$240	\$240	\$240	\$240	\$240	\$240	\$240	\$240	\$240	\$240	\$240	\$24,000
	C.8.e.i - 2011	\$3,715	\$29,774	\$1,380	\$7,059	\$6,652	\$6,922	\$1,380	\$1,380	\$1,380	\$1,380	\$1,380	\$1,380	\$1,380	\$1,380	\$1,380	\$1,380	\$1,380	\$1,380	\$1,380	\$138,000
C.8.e.ii	Long Term Monitoring																				
	C.8.e.ii - PRIOR PERMIT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	C.8.e.ii - 2010	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C.8.e.vi	C.8.e.ii - 2011	\$131	\$1,050	\$49	\$249	\$235	\$244	\$49	\$49	\$49	\$49	\$49	\$49	\$49	\$49	\$49	\$49	\$49	\$49	\$49	\$4,865
	Sediment Delivery Estimator/Budget																				
	C.8.e.vi - PRIOR PERMIT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C.8.f	C.8.e.vi - 2010	\$97	\$777	\$36	\$184	\$174	\$181	\$36	\$36	\$36	\$36	\$36	\$36	\$36	\$36	\$36	\$36	\$36	\$36	\$36	\$3,600
	C.8.e.vi - 2011	\$97	\$777	\$36	\$184	\$174	\$181	\$36	\$36	\$36	\$36	\$36	\$36	\$36	\$36	\$36	\$36	\$36	\$36	\$36	\$3,600
	Citizen Monitoring																				
C.8.f	C.8.f - PRIOR PERMIT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	C.8.f - 2010	\$162	\$1,295	\$60	\$307	\$289	\$301	\$60	\$60	\$60	\$60	\$60	\$60	\$60	\$60	\$60	\$60	\$60	\$60	\$60	\$6,000
	C.8.f - 2011	\$162	\$1,295	\$60	\$307	\$289	\$301	\$60	\$60	\$60	\$60	\$60	\$60	\$60	\$60	\$60	\$60	\$60	\$60	\$60	\$6,000
C.8.g	Reporting																				
	C.8.g - PRIOR PERMIT	\$310	\$2,481	\$115	\$588	\$554	\$577	\$115	\$115	\$115	\$115	\$115	\$115	\$115	\$115	\$115	\$115	\$115	\$115	\$115	\$11,500
	C.8.g - 2010	\$543	\$4,350	\$202	\$1,031	\$972	\$1,011	\$202	\$202	\$202	\$202	\$202	\$202	\$202	\$202	\$202	\$202	\$202	\$202	\$202	\$20,160
C.8.h	C.8.g - 2011	\$1,566	\$12,553	\$582	\$2,976	\$2,805	\$2,918	\$582	\$582	\$582	\$582	\$582	\$582	\$582	\$582	\$582	\$582	\$582	\$582	\$582	\$58,180
	Monitoring Protocols/Data Quality																				
	C.8.h - PRIOR PERMIT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
C.8.h	C.8.h - 2010	\$2,729	\$21,875	\$1,014	\$5,187	\$4,888	\$5,086	\$1,014	\$1,014	\$1,014	\$1,014	\$1,014	\$1,014	\$1,014	\$1,014	\$1,014	\$1,014	\$1,014	\$1,014	\$1,014	\$101,390
	C.8.h - 2011	\$974	\$7,808	\$362	\$1,851	\$1,745	\$1,815	\$362	\$362	\$362	\$362	\$362	\$362	\$362	\$362	\$362	\$362	\$362	\$362	\$362	\$36,190
	TOTALS																				
PRIOR PERMIT TOTAL	\$8,414	\$67,435	\$3,126	\$15,989	\$15,067	\$15,679	\$3,126	\$3,126	\$3,126	\$3,126	\$3,126	\$3,126	\$3,126	\$3,126	\$3,126	\$3,126	\$3,126	\$3,126	\$3,126	\$312,556	
2010 TOTAL	\$10,194	\$81,705	\$3,787	\$19,372	\$18,256	\$18,996	\$3,787	\$3,787	\$3,787	\$3,787	\$3,787	\$3,787	\$3,787	\$3,787	\$3,787	\$3,787	\$3,787	\$3,787	\$3,787	\$3,787	\$378,698
2011 TOTAL	\$26,304	\$210,825	\$9,772	\$49,987	\$47,105	\$49,017	\$9,772	\$9,772	\$9,772	\$9,772	\$9,772	\$9,772	\$9,772	\$9,772	\$9,772	\$9,772	\$9,772	\$9,772	\$9,772	\$9,772	\$977,161

Distribution among co-permittees shown using FY2009-10 formula (n)

**EXHIBIT B TO SCANLIN DECLARATION  
Alameda Countywide Program - Co-Permittees' Costs to Implement Provision C.10 of Municipal Regional Permit**

MRP Provision	Assumptions	Permittee Costs									
		Alameda	Alameda County	Albany	Berkeley	Dublin	Emeryville	Fremont	Hayward	Livermore	Newark
	% Program Costs	3.97%	14.82%	1.00%	4.87%	2.50%	1.00%	15.92%	11.95%	5.85%	2.69%
	Urban Average	6,540	17,727	1,132	6,713	6,928	350	25,160	17,727	12,481	4,857
	Required Full Capture Treatment Area	121	113	29	55	143	21	209	216	127	94
	# Hot Spots	4	4	1	3	3	1	7	7	4	3
C.10.a.i	Short Term Trash Reduction Plan										
	C.10.a.i - PRIOR PERMIT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	C.10.a.i - 2010	\$26,191	\$39,001	\$25,300	\$26,462	\$25,749	\$25,300	\$55,096	\$38,768	\$26,694	\$25,808
	C.10.a.i - 2011	\$26,191	\$39,001	\$25,300	\$26,462	\$25,749	\$25,300	\$55,096	\$38,768	\$26,694	\$25,808
C.10.a.ii	Baseline Trash Loading/Load Reduction Tracking	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	C.10.a.ii - PRIOR PERMIT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	C.10.a.ii - 2010	\$4,333	\$6,053	\$1,039	\$2,732	\$3,760	\$823	\$9,758	\$8,785	\$4,923	\$3,283
	C.10.a.ii - 2011	\$3,481	\$6,941	\$851	\$2,980	\$2,707	\$742	\$10,150	\$8,050	\$4,332	\$2,533
C.10.a.iii	Minimum Full Trash Capture	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	C.10.a.iii - PRIOR PERMIT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	C.10.a.iii - 2010	\$410,375	\$385,938	\$97,771	\$188,338	\$387,996	\$71,013	\$718,358	\$747,175	\$435,338	\$323,158
	C.10.a.iii - 2011	\$413,725	\$385,938	\$97,771	\$188,338	\$387,996	\$71,013	\$718,358	\$747,175	\$435,338	\$323,158
C.10.b	Trash Hot Spot and Cleanup										
	C.10.b - PRIOR PERMIT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	C.10.b - 2010	\$19,397	\$20,182	\$4,850	\$14,737	\$14,500	\$4,850	\$34,842	\$34,365	\$19,565	\$14,519
	C.10.b - 2011	\$10,397	\$11,182	\$2,600	\$7,987	\$7,750	\$2,600	\$19,092	\$18,605	\$10,565	\$7,769
C.10.c	Long-Term Trash Load Reduction Plan										
	C.10.c - PRIOR PERMIT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	C.10.c - 2010	\$198	\$591	\$50	\$244	\$125	\$50	\$796	\$552	\$282	\$135
	C.10.c - 2011	\$6,794	\$13,272	\$6,200	\$6,975	\$6,500	\$6,200	\$18,665	\$13,117	\$8,748	\$6,538
C.10.d	Reporting										
	C.10.d - PRIOR PERMIT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	C.10.d - 2010	\$2,302	\$6,239	\$398	\$2,363	\$2,438	\$299	\$8,855	\$6,239	\$4,358	\$1,709
	C.10.d - 2011	\$2,302	\$6,239	\$398	\$2,363	\$2,438	\$299	\$8,855	\$6,239	\$4,358	\$1,709
<b>TOTALS</b>	<b>PRIOR PERMIT TOTAL</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>	<b>\$0</b>
	<b>2010 TOTAL</b>	<b>\$462,796</b>	<b>\$458,004</b>	<b>\$129,409</b>	<b>\$234,876</b>	<b>\$434,569</b>	<b>\$102,334</b>	<b>\$827,705</b>	<b>\$835,874</b>	<b>\$491,160</b>	<b>\$368,612</b>
	<b>2011 TOTAL</b>	<b>\$462,889</b>	<b>\$462,574</b>	<b>\$133,120</b>	<b>\$235,105</b>	<b>\$433,140</b>	<b>\$106,154</b>	<b>\$830,216</b>	<b>\$831,954</b>	<b>\$430,034</b>	<b>\$367,516</b>

**EXHIBIT B TO SCANLIN DECLARATION**  
**Alameda Countywide Program - Co-Permittees' Costs to Implement Provision C.10 of Municipal Regional Permit**

MRP Provision	Assumptions	Co-permittee Costs							Total
		Oakland	Piedmont	Pleasanton	San Leandro	Union City	ACFD	Zone 7	
	% Program Costs	21.58%	1.00%	5.12%	4.82%	5.02%	1.00%	1.00%	100.00%
	Urban/Average	24,671	1,073	11,066	8,790	6,575	N/A	N/A	162,190
	Required Full Capture Treatment Area	228	0	110	216	56	8	2	1,777
	# Hot Spots	8	1	3	4	2	9	3	67
<b>C.10.a.i</b>	<b>Short Term Trash Reduction Plan</b>								
	C.10.a.i - PRIOR PERMIT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	C.10.a.i - 2010	\$75,815	\$25,300	\$26,535	\$26,446	\$26,505	\$300	\$300	\$495,570
	C.10.a.i - 2011	\$75,815	\$25,300	\$26,535	\$26,446	\$26,505	\$300	\$300	\$495,570
<b>C.10.a.ii</b>	<b>Baseline Trash Loading/Load Reduction</b>								
	C.10.a.ii - PRIOR PERMIT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	C.10.a.ii - 2010	\$11,667	\$248	\$4,317	\$7,194	\$2,767	\$470	\$303	\$72,454
	C.10.a.ii - 2011	\$12,977	\$455	\$3,852	\$5,193	\$3,044	\$566	\$483	\$69,339
<b>C.10.a.iii</b>	<b>Minimum Full Trash Capture</b>								
	C.10.a.iii - PRIOR PERMIT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	C.10.a.iii - 2010	\$781,138	\$0	\$376,675	\$741,000	\$188,338	\$298,556	\$92,807	\$6,243,971
	C.10.a.iii - 2011	\$781,138	\$0	\$376,675	\$741,000	\$188,338	\$298,556	\$92,807	\$6,247,321
<b>C.10.b</b>	<b>Trash Hot Spot and Cleanup</b>								
	C.10.b - PRIOR PERMIT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	C.10.b - 2010	\$40,158	\$4,850	\$14,762	\$19,482	\$10,002	\$42,850	\$14,350	\$328,250
	C.10.b - 2011	\$22,158	\$2,600	\$8,012	\$10,482	\$5,502	\$22,600	\$7,500	\$177,500
<b>C.10.c</b>	<b>Long-Term Trash Load Reduction Plan</b>								
	C.10.c - PRIOR PERMIT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	C.10.c - 2010	\$1,079	\$50	\$256	\$241	\$251	\$50	\$50	\$5,000
	C.10.c - 2011	\$25,648	\$6,200	\$7,832	\$6,964	\$7,003	\$200	\$200	\$147,057
<b>C.10.d</b>	<b>Reporting</b>								
	C.10.d - PRIOR PERMIT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	C.10.d - 2010	\$12,203	\$378	\$3,895	\$3,094	\$2,314	\$0	\$0	\$57,084
	C.10.d - 2011	\$12,203	\$378	\$3,895	\$3,094	\$2,314	\$0	\$0	\$57,084
<b>TOTALS</b>									
	<b>PRIOR PERMIT TOTAL</b>	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	<b>2010 TOTAL</b>	\$922,058	\$30,825	\$426,438	\$797,457	\$230,176	\$342,226	\$107,810	\$7,202,329
	<b>2011 TOTAL</b>	\$929,938	\$34,933	\$426,800	\$793,179	\$232,706	\$322,222	\$101,390	\$7,193,871

**EXHIBIT C TO SCANLIN DECLARATION**  
**Alameda Countywide Program - Co-Permittees' Costs to Implement Provisions C.11.f / C.12.f of Municipal Regional Permit**

MRP Provision	Name	Permittee Costs										
		Alameda	Alameda	Albany	Berkeley	Dublin	Emeryville	Fremont	Hayward	Livermore		Total
C.11.f/C.12.f	<i>% Program Contribution</i>	3.97%	11.82%	1.00%	4.87%	2.50%	1.00%	15.92%	11.05%	5.65%		
	<i>Pump Station Diversion Projects</i>											
	C.11/C.12 - PRIOR PERMIT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	C.11/C.12 - 2010	\$1,110	\$3,307	\$280	\$1,363	\$699	\$280	\$4,452	\$3,089	\$1,580		\$1,580
	C.11/C.12 - 2011	\$5,339	\$15,902	\$1,345	\$6,556	\$3,360	\$1,345	\$21,410	\$14,857	\$7,596		\$7,596
MRP Provision	Name	Newark	Oakland	Piedmont	Pleasanton	San Leandro	Union City	ACFCB	Zone 7			Total
	<i>% Program Contribution</i>	2.69%	21.58%	1.00%	5.12%	4.82%	5.02%	1.00%	1.00%			100.00%
C.11.f/C.12.f	<i>Pump Station Diversion Projects</i>											
	C.11/C.12 - PRIOR PERMIT	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0	\$0
	C.11/C.12 - 2010	\$753	\$6,034	\$280	\$1,431	\$1,348	\$1,403	\$280	\$280	\$280		\$27,965
	C.11/C.12 - 2011	\$3,620	\$29,017	\$1,345	\$6,880	\$6,483	\$6,746	\$1,345	\$1,345	\$1,345		\$134,490



**EXHIBIT D TO SCANLIN DECLARATION**  
**Alameda Countywide Program - Minimum ARRA Allocations from San Francisco Estuary Partnership**

Alameda County Permittee Projected Allocation														
Alameda	Albany	Berkeley	Dublin	Emeryville	Fremont	Hayward	Livermore	Newark	Oakland	Piedmont	Pleasanton	San Leandro	Union City	Alameda County
\$67,108	\$19,432	\$56,730	\$56,156	\$14,785	\$140,392	\$122,294	\$72,219	\$48,929	\$213,314	\$8,674	\$62,220	\$99,893	\$46,088	\$86,174



Test Claim: Municipal Regional Stormwater Permit  
Claimant: City of Alameda  
Section 6. Declarations

**DECLARATION OF BARBARA HAWKINS  
ON BEHALF OF CLAIMANT CITY OF ALAMEDA  
IN SUPPORT OF TEST CLAIM**

I, Barbara Hawkins, declare as follows:

1. I make this declaration based upon my own personal knowledge, except for matters set forth herein on information and belief, and as to those matters I believe them to be true, and if called upon to testify, I could and would competently testify to the matters set forth herein.

2. I am employed by the City of Alameda as the City Engineer.

3. I have held my current position for approximately eight years. My duties include developing and implementing the City of Alameda's storm water program project budgets; overseeing City staff's involvement with the regional coordination of stormwater compliance efforts with other co-permittees; and overseeing four City staff involved in supporting and implementing the City of Alameda's municipal storm water program activities.

4. In addition to my other duties, I am authorized as the City of Alameda's representative to the Management Committee of the Alameda Countywide Clean Water Program ("Alameda Countywide Program"), a consortium of public agencies in Alameda County that discharge stormwater to the San Francisco Bay. The Management Committee is the main decision-making body for the Alameda Countywide Program, and its responsibilities include providing overall direction for activities that the member agencies undertake as a group, and approving work plans and budgets for these activities.

5. The City of Alameda is a permittee under the Municipal Regional Stormwater NPDES Permit, issued by the California Regional Water Quality Control Board ("Regional Water Board"), San Francisco Bay Region, Order No. R2-2009-0074 (NPDES Permit No. CAS612008) (the "MRP"). I have reviewed the MRP and I know and understand its requirements.

Test Claim: Municipal Regional Stormwater Permit

Claimant: City of Alameda

Section 6. Declarations

6. I have also reviewed, know, and understand the requirements of Order No. R2-2003-0021 (NPDES Permit No. CAS0029831) issued by the RWQCB on February 19, 2003, as amended by Order No. R2-2007-0025 on March 14, 2007 (the "Prior Permit"), under which the City of Alameda was previously a permittee.

7. I have reviewed the written Narrative Statement in Support of Test Claim ("Written Narrative") prepared in support of the City of Alameda's Test Claim. Based on my understanding of the Prior Permit and the MRP, I believe that the Written Narrative fully and accurately describes the provisions of the MRP that require the City of Alameda to perform new activities that were not required by the Prior Permit and that it accurately describes the increased costs to the City of Alameda to implement these mandated activities. When a City of Alameda engineering test program is completed later this fiscal year, the City of Alameda may be able to assess whether estimated costs can be significantly lowered for implementing Provision C.10.a.iii., Minimum Full Trash Capture, for Fiscal Years 2010-11 and 2011-12.

8. I have reviewed the declaration of Jim Scanlin, lead staff member for the Alameda Countywide Program, prepared in support of the City of Alameda's Test Claim ("Scanlin Declaration"). Based on my understanding of the Prior Permit and the MRP, I believe that the Scanlin Declaration fully and accurately describes the provisions of the MRP that require the City of Alameda to perform new activities that were not required by the Prior Permit.

9. I also believe that the Scanlin Declaration fully and accurately represents the City of Alameda's estimated costs to implement these mandated activities. When a City of Alameda engineering test program is completed later this fiscal year, the City of Alameda may be able to assess whether estimated costs can be significantly lowered for implementing Provision C.10.a.iii., Minimum Full Trash Capture, for Fiscal Years 2010-11 and 2011-12.

10. With the exception of certain potential funds available through the San Francisco Estuary Partnership ("SFEP") for purchase of trash capture devices, as described in the Scanlin Declaration, I am not aware of any dedicated state or federal funds that are or will be available to pay for these increased costs.

Test Claim: Municipal Regional Stormwater Permit  
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Section 6. Declarations


11. I have no knowledge of any non-local agency funds that are or will be available to pay for these increased costs.

12. I have no knowledge of any authority the City of Alameda has to assess a fee to offset these increased costs that is not contingent upon the outcome of a vote or subject to written protest by property owners.

13. To my knowledge, with the exception of the potential SFEP funds, the only available source to pay these costs is and will be the City of Alameda's Urban Runoff Fund which has a fixed source of income from the City of Alameda Storm Water Fee (Fee). This Fee is subject to voter approval for any increase.

Executed this 7th day of October, 2010 at Alameda, CA.

I declare under penalty of perjury that the foregoing is true and correct.

  
Barbara Hawkins  
City Engineer

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# **APPENDIX A**

**Relevant State and Federal Statutes and Regulations**

**APPENDIX A**

**RELEVANT STATE AND FEDERAL STATUTES AND REGULATIONS**

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## 33 USCS § 1251

TITLE 33. NAVIGATION AND NAVIGABLE WATERS  
CHAPTER 26. WATER POLLUTION PREVENTION AND CONTROL  
RESEARCH AND RELATED PROGRAMS

## 33 USCS § 1251

## § 1251. Congressional declaration of goals and policy

(a) Restoration and maintenance of chemical, physical and biological integrity of Nation's waters; national goals for achievement of objective. The objective of this Act [33 USCS §§ 1251 et seq.] is to restore and maintain the chemical, physical, and biological integrity of the Nation's waters. In order to achieve this objective it is hereby declared that, consistent with the provisions of this Act [33 USCS §§ 1251 et seq.]--

(1) it is the national goal that the discharge of pollutants into the navigable waters be eliminated by 1985;

(2) it is the national goal that wherever attainable, an interim goal of water quality which provides for the protection and propagation of fish, shellfish, and wildlife and provides for recreation in and on the water be achieved by July 1, 1983;

(3) it is the national policy that the discharge of toxic pollutants in toxic amounts be prohibited;

(4) it is the national policy that Federal financial assistance be provided to construct publicly owned waste treatment works;

(5) it is the national policy that areawide waste treatment management planning processes be developed and implemented to assure adequate control of sources of pollutants in each State;

(6) it is the national policy that a major research and demonstration effort be made to develop technology necessary to eliminate the discharge of pollutants into the navigable waters, waters of the contiguous zone, and the oceans; and

(7) it is the national policy that programs for the control of nonpoint sources of pollution be developed and implemented in an expeditious manner so as to enable the goals of this Act [33 USCS §§ 1251 et seq.] to be met through the control of both point and nonpoint sources of pollution.

(b) Congressional recognition, preservation, and protection of primary responsibilities and rights of States. It is the policy of the Congress to recognize, preserve, and protect the primary responsibilities and rights of States to prevent, reduce, and eliminate pollution, to plan the development and use (including restoration, preservation, and enhancement) of land and water resources, and to consult with the Administrator in the exercise of his authority under this Act [33 USCS §§ 1251 et seq.]. It is the policy of Congress that the States manage the construction grant program under this Act [33 USCS §§ 1251 et seq.] and implement the permit programs under sections 402 and 404 of this Act [33 USCS §§ 1342, 1344]. It is further the policy of the Congress to support and aid research relating to the prevention, reduction, and elimination of pollution, and to provide Federal technical services and financial aid to State and interstate agencies and municipalities in connection with the prevention, reduction, and elimination of pollution.

(c) Congressional policy toward Presidential activities with foreign countries. It is further the policy of Congress that the President, acting through the Secretary of State and such national and international organizations as he determines appropriate, shall take such action as may be necessary to insure that to the fullest extent possible all foreign countries shall take meaningful action for the prevention, reduction, and elimination of pollution in their waters and in international waters and for the achievement of goals regarding the elimination of discharge of pollutants and the improvement of water quality to at least the same extent as the United States does under its laws.

(d) Administrator of Environmental Protection Agency to administer 33 USCS §§ 1251 et seq. Except as otherwise expressly provided in this Act [33 USCS §§ 1251 et seq.], the Administrator of the Environmental Protection Agency (hereinafter in this Act called "Administrator") shall administer this Act [33 USCS §§ 1251 et seq.].

(e) Public participation in development, revision, and enforcement of any regulation, etc. Public participation in the development, revision, and enforcement of any regulation, standard, effluent limitation, plan, or program established by the Administrator or any State under this Act [33 USCS §§ 1251 et seq.] shall be provided for, encouraged, and assisted by the Administrator and the States. The Administrator, in cooperation with the States, shall develop and publish regulations specifying minimum guidelines for public participation in such processes.

## 33 USCS § 1251

(f) Procedures utilized for implementing 33 USCS §§ 1251 et seq. It is the national policy that to the maximum extent possible the procedures utilized for implementing this Act [33 USCS §§ 1251 et seq.] shall encourage the drastic minimization of paperwork and interagency decision procedures, and the best use of available manpower and funds, so as to prevent needless duplication and unnecessary delays at all levels of government.

(g) Authority of States over water. It is the policy of Congress that the authority of each State to allocate quantities of water within its jurisdiction shall not be superseded, abrogated or otherwise impaired by this Act [33 USCS §§ 1251 et seq.]. It is the further policy of Congress that nothing in this Act [33 USCS §§ 1251 et seq.] shall be construed to supersede or abrogate rights to quantities of water which have been established by any State. Federal agencies shall cooperate with State and local agencies to develop comprehensive solutions to prevent, reduce and eliminate pollution in concert with programs for managing water resources.



## 33 USCS § 1342

TITLE 33. NAVIGATION AND NAVIGABLE WATERS  
CHAPTER 26. WATER POLLUTION PREVENTION AND CONTROL  
PERMITS AND LICENSES

## 33 USCS § 1342

## § 1342. National pollutant discharge elimination system

## (a) Permits for discharge of pollutants.

(1) Except as provided in sections 318 and 404 of this Act [33 USCS §§ 1328, 1344], the Administrator may, after opportunity for public hearing, issue a permit for the discharge of any pollutant, or combination of pollutants, notwithstanding section 301(a) [33 USCS § 1311(a)], upon condition that such discharge will meet either (A) all applicable requirements under sections 301, 302, 306, 307, 308, and 403 of this Act [33 USCS §§ 1311, 1312, 1316, 1317, 1318, 1343], (B) or prior to the taking of necessary implementing actions relating to all such requirements, such conditions as the Administrator determines are necessary to carry out the provisions of this Act [33 USCS §§ 1251 et seq.].

(2) The Administrator shall prescribe conditions for such permits to assure compliance with the requirements of paragraph (1) of this subsection, including conditions on data and information collection, reporting, and such other requirements as he deems appropriate.

(3) The permit program of the Administrator under paragraph (1) of this subsection, and permits issued thereunder, shall be subject to the same terms, conditions, and requirements as apply to a State permit program and permits issued thereunder under subsection (b) of this section.

(4) All permits for discharges into the navigable waters issued pursuant to section 13 of the Act of March 3, 1899 [33 USCS § 407], shall be deemed to be permits issued under this title [33 USCS §§ 1341 et seq.], and permits issued under this title [33 USCS §§ 1341 et seq.] shall be deemed to be permits issued under section 13 of the Act of March 3, 1899 [33 USCS § 407], and shall continue in force and effect for their term unless revoked, modified, or suspended in accordance with the provisions of this Act [33 USCS §§ 1251 et seq.].

(5) No permit for a discharge into the navigable waters shall be issued under section 13 of the Act of March 3, 1899 [33 USCS § 407], after the date of enactment of this title [enacted Oct. 18, 1972]. Each application for a permit under section 13 of the Act of March 3, 1899 [33 USCS § 407], pending on the date of enactment of this Act [enacted Oct. 18, 1972], shall be deemed to be an application for a permit under this section. The Administrator shall authorize a State, which he determines has the capability of administering a permit program which will carry out the objective of this Act [33 USCS §§ 1251 et seq.], to issue permits for discharges into the navigable waters within the jurisdiction of such State. The Administrator may exercise the authority granted him by the preceding sentence only during the period which begins on the date of enactment of this Act [enacted Oct. 18, 1972] and ends either on the ninetieth day after the date of the first promulgation of guidelines required by section 304(h)(2) [304(i)(2)] of this Act [33 USCS § 1314(i)(2)], or the date of approval by the Administrator of a permit program for such State under subsection (b) of this section whichever date first occurs, and no such authorization to a State shall extend beyond the last day of such period. Each such permit shall be subject to such conditions as the Administrator determines are necessary to carry out the provisions of this Act [33 USCS §§ 1251 et seq.]. No such permit shall issue if the Administrator objects to such issuance.

(b) State permit programs. At any time after the promulgation of the guidelines required by subsection (h)(2) of section 304 [304(i)(2)] of this Act [33 USCS § 1314(i)(2)], the Governor of each State desiring to administer its own permit program for discharges into navigable waters within its jurisdiction may submit to the Administrator a full and complete description of the program it proposes to establish and administer under State law or under an interstate compact. In addition, such State shall submit a statement from the attorney general (or the attorney for those State water pollution control agencies which have independent legal counsel), or from the chief legal officer in the case of an interstate agency, that the laws of such State, or the interstate compact, as the case may be, provide adequate authority to carry out the described program. The Administrator shall approve each such submitted program unless he determines that adequate authority does not exist:

(1) To issue permits which--

(A) apply, and insure compliance with, any applicable requirements of sections 301, 302, 306, 307, and 403 [33 USCS §§ 1311, 1312, 1316, 1317, 1343];

(B) are for fixed terms not exceeding five years; and

(C) can be terminated or modified for cause including, but not limited to, the following:

(i) violation of any condition of the permit;

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- (ii) obtaining a permit by misrepresentation, or failure to disclose fully all relevant facts;
- (iii) change in any condition that requires either a temporary or permanent reduction or elimination of the permitted discharge;
- (D) control the disposal of pollutants into wells;
- (2) (A) To issue permits which apply, and insure compliance with, all applicable requirements of section 308 of this Act [33 USCS § 1318] or
- (B) To inspect, monitor, enter, and require reports to at least the same extent as required in section 308 of this Act [33 USCS § 1318];
- (3) To insure that the public, and any other State the waters of which may be affected, receive notice of each application for a permit and to provide an opportunity for public hearing before a ruling on each such application;
- (4) To insure that the Administrator receives notice of each application (including a copy thereof) for a permit;
- (5) To insure that any State (other than the permitting State), whose waters may be affected by the issuance of a permit may submit written recommendations to the permitting State (and the Administrator) with respect to any permit application and, if any part of such written recommendations are not accepted by the permitting State, that the permitting State will notify such affected State (and the Administrator) in writing of its failure to so accept such recommendations together with its reasons for so doing;
- (6) To insure that no permit will be issued if, in the judgment of the Secretary of the Army acting through the Chief of Engineers, after consultation with the Secretary of the department in which the Coast Guard is operating, anchorage and navigation of any of the navigable waters would be substantially impaired thereby;
- (7) To abate violations of the permit or the permit program, including civil and criminal penalties and other ways and means of enforcement;
- (8) To insure that any permit for a discharge from a publicly owned treatment works includes conditions to require the identification in terms of character and volume of pollutants of any significant source introducing pollutants subject to pretreatment standards under section 307(b) of this Act [33 USCS § 1317(b)] into such works and a program to assure compliance with such pretreatment standards by each such source, in addition to adequate notice to the permitting agency of (A) new introductions into such works of pollutants from any source which would be a new source as defined in section 306 [33 USCS § 1316] if such source were discharging pollutants, (B) new introductions of pollutants into such works from a source which would be subject to section 301 [33 USCS § 1311] if it were discharging such pollutants, or (C) a substantial change in volume or character of pollutants being introduced into such works by a source introducing pollutants into such works at the time of issuance of the permit. Such notice shall include information on the quality and quantity of effluent to be introduced into such treatment works and any anticipated impact of such change in the quantity or quality of effluent to be discharged from such publicly owned treatment works; and
- (9) To insure that any industrial user of any publicly owned treatment works will comply with sections 204(b), 307, and 308 [33 USCS §§ 1284(b), 1317, 1318].

(c) Suspension of Federal program upon submission of State program; withdrawal of approval of State program; return of State program to Administrator.

(1) Not later than ninety days after the date on which a State has submitted a program (or revision thereof) pursuant to subsection (b) of this section, the Administrator shall suspend the issuance of permits under subsection (a) of this section as to those discharges subject to such program unless he determines that the State permit program does not meet the requirements of subsection (b) of this section or does not conform to the guidelines issued under section 304(h)(2) [304(i)(2)] of this Act [33 USCS § 1314(i)(2)]. If the Administrator so determines, he shall notify the State of any revisions or modifications necessary to conform to such requirements or guidelines.

(2) Any State permit program under this section shall at all times be in accordance with this section and guidelines promulgated pursuant to section 304(h)(2) [304(i)(2)] of this Act [33 USCS § 1314(i)(2)].

(3) Whenever the Administrator determines after public hearing that a State is not administering a program approved under this section in accordance with requirements of this section, he shall so notify the State and, if appropriate corrective action is not taken within a reasonable time, not to exceed ninety days, the Administrator shall withdraw approval of such program. The Administrator shall not withdraw approval of any such program unless he shall first have notified the State, and made public, in writing, the reasons for such withdrawal.

(4) Limitations on partial permit program returns and withdrawals. A State may return to the Administrator administration, and the Administrator may withdraw under paragraph (3) of this subsection approval, of--

(A) a State partial permit program approved under subsection (n)(3) only if the entire permit program being administered by the State department or agency at the time is returned or withdrawn; and

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(B) a State partial permit program approved under subsection (n)(4) only if an entire phased component of the permit program being administered by the State at the time is returned or withdrawn.

(d) Notification of Administrator.

(1) Each State shall transmit to the Administrator a copy of each permit application received by such State and provide notice to the Administrator of every action related to the consideration of such permit application, including each permit proposed to be issued by such State.

(2) No permit shall issue (A) if the Administrator within ninety days of the date of his notification under subsection (b)(5) of this section objects in writing to the issuance of such permit, or (B) of the Administrator within ninety days of the date of transmittal of the proposed permit by the State objects in writing to the issuance of such permit as being outside the guidelines and requirements of this Act [33 USCS §§ 1251 et seq.]. Whenever the Administrator objects to the issuance of a permit under this paragraph such written objection shall contain a statement of the reasons for such objection and the effluent limitations and conditions which such permit would include if it were issued by the Administrator.

(3) The Administrator may, as to any permit application, waive paragraph (2) of this subsection.

(4) In any case where, after the date of enactment of this paragraph [enacted Dec. 27, 1977], the Administrator, pursuant to paragraph (2) of this subsection, objects to the issuance of a permit, on request of the State, a public hearing shall be held by the Administrator on such objection. If the State does not resubmit such permit revised to meet such objection within 30 days after completion of the hearing, or, if no hearing is requested within 90 days after the date of such objection, the Administrator may issue the permit pursuant to subsection (a) of this section for such source in accordance with the guidelines and requirements of this Act [33 USCS §§ 1251 et seq.].

(e) Waiver of notification requirement. In accordance with guidelines promulgated pursuant to subsection (h)(2) of section 304 [304(i)(2)] of this Act [33 USCS § 1314(i)(2)], the Administrator is authorized to waive the requirements of subsection (d) of this section at the time he approves a program pursuant to subsection (b) of this section for any category (including any class, type, or size within such category) of point sources within the State submitting such program.

(f) Point source categories. The Administrator shall promulgate regulations establishing categories of point sources which he determines shall not be subject to the requirements of subsection (d) of this section in any State with a program approved pursuant to subsection (b) of this section. The Administrator may distinguish among classes, types, and sizes within any category of point sources.

(g) Other regulations for safe transportation, handling, carriage, storage, and stowage of pollutants. Any permit issued under this section for the discharge of pollutants into the navigable waters from a vessel or other floating craft shall be subject to any applicable regulations promulgated by the Secretary of the department in which the Coast Guard is operating, establishing specifications for safe transportation, handling, carriage, storage, and stowage of pollutants.

(h) Violation of permit conditions; restriction or prohibition upon introduction of pollutant by source not previously utilizing treatment works. In the event any condition of a permit for discharges from a treatment works (as defined in section 212 of this Act [33 USCS § 1292]) which is publicly owned is violated, a State with a program approved under subsection (b) of this section or the Administrator, where no State program is approved or where the Administrator determines pursuant to section 309(a) of this Act [33 USCS § 1319(a)] that a State with an approved program has not commenced appropriate enforcement action with respect to such permit, may proceed in a court of competent jurisdiction to restrict or prohibit the introduction of any pollutant into such treatment works by a source not utilizing such treatment works prior to the finding that such condition was violated.

(i) Federal enforcement not limited. Nothing in this section shall be construed to limit the authority of the Administrator to take action pursuant to section 309 of this Act [33 USCS § 1319].

(j) Public information. A copy of each permit application and each permit issued under this section shall be available to the public. Such permit application or permit, or portion thereof, shall further be available on request for the purpose of reproduction.

(k) Compliance with permits. Compliance with a permit issued pursuant to this section shall be deemed compliance, for purposes of sections 309 and 505 [33 USCS §§ 1319, 1365], with sections 301, 302, 306, 307, and 403 [33 USCS §§ 1311, 1312, 1316, 1317, 1343], except any standard imposed under section 307 [33 USCS § 1317] for a toxic pollutant

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injurious to human health. Until December 31, 1974, in any case where a permit for discharge has been applied for pursuant to this section, but final administrative disposition of such application has not been made, such discharge shall not be a violation of (1) section 301, 306, or 402 of this Act [33 USCS § 1311, 1316, or 1342], or (2) section 13 of the Act of March 3, 1899 [33 USCS § 407], unless the Administrator or other plaintiff proves that final administrative disposition of such application has not been made because of the failure of the applicant to furnish information reasonably required or requested in order to process the application. For the 180-day period beginning on the date of enactment of the Federal Water Pollution Control Act Amendments of 1972 [enacted Oct. 18, 1972], in the case of any point source discharging any pollutant or combination of pollutants immediately prior to such date of enactment which source is not subject to section 13 of the Act of March 3, 1899 [33 USCS § 407], the discharge by such source shall not be a violation of this Act [33 USCS §§ 1251 et seq.] if such a source applies for a permit for discharge pursuant to this section within such 180-day period.

## (l) Limitation on permit requirement.

(1) Agricultural return flows. The Administrator shall not require a permit under this section for discharges composed entirely of return flows from irrigated agriculture, nor shall the Administrator directly or indirectly, require any State to require such a permit.

(2) Stormwater runoff from oil, gas, and mining operations. The Administrator shall not require a permit under this section, nor shall the Administrator directly or indirectly require any State to require a permit, for discharges of stormwater runoff from mining operations or oil and gas exploration, production, processing, or treatment operations or transmission facilities, composed entirely of flows which are from conveyances or systems of conveyances (including but not limited to pipes, conduits, ditches, and channels) used for collecting and conveying precipitation runoff and which are not contaminated by contact with, or do not come into contact with, any overburden, raw material, intermediate products, finished product, byproduct, or waste products located on the site of such operations.

(m) Additional pretreatment of conventional pollutants not required. To the extent a treatment works (as defined in section 212 of this Act [33 USCS § 1292]) which is publicly owned is not meeting the requirements of a permit issued under this section for such treatment works as a result of inadequate design or operation of such treatment works, the Administrator, in issuing a permit under this section, shall not require pretreatment by a person introducing conventional pollutants identified pursuant to section 304(a)(4) of this Act [33 USCS § 1314(a)(4)] into such treatment works other than pretreatment required to assure compliance with pretreatment standards under subsection (b)(8) of this section and section 307(b)(1) of this Act [33 USCS § 1317(b)(1)]. Nothing in this subsection shall affect the Administrator's authority under sections 307 and 309 of this Act [33 USCS §§ 1317, 1319], affect State and local authority under sections 307(b)(4) and 510 of this Act [33 USCS §§ 1317(b)(4), 1370], relieve such treatment works of its obligations to meet requirements established under this Act [33 USCS §§ 1251 et seq.], or otherwise preclude such works from pursuing whatever feasible options are available to meet its responsibility to comply with its permit under this section.

## (n) Partial permit program.

(1) State submission. The Governor of a State may submit under subsection (b) of this section a permit program for a portion of the discharges into the navigable waters in such State.

(2) Minimum coverage. A partial permit program under this subsection shall cover, at a minimum, administration of a major category of the discharges into the navigable waters of the State or a major component of the permit program required by subsection (b).

(3) Approval of major category partial permit programs. The Administrator may approve a partial permit program covering administration of a major category of discharges under this subsection if--

(A) such program represents a complete permit program and covers all of the discharges under the jurisdiction of a department or agency of the State; and

(B) the Administrator determines that the partial program represents a significant and identifiable part of the State program required by subsection (b).

(4) Approval of major component partial permit programs. The Administrator may approve under this subsection a partial and phased permit program covering administration of a major component (including discharge categories) of a State permit program required by subsection (b) if--

(A) the Administrator determines that the partial program represents a significant and identifiable part of the State program required by subsection (b); and

(B) the State submits, and the Administrator approves, a plan for the State to assume administration by phases of the remainder of the State program required by subsection (b) by a specified date not more than 5 years after submission of

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the partial program under this subsection and agrees to make all reasonable efforts to assume such administration by such date.

## (o) Anti-backsliding.

(1) General prohibition. In the case of effluent limitations established on the basis of subsection (a)(1)(B) of this section, a permit may not be renewed, reissued, or modified on the basis of effluent guidelines promulgated under section 304(b) [33 USCS § 1314(b)] subsequent to the original issuance of such permit, to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit. In the case of effluent limitations established on the basis of section 301(b)(1)(C) or section 303 (d) or (e) [33 USCS § 1311(b)(1)(C) or 1313(d) or (e)], a permit may not be renewed, reissued, or modified to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit except in compliance with section 303(d)(4) [33 USCS § 1313(d)(4)].

(2) Exceptions. A permit with respect to which paragraph (1) applies may be renewed, reissued, or modified to contain a less stringent effluent limitation applicable to a pollutant if--

(A) material and substantial alterations or additions to the permitted facility occurred after permit issuance which justify the application of a less stringent effluent limitation;

(B) (i) information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance; or

(ii) the Administrator determines that technical mistakes or mistaken interpretations of law were made in issuing the permit under subsection (a)(1)(B);

(C) a less stringent effluent limitation is necessary because of events over which the permittee has no control and for which there is no reasonably available remedy;

(D) the permittee has received a permit modification under section 301(c), 301(g), 301(h), 301(i), 301(k), 301(n), or 316(a) [33 USCS § 1311(c), (g), (h), (i), (k), (n), or 1326(a)]; or

(E) the permittee has installed the treatment facilities required to meet the effluent limitations in the previous permit and has properly operated and maintained the facilities but has nevertheless been unable to achieve the previous effluent limitations, in which case the limitations in the reviewed, reissued, or modified permit may reflect the level of pollutant control actually achieved (but shall not be less stringent than required by effluent guidelines in effect at the time of permit renewal, reissuance, or modification). Subparagraph (B) shall not apply to any revised waste load allocations or any alternative grounds for translating water quality standards into effluent limitations, except where the cumulative effect of such revised allocations results in a decrease in the amount of pollutants discharged into the concerned waters, and such revised allocations are not the result of a discharger eliminating or substantially reducing its discharge of pollutants due to complying with the requirements of this Act [33 USCS §§ 1251 et seq.] or for reasons otherwise unrelated to water quality.

(3) Limitations. In no event may a permit with respect to which paragraph (1) applies be renewed, reissued, or modified to contain an effluent limitation which is less stringent than required by effluent guidelines in effect at the time the permit is renewed, reissued, or modified. In no event may such a permit to discharge into waters be renewed, reissued, or modified to contain a less stringent effluent limitation if the implementation of such limitation would result in a violation of a water quality standard under section 303 [33 USCS § 1313] applicable to such waters.

## (p) Municipal and industrial stormwater discharges.

(1) General rule. Prior to October 1, 1994, the Administrator or the State (in the case of a permit program approved under section 402 of this Act [this section]) shall not require a permit under this section for discharges composed entirely of stormwater.

(2) Exceptions. Paragraph (1) shall not apply with respect to the following stormwater discharges:

(A) A discharge with respect to which a permit has been issued under this section before the date of the enactment of this subsection [enacted Feb. 4, 1987].

(B) A discharge associated with industrial activity.

(C) A discharge from a municipal separate storm sewer system serving a population of 250,000 or more.

(D) A discharge from a municipal separate storm sewer system serving a population of 100,000 or more but less than 250,000.

(E) A discharge for which the Administrator or the State, as the case may be, determines that the stormwater discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States.

(3) Permit requirements.

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(A) Industrial discharges. Permits for discharges associated with industrial activity shall meet all applicable provisions of this section and section 301 [33 USCS § 1311].

(B) Municipal discharge. Permits for discharges from municipal storm sewers--

(i) may be issued on a system- or jurisdiction-wide basis;

(ii) shall include a requirement to effectively prohibit non-stormwater discharges into the storm sewers; and

(iii) shall require controls to reduce the discharge of pollutants to the maximum extent practicable, including management practices, control techniques and system, design and engineering methods, and such other provisions as the Administrator or the State determines appropriate for the control of such pollutants.

(4) Permit application requirements.

(A) Industrial and large municipal discharges. Not later than 2 years after the date of the enactment of this subsection [enacted Feb. 4, 1987], the Administrator shall establish regulations setting forth the permit application requirements for stormwater discharges described in paragraphs (2)(B) and (2)(C). Applications for permits for such discharges shall be filed no later than 3 years after such date of enactment [enacted Feb. 4, 1987]. Not later than 4 years after such date of enactment [enacted Feb. 4, 1987], the Administrator or the State, as the case may be, shall issue or deny each such permit. Any such permit shall provide for compliance as expeditiously as practicable, but in no event later than 3 years after the date of issuance of such permit.

(B) Other municipal discharges. Not later than 4 years after the date of the enactment of this subsection [enacted Feb. 4, 1987], the Administrator shall establish regulations setting forth the permit application requirements for stormwater discharges described in paragraph (2)(D). Applications for permits for such discharges shall be filed no later than 5 years after such date of enactment [enacted Feb. 4, 1987]. Not later than 6 years after such date of enactment [enacted Feb. 4, 1987], the Administrator or the State, as the case may be, shall issue or deny each such permit. Any such permit shall provide for compliance as expeditiously as practicable, but in no event later than 3 years after the date of issuance of such permit.

(5) Studies. The Administrator, in consultation with the States, shall conduct a study for the purposes of--

(A) identifying those stormwater discharges or classes of stormwater discharges for which permits are not required pursuant to paragraphs (1) and (2) of this subsection;

(B) determining, to the maximum extent practicable, the nature and extent of pollutants in such discharges; and

(C) establishing procedures and methods to control stormwater discharges to the extent necessary to mitigate impacts on water quality.

Not later than October 1, 1988, the Administrator shall submit to Congress a report on the results of the study described in subparagraphs (A) and (B). Not later than October 1, 1989, the Administrator shall submit to Congress a report on the results of the study described in subparagraph (C).

(6) Regulations. Not later than October 1, 1993, the Administrator, in consultation with State and local officials, shall issue regulations (based on the results of the studies conducted under paragraph (5)) which designate stormwater discharges, other than those discharges described in paragraph (2), to be regulated to protect water quality and shall establish a comprehensive program to regulate such designated sources. The program shall, at a minimum, (A) establish priorities, (B) establish requirements for State stormwater management programs, and (C) establish expeditious deadlines. The program may include performance standards, guidelines, guidance, and management practices and treatment requirements, as appropriate.

(q) Combined sewer overflows.

(1) Requirement for permits, orders, and decrees. Each permit, order, or decree issued pursuant to this Act [33 USCS §§ 1251 et seq.] after the date of enactment of this subsection [enacted Dec. 21, 2000] for a discharge from a municipal combined storm and sanitary sewer shall conform to the Combined Sewer Overflow Control Policy signed by the Administrator on April 11, 1994 (in this subsection referred to as the "CSO control policy").

(2) Water quality and designated use review guidance. Not later than July 31, 2001, and after providing notice and opportunity for public comment, the Administrator shall issue guidance to facilitate the conduct of water quality and designated use reviews for municipal combined sewer overflow receiving waters.

(3) Report. Not later than September 1, 2001, the Administrator shall transmit to Congress a report on the progress made by the Environmental Protection Agency, States, and municipalities in implementing and enforcing the CSO control policy.

(r) Discharges incidental to the normal operation of recreational vessels. No permit shall be required under this Act [33 USCS §§ 1251 et seq.] by the Administrator (or a State, in the case of a permit program approved under subsection (b)) for the discharge of any graywater, bilge water, cooling water, weather deck runoff, oil water separator effluent, or ef-

fluent from properly functioning marine engines, or any other discharge that is incidental to the normal operation of a vessel, if the discharge is from a recreational vessel.

## 33 USCS § 1371

TITLE 33. NAVIGATION AND NAVIGABLE WATERS  
CHAPTER 26. WATER POLLUTION PREVENTION AND CONTROL  
GENERAL PROVISIONS

## 33 USCS § 1371

## § 1371. Authority under other laws and regulations

(a) Impairment of authority or functions of officials and agencies; treaty provisions. This Act [33 USCS §§ 1251 et seq.] shall not be construed as (1) limiting the authority or functions of any officer or agency of the United States under any other law or regulation not inconsistent with this Act [33 USCS §§ 1251 et seq.]; (2) affecting or impairing the authority of the Secretary of the Army (A) to maintain navigation or (B) under the Act of March 3, 1899 (30 Stat. 1112); except that any permit issued under section 404 of this Act [33 USCS § 1344] shall be conclusive as to the effect on water quality of any discharge resulting from any activity subject to section 10 of the Act of March 3, 1899 [33 USCS § 403], or (3) affecting or impairing the provisions of any treaty of the United States.

(b) Discharges of pollutants into navigable waters. Discharges of pollutants into the navigable waters subject to the Rivers and Harbors Act of 1910 (36 Stat. 593; 33 U.S.C. 421) and the Supervisory Harbors Act of 1888 (25 Stat. 209; 33 U.S.C. 441-451b) shall be regulated pursuant to this Act [33 USCS §§ 1251 et seq.], and not subject to such Act of 1910 and the Act of 1888 except as to effect on navigation and anchorage.

(c) Action of the Administrator deemed major Federal action; construction of the National Environmental Policy Act of 1969.

(1) Except for the provision of Federal financial assistance for the purpose of assisting the construction of publicly owned treatment works as authorized by section 201 of this Act [33 USCS § 1281], and the issuance of a permit under section 402 of this Act [33 USCS § 1342] for the discharge of any pollutant by a new source as defined in section 306 of this Act [33 USCS § 1316], no action of the Administrator taken pursuant to this Act [33 USCS §§ 1251 et seq.] shall be deemed a major Federal action significantly affecting the quality of the human environment within the meaning of the National Environmental Policy Act of 1969 (83 Stat. 852); and

(2) Nothing in the National Environmental Policy Act of 1969 (83 Stat. 852) shall be deemed to--

(A) authorize any Federal agency authorized to license or permit the conduct of any activity which may result in the discharge of a pollutant into the navigable waters to review any effluent limitation or other requirement established pursuant to this Act [33 USCS §§ 1251 et seq.] or the adequacy of any certification under section 401 of this Act [33 USCS § 1341]; or

(B) authorize any such agency to impose, as a condition precedent to the issuance of any license or permit, any effluent limitation other than any such limitation established pursuant to this Act [33 USCS §§ 1251 et seq.].

(d) Consideration of international water pollution control agreements. Notwithstanding this Act [33 USCS §§ 1251 et seq.] or any other provision of law, the Administrator (1) shall not require any State to consider in the development of the ranking in order of priority of needs for the construction of treatment works (as defined in title II of this Act [33 USCS §§ 1281 et seq.]), any water pollution control agreement which may have been entered into between the United States and any other nation, and (2) shall not consider any such agreement in the approval of any such priority ranking.



Cal Wat Code § 13377

WATER CODE

Division 7. Water Quality

Chapter 5.5. Compliance With the Provisions of the Federal Water Pollution Control Act as Amended in 1972

Cal Wat Code § 13377 (2009)

**§ 13377. Boards' issuance of requirements pursuant to federal act**

Notwithstanding any other provision of this division, the state board or the regional boards shall, as required or authorized by the Federal Water Pollution Control Act, as amended, issue waste discharge requirements and dredged or fill material permits which apply and ensure compliance with all applicable provisions of the act and acts amendatory thereof or supplementary, thereto, together with any more stringent effluent standards or limitations necessary to implement water quality control plans, or for the protection of beneficial uses, or to prevent nuisance.

## Cal Wat Code § 16103

WATER CODE  
Division 7. Water Quality  
Chapter 27. CALIFORNIA WATERSHED IMPROVEMENT ACT OF 2009

## Cal Wat Code § 16103 (2009)

**§ 16103. Imposition of fees; Requirements**

(a) In addition to making use of other financing mechanisms that are available to local agencies to fund watershed improvement plans and plan measures and facilities, a county, city, special district, or combination thereof may impose fees on activities that generate or contribute to runoff, stormwater, or surface runoff pollution, to pay the costs of the preparation of a watershed improvement plan, and the implementation of a watershed improvement plan if all of the following requirements are met:

(1) The regional board has approved the watershed improvement plan.

(2) The entity or entities that develop the watershed improvement plan make a finding, supported by substantial evidence, that the fee is reasonably related to the cost of mitigating the actual or anticipated past, present, or future adverse effects of the activities of the feepayer. "Activities," for the purposes of this paragraph, means the operations and existing structures and improvements subject to regulation under an NPDES permit for municipal separate storm sewer systems.

(3) The fee is not imposed solely as an incident of property ownership.

(b) A county, city, special district, or combination thereof may plan, design, implement, construct, operate, and maintain controls and facilities to improve water quality, including controls and facilities related to the infiltration, retention and reuse, diversion, interception, filtration, or collection of surface runoff, including urban runoff, stormwater, and other forms of runoff, the treatment of pollutants in runoff or other waters subject to water quality regulatory requirements, the return of diverted and treated waters to receiving water bodies, the enhancement of beneficial uses of waters of the state, or the beneficial use or reuse of diverted waters.

(c) The fees authorized under subdivision (a) may be imposed as user-based or regulatory fees consistent with this chapter.

Cal Pub Resources Code § 40059

PUBLIC RESOURCES CODE  
Division 30. Waste Management  
Part 1. Integrated Waste Management  
Chapter 1. General Provisions  
Article 2. General Provisions

Cal Pub Resources Code § 40059 (2009)

**§ 40059. Issues for local determination**

(a) Notwithstanding any other provision of law, each county, city, district, or other local governmental agency may determine all of the following:

(1) Aspects of solid waste handling which are of local concern, including, but not limited to, frequency of collection, means of collection and transportation, level of services, charges and fees, and nature, location, and extent of providing solid waste handling services.

(2) Whether the services are to be provided by means of nonexclusive franchise, contract, license, permit, or otherwise, either with or without competitive bidding, or if, in the opinion of its governing body, the public health, safety, and well-being so require, by partially exclusive or wholly exclusive franchise, contract, license, permit, or otherwise, either with or without competitive bidding. The authority to provide solid waste handling services may be granted under terms and conditions prescribed by the governing body of the local governmental agency by resolution or ordinance.

(b) Nothing in this division modifies or abrogates in any manner either of the following:

(1) Any franchise previously granted or extended by any county or other local governmental agency.

(2) Any contract, license, or any permit to collect solid waste previously granted or extended by a city, county, or a city and county.

## 40 CFR 25.1

TITLE 40 -- PROTECTION OF ENVIRONMENT  
CHAPTER I -- ENVIRONMENTAL PROTECTION AGENCY  
SUBCHAPTER A -- GENERAL  
PART 25 -- PUBLIC PARTICIPATION IN PROGRAMS UNDER THE RESOURCE CONSERVATION AND  
RECOVERY ACT, THE SAFE DRINKING WATER ACT, AND THE CLEAN WATER ACT

## 40 CFR 25.1

## § 25.1 Introduction.

This part sets forth minimum requirements and suggested program elements for public participation in activities under the Clean Water Act (Pub. L. 95-217), the Resource Conservation and Recovery Act (Pub. L. 94-580), and the Safe Drinking Water Act (Pub. L. 93-523). The applicability of the requirements of this part is as follows:

(a) Basic requirements and suggested program elements for public information, public notification, and public consultation are set forth in § 25.4. These requirements are intended to foster public awareness and open processes of government decisionmaking. They are applicable to all covered activities and programs described in § 25.2(a).

(b) Requirements and suggested program elements which govern the structure of particular public participation mechanisms (for example, advisory groups and responsiveness summaries) are set forth in §§ 25.5, 25.6, 25.7, and 25.8. This part does not mandate the use of these public participation mechanisms. It does, however, set requirements which those responsible for implementing the mechanisms must follow if the mechanisms are required elsewhere in this chapter.

(c) Requirements which apply to Federal financial assistance programs (grants and cooperative agreements) under the three acts are set forth in §§ 25.10 and 25.12(a).

(d) Requirements for public involvement which apply to specific activities are set forth in § 25.9 (Permit enforcement), § 25.10 (Rulemaking), and § 25.12 (Assuring compliance with requirements).

## 40 CFR 122.26

TITLE 40 -- PROTECTION OF ENVIRONMENT  
 CHAPTER I -- ENVIRONMENTAL PROTECTION AGENCY  
 SUBCHAPTER D -- WATER PROGRAMS  
 PART 122 -- EPA ADMINISTERED PERMIT PROGRAMS: THE NATIONAL POLLUTANT DISCHARGE  
 ELIMINATION SYSTEM  
 SUBPART B -- PERMIT APPLICATION AND SPECIAL NPDES PROGRAM REQUIREMENTS

## 40 CFR 122.26

§ 122.26 Storm water discharges (applicable to State NPDES programs, see § 123.25).

(a) Permit requirement. (1) Prior to October 1, 1994, discharges composed entirely of storm water shall not be required to obtain a NPDES permit except:

- (i) A discharge with respect to which a permit has been issued prior to February 4, 1987;
- (ii) A discharge associated with industrial activity (see § 122.26(a)(4));
- (iii) A discharge from a large municipal separate storm sewer system;
- (iv) A discharge from a medium municipal separate storm sewer system;

(v) A discharge which the Director, or in States with approved NPDES programs, either the Director or the EPA Regional Administrator, determines to contribute to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States. This designation may include a discharge from any conveyance or system of conveyances used for collecting and conveying storm water runoff or a system of discharges from municipal separate storm sewers, except for those discharges from conveyances which do not require a permit under paragraph (a)(2) of this section or agricultural storm water runoff which is exempted from the definition of point source at § 122.2.

The Director may designate discharges from municipal separate storm sewers on a system-wide or jurisdiction-wide basis. In making this determination the Director may consider the following factors:

- (A) The location of the discharge with respect to waters of the United States as defined at 40 CFR 122.2.
- (B) The size of the discharge;
- (C) The quantity and nature of the pollutants discharged to waters of the United States; and
- (D) Other relevant factors.

(2) The Director may not require a permit for discharges of storm water runoff from the following:

(i) Mining operations composed entirely of flows which are from conveyances or systems of conveyances (including but not limited to pipes, conduits, ditches, and channels) used for collecting and conveying precipitation runoff and which are not contaminated by contact with or that have not come into contact with, any overburden, raw material, intermediate products, finished product, byproduct, or waste products located on the site of such operations, except in accordance with paragraph (c)(1)(iv) of this section.

(ii) All field activities or operations associated with oil and gas exploration, production, processing, or treatment operations or transmission facilities, including activities necessary to prepare a site for drilling and for the movement and placement of drilling equipment, whether or not such field activities or operations may be considered to be construction activities, except in accordance with paragraph (c)(1)(iii) of this section. Discharges of sediment from construction activities associated with oil and gas exploration, production, processing, or treatment operations or transmission facilities are not subject to the provisions of paragraph (c)(1)(iii)(C) of this section.

Note to paragraph (a)(2)(ii): EPA encourages operators of oil and gas field activities or operations to implement and maintain Best Management Practices (BMPs) to minimize discharges of pollutants, including sediment, in storm water both during and after construction activities to help ensure protection of surface water quality during storm events. Appropriate controls would be those suitable to the site conditions and consistent with generally accepted engi-

neering design criteria and manufacturer specifications. Selection of BMPs could also be affected by seasonal or climate conditions.

(3) Large and medium municipal separate storm sewer systems. (i) Permits must be obtained for all discharges from large and medium municipal separate storm sewer systems.

(ii) The Director may either issue one system-wide permit covering all discharges from municipal separate storm sewers within a large or medium municipal storm sewer system or issue distinct permits for appropriate categories of discharges within a large or medium municipal separate storm sewer system including, but not limited to: all discharges owned or operated by the same municipality; located within the same jurisdiction; all discharges within a system that discharge to the same watershed; discharges within a system that are similar in nature; or for individual discharges from municipal separate storm sewers within the system.

(iii) The operator of a discharge from a municipal separate storm sewer which is part of a large or medium municipal separate storm sewer system must either:

(A) Participate in a permit application (to be a permittee or a co-permittee) with one or more other operators of discharges from the large or medium municipal storm sewer system which covers all, or a portion of all, discharges from the municipal separate storm sewer system;

(B) Submit a distinct permit application which only covers discharges from the municipal separate storm sewers for which the operator is responsible; or

(C) A regional authority may be responsible for submitting a permit application under the following guidelines:

(1) The regional authority together with co-applicants shall have authority over a storm water management program that is in existence, or shall be in existence at the time part 1 of the application is due;

(2) The permit applicant or co-applicants shall establish their ability to make a timely submission of part 1 and part 2 of the municipal application;

(3) Each of the operators of municipal separate storm sewers within the systems described in paragraphs (b)(4) (i), (ii), and (iii) or (b)(7) (i), (ii), and (iii) of this section, that are under the purview of the designated regional authority, shall comply with the application requirements of paragraph (d) of this section.

(iv) One permit application may be submitted for all or a portion of all municipal separate storm sewers within adjacent or interconnected large or medium municipal separate storm sewer systems. The Director may issue one system-wide permit covering all, or a portion of all municipal separate storm sewers in adjacent or interconnected large or medium municipal separate storm sewer systems.

(v) Permits for all or a portion of all discharges from large or medium municipal separate storm sewer systems that are issued on a system-wide, jurisdiction-wide, watershed or other basis may specify different conditions relating to different discharges covered by the permit, including different management programs for different drainage areas which contribute storm water to the system.

(vi) Co-permittees need only comply with permit conditions relating to discharges from the municipal separate storm sewers for which they are operators.

(4) Discharges through large and medium municipal separate storm sewer systems. In addition to meeting the requirements of paragraph (c) of this section, an operator of a storm water discharge associated with industrial activity which discharges through a large or medium municipal separate storm sewer system shall submit, to the operator of the municipal separate storm sewer system receiving the discharge no later than May 15, 1991, or 180 days prior to commencing such discharge: the name of the facility; a contact person and phone number; the location of the discharge; a description, including Standard Industrial Classification, which best reflects the principal products or services provided by each facility; and any existing NPDES permit number.

(5) Other municipal separate storm sewers. The Director may issue permits for municipal separate storm sewers that are designated under paragraph (a)(1)(v) of this section on a system-wide basis, jurisdiction-wide basis, watershed basis or other appropriate basis, or may issue permits for individual discharges.

(6) Non-municipal separate storm sewers. For storm water discharges associated with industrial activity from point sources which discharge through a non-municipal or non-publicly owned separate storm sewer system, the Director, in

his discretion, may issue: a single NPDES permit, with each discharger a co-permittee to a permit issued to the operator of the portion of the system that discharges into waters of the United States; or, individual permits to each discharger of storm water associated with industrial activity through the non-municipal conveyance system.

(i) All storm water discharges associated with industrial activity that discharge through a storm water discharge system that is not a municipal separate storm sewer must be covered by an individual permit, or a permit issued to the operator of the portion of the system that discharges to waters of the United States, with each discharger to the non-municipal conveyance a co-permittee to that permit.

(ii) Where there is more than one operator of a single system of such conveyances, all operators of storm water discharges associated with industrial activity must submit applications.

(iii) Any permit covering more than one operator shall identify the effluent limitations, or other permit conditions, if any, that apply to each operator.

(7) Combined sewer systems. Conveyances that discharge storm water runoff combined with municipal sewage are point sources that must obtain NPDES permits in accordance with the procedures of § 122.21 and are not subject to the provisions of this section.

(8) Whether a discharge from a municipal separate storm sewer is or is not subject to regulation under this section shall have no bearing on whether the owner or operator of the discharge is eligible for funding under title II, title III or title VI of the Clean Water Act. See 40 CFR part 35, subpart I, appendix A(b)H.2.j.

(9)(i) On and after October 1, 1994, for discharges composed entirely of storm water, that are not required by paragraph (a)(1) of this section to obtain a permit, operators shall be required to obtain a NPDES permit only if:

(A) The discharge is from a small MS4 required to be regulated pursuant to § 122.32;

(B) The discharge is a storm water discharge associated with small construction activity pursuant to paragraph (b)(15) of this section;

(C) The Director, or in States with approved NPDES programs either the Director or the EPA Regional Administrator, determines that storm water controls are needed for the discharge based on wasteload allocations that are part of "total maximum daily loads" (TMDLs) that address the pollutant(s) of concern; or

(D) The Director, or in States with approved NPDES programs either the Director or the EPA Regional Administrator, determines that the discharge, or category of discharges within a geographic area, contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States.

(ii) Operators of small MS4s designated pursuant to paragraphs (a)(9)(i)(A), (a)(9)(i)(C), and (a)(9)(i)(D) of this section shall seek coverage under an NPDES permit in accordance with §§ 122.33 through 122.35. Operators of non-municipal sources designated pursuant to paragraphs (a)(9)(i)(B), (a)(9)(i)(C), and (a)(9)(i)(D) of this section shall seek coverage under an NPDES permit in accordance with paragraph (c)(1) of this section.

(iii) Operators of storm water discharges designated pursuant to paragraphs (a)(9)(i)(C) and (a)(9)(i)(D) of this section shall apply to the Director for a permit within 180 days of receipt of notice, unless permission for a later date is granted by the Director (see § 124.52(c) of this chapter).

(b) Definitions. (1) Co-permittee means a permittee to a NPDES permit that is only responsible for permit conditions relating to the discharge for which it is operator.

(2) Illicit discharge means any discharge to a municipal separate storm sewer that is not composed entirely of storm water except discharges pursuant to a NPDES permit (other than the NPDES permit for discharges from the municipal separate storm sewer) and discharges resulting from fire fighting activities.

(3) Incorporated place means the District of Columbia, or a city, town, township, or village that is incorporated under the laws of the State in which it is located.

(4) Large municipal separate storm sewer system means all municipal separate storm sewers that are either:

(i) Located in an incorporated place with a population of 250,000 or more as determined by the 1990 Decennial Census by the Bureau of the Census (Appendix F of this part); or

## 40 CFR 122.26

(ii) Located in the counties listed in appendix H, except municipal separate storm sewers that are located in the incorporated places, townships or towns within such counties; or

(iii) Owned or operated by a municipality other than those described in paragraph (b)(4)(i) or (ii) of this section and that are designated by the Director as part of the large or medium municipal separate storm sewer system due to the interrelationship between the discharges of the designated storm sewer and the discharges from municipal separate storm sewers described under paragraph (b)(4)(i) or (ii) of this section. In making this determination the Director may consider the following factors:

(A) Physical interconnections between the municipal separate storm sewers;

(B) The location of discharges from the designated municipal separate storm sewer relative to discharges from municipal separate storm sewers described in paragraph (b)(4)(i) of this section;

(C) The quantity and nature of pollutants discharged to waters of the United States;

(D) The nature of the receiving waters; and

(E) Other relevant factors; or

(iv) The Director may, upon petition, designate as a large municipal separate storm sewer system, municipal separate storm sewers located within the boundaries of a region defined by a storm water management regional authority based on a jurisdictional, watershed, or other appropriate basis that includes one or more of the systems described in paragraph (b)(4)(i), (ii), (iii) of this section.

(5) Major municipal separate storm sewer outfall (or "major outfall") means a municipal separate storm sewer outfall that discharges from a single pipe with an inside diameter of 36 inches or more or its equivalent (discharge from a single conveyance other than circular pipe which is associated with a drainage area of more than 50 acres); or for municipal separate storm sewers that receive storm water from lands zoned for industrial activity (based on comprehensive zoning plans or the equivalent), an outfall that discharges from a single pipe with an inside diameter of 12 inches or more or from its equivalent (discharge from other than a circular pipe associated with a drainage area of 2 acres or more).

(6) Major outfall means a major municipal separate storm sewer outfall.

(7) Medium municipal separate storm sewer system means all municipal separate storm sewers that are either:

(i) Located in an incorporated place with a population of 100,000 or more but less than 250,000, as determined by the 1990 Decennial Census by the Bureau of the Census (Appendix G of this part); or

(ii) Located in the counties listed in appendix I, except municipal separate storm sewers that are located in the incorporated places, townships or towns within such counties; or

(iii) Owned or operated by a municipality other than those described in paragraph (b)(7)(i) or (ii) of this section and that are designated by the Director as part of the large or medium municipal separate storm sewer system due to the interrelationship between the discharges of the designated storm sewer and the discharges from municipal separate storm sewers described under paragraph (b)(7)(i) or (ii) of this section. In making this determination the Director may consider the following factors:

(A) Physical interconnections between the municipal separate storm sewers;

(B) The location of discharges from the designated municipal separate storm sewer relative to discharges from municipal separate storm sewers described in paragraph (b)(7)(i) of this section;

(C) The quantity and nature of pollutants discharged to waters of the United States;

(D) The nature of the receiving waters; or

(E) Other relevant factors; or

(iv) The Director may, upon petition, designate as a medium municipal separate storm sewer system, municipal separate storm sewers located within the boundaries of a region defined by a storm water management regional authority based on a jurisdictional, watershed, or other appropriate basis that includes one or more of the systems described in paragraphs (b)(7)(i), (ii), (iii) of this section.



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(8) Municipal separate storm sewer means a conveyance or system of conveyances (including roads with drainage systems, municipal streets, catch basins, curbs, gutters, ditches, man-made channels, or storm drains):

(i) Owned or operated by a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States;

(ii) Designed or used for collecting or conveying storm water;

(iii) Which is not a combined sewer; and

(iv) Which is not part of a Publicly Owned Treatment Works (POTW) as defined at 40 CFR 122.2.

(9) Outfall means a point source as defined by 40 CFR 122.2 at the point where a municipal separate storm sewer discharges to waters of the United States and does not include open conveyances connecting two municipal separate storm sewers, or pipes, tunnels or other conveyances which connect segments of the same stream or other waters of the United States and are used to convey waters of the United States.

(10) Overburden means any material of any nature, consolidated or unconsolidated, that overlies a mineral deposit, excluding topsoil or similar naturally-occurring surface materials that are not disturbed by mining operations.

(11) Runoff coefficient means the fraction of total rainfall that will appear at a conveyance as runoff.

(12) Significant materials includes, but is not limited to: raw materials; fuels; materials such as solvents, detergents, and plastic pellets; finished materials such as metallic products; raw materials used in food processing or production; hazardous substances designated under section 101(14) of CERCLA; any chemical the facility is required to report pursuant to section 313 of title III of SARA; fertilizers; pesticides; and waste products such as ashes, slag and sludge that have the potential to be released with storm water discharges.

(13) Storm water means storm water runoff, snow melt runoff, and surface runoff and drainage.

(14) Storm water discharge associated with industrial activity means the discharge from any conveyance that is used for collecting and conveying storm water and that is directly related to manufacturing, processing or raw materials storage areas at an industrial plant. The term does not include discharges from facilities or activities excluded from the NPDES program under this part 122. For the categories of industries identified in this section, the term includes, but is not limited to, storm water discharges from industrial plant yards; immediate access roads and rail lines used or traveled by carriers of raw materials, manufactured products, waste material, or by-products used or created by the facility; material handling sites; refuse sites; sites used for the application or disposal of process waste waters (as defined at part 401 of this chapter); sites used for the storage and maintenance of material handling equipment; sites used for residual treatment, storage, or disposal; shipping and receiving areas; manufacturing buildings; storage areas (including tank farms) for raw materials, and intermediate and final products; and areas where industrial activity has taken place in the past and significant materials remain and are exposed to storm water. For the purposes of this paragraph, material handling activities include storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product, by-product or waste product. The term excludes areas located on plant lands separate from the plant's industrial activities, such as office buildings and accompanying parking lots as long as the drainage from the excluded areas is not mixed with storm water drained from the above described areas. Industrial facilities (including industrial facilities that are federally, State, or municipally owned or operated that meet the description of the facilities listed in paragraphs (b)(14)(i) through (xi) of this section) include those facilities designated under the provisions of paragraph (a)(1)(v) of this section. The following categories of facilities are considered to be engaging in "industrial activity" for purposes of paragraph (b)(14):

(i) Facilities subject to storm water effluent limitations guidelines, new source performance standards, or toxic pollutant effluent standards under 40 CFR subchapter N (except facilities with toxic pollutant effluent standards which are exempted under category (xi) in paragraph (b)(14) of this section);

(ii) Facilities classified as Standard Industrial Classifications 24 (except 2434), 26 (except 265 and 267), 28 (except 283), 29, 311, 32 (except 323), 33, 3441, 373;

(iii) Facilities classified as Standard Industrial Classifications 10 through 14 (mineral industry) including active or inactive mining operations (except for areas of coal mining operations no longer meeting the definition of a reclamation area under 40 CFR 434.11(1) because the performance bond issued to the facility by the appropriate SMCRA authority has been released, or except for areas of non-coal mining operations which have been released from applicable State or Federal reclamation requirements after December 17, 1990) and oil and gas exploration, production, processing, or treatment operations, or transmission facilities that discharge storm water contaminated by contact with or that has come into contact with, any overburden, raw material, intermediate products, finished products, byproducts or waste products located on the site of such operations; (inactive mining operations are mining sites that are not being actively mined, but which have an identifiable owner/operator; inactive mining sites do not include sites where mining claims are being maintained prior to disturbances associated with the extraction, beneficiation, or processing of mined materials, nor sites where minimal activities are undertaken for the sole purpose of maintaining a mining claim);

(iv) Hazardous waste treatment, storage, or disposal facilities, including those that are operating under interim status or a permit under subtitle C of RCRA;

(v) Landfills, land application sites, and open dumps that receive or have received any industrial wastes (waste that is received from any of the facilities described under this subsection) including those that are subject to regulation under subtitle D of RCRA;

(vi) Facilities involved in the recycling of materials, including metal scrapyards, battery reclaimers, salvage yards, and automobile junkyards, including but limited to those classified as Standard Industrial Classification 5015 and 5093;

(vii) Steam electric power generating facilities, including coal handling sites;

(viii) Transportation facilities classified as Standard Industrial Classifications 40, 41, 42 (except 4221-25), 43, 44, 45, and 5171 which have vehicle maintenance shops, equipment cleaning operations, or airport deicing operations. Only those portions of the facility that are either involved in vehicle maintenance (including vehicle rehabilitation, mechanical repairs, painting, fueling, and lubrication), equipment cleaning operations, airport deicing operations, or which are otherwise identified under paragraphs (b)(14) (i)-(vii) or (ix)-(xi) of this section are associated with industrial activity;

(ix) Treatment works treating domestic sewage or any other sewage sludge or wastewater treatment device or system, used in the storage treatment, recycling, and reclamation of municipal or domestic sewage, including land dedicated to the disposal of sewage sludge that are located within the confines of the facility, with a design flow of 1.0 mgd or more, or required to have an approved pretreatment program under 40 CFR part 403. Not included are farm lands, domestic gardens or lands used for sludge management where sludge is beneficially reused and which are not physically located in the confines of the facility, or areas that are in compliance with section 405 of the CWA;

(x) Construction activity including clearing, grading and excavation, except operations that result in the disturbance of less than five acres of total land area. Construction activity also includes the disturbance of less than five acres of total land area that is a part of a larger common plan of development or sale if the larger common plan will ultimately disturb five acres or more;

(xi) Facilities under Standard Industrial Classifications 20, 21, 22, 23, 2434, 25, 265, 267, 27, 283, 285, 30, 31 (except 311), 323, 34 (except 3441), 35, 36, 37 (except 373), 38, 39, and 4221-25;

(15) Storm water discharge associated with small construction activity means the discharge of storm water from:

(i) Construction activities including clearing, grading, and excavating that result in land disturbance of equal to or greater than one acre and less than five acres. Small construction activity also includes the disturbance of less than one acre of total land area that is part of a larger common plan of development or sale if the larger common plan will ultimately disturb equal to or greater than one and less than five acres. Small construction activity does not include routine maintenance that is performed to maintain the original line and grade, hydraulic capacity, or original purpose of the facility. The Director may waive the otherwise applicable requirements in a general permit for a storm water discharge from construction activities that disturb less than five acres where:

(A) The value of the rainfall erosivity factor ("R" in the Revised Universal Soil Loss Equation) is less than five during the period of construction activity. The rainfall erosivity factor is determined in accordance with Chapter 2 of Agriculture Handbook Number 703, Predicting Soil Erosion by Water: A Guide to Conservation Planning With the Revised Universal Soil Loss Equation (RUSLE), pages 21-64, dated January 1997. The Director of the Federal Register approves this incorporation by reference in accordance with 5 U.S.C 552(a) and 1 CFR part 51. Copies may be obtained

from EPA's Water Resource Center, Mail Code RC4100, 1200 Pennsylvania Ave., NW., Washington, DC 20460. A copy is also available for inspection at the U.S. EPA Water Docket, 1200 Pennsylvania Ave., NW., Washington, DC 20460, or the Office of the Federal Register, 800 N. Capitol Street N.W. Suite 700, Washington, DC. An operator must certify to the Director that the construction activity will take place during a period when the value of the rainfall erosivity factor is less than five; or

(B) Storm water controls are not needed based on a "total maximum daily load" (TMDL) approved or established by EPA that addresses the pollutant(s) of concern or, for non-impaired waters that do not require TMDLs, an equivalent analysis that determines allocations for small construction sites for the pollutant(s) of concern or that determines that such allocations are not needed to protect water quality based on consideration of existing in-stream concentrations, expected growth in pollutant contributions from all sources, and a margin of safety. For the purpose of this paragraph, the pollutant(s) of concern include sediment or a parameter that addresses sediment (such as total suspended solids, turbidity or siltation) and any other pollutant that has been identified as a cause of impairment of any water body that will receive a discharge from the construction activity. The operator must certify to the Director that the construction activity will take place, and storm water discharges will occur, within the drainage area addressed by the TMDL or equivalent analysis.

(ii) Any other construction activity designated by the Director, or in States with approved NPDES programs either the Director or the EPA Regional Administrator, based on the potential for contribution to a violation of a water quality standard or for significant contribution of pollutants to waters of the United States.

EXHIBIT 1 TO § 122.26(b)(15).--SUMMARY OF COVERAGE  
OF "STORM WATER DISCHARGES ASSOCIATED WITH SMALL  
CONSTRUCTION ACTIVITY" UNDER THE NPDES STORM WATER PROGRAM

Automatic Designation: Required Nationwide Coverage	. Construction activities that result in a land disturbance of equal to or greater than one acre and less than five acres. . Construction activities disturbing less than one acre if part of a larger common plan of development or sale with a planned disturbance of equal to or greater than one acre and less than five acres. (see § 122.26(b)(15)(i).)
Potential Designation: Optional Evaluation and Designation by the NPDES Permitting Authority or EPA Regional Administrator. Potential Waiver: Waiver from Requirements as Determined by the NPDES Permitting Authority.	. Construction activities that result in a land disturbance of less than one acre based on the potential for contribution to a violation of a water quality standard or for significant contribution of pollutants. (see § 122.26(b)(15)(ii).) Any automatically designated construction activity where the operator certifies: (1) A rainfall erosivity factor of less than five, or (2) That the activity will occur within an area where controls are not needed based on a TMDL or, for non-impaired waters that do not require a TMDL, an equivalent analysis for the pollutant(s) of concern. (see § 122.26(b)(15)(i).)

(16) Small municipal separate storm sewer system means all separate storm sewers that are:

(i) Owned or operated by the United States, a State, city, town, borough, county, parish, district, association, or other public body (created by or pursuant to State law) having jurisdiction over disposal of sewage, industrial wastes, storm water, or other wastes, including special districts under State law such as a sewer district, flood control district or drainage district, or similar entity, or an Indian tribe or an authorized Indian tribal organization, or a designated and approved management agency under section 208 of the CWA that discharges to waters of the United States.

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(ii) Not defined as "large" or "medium" municipal separate storm sewer systems pursuant to paragraphs (b)(4) and (b)(7) of this section, or designated under paragraph (a)(1)(v) of this section.

(iii) This term includes systems similar to separate storm sewer systems in municipalities, such as systems at military bases, large hospital or prison complexes, and highways and other thoroughfares. The term does not include separate storm sewers in very discrete areas, such as individual buildings.

(17) Small MS4 means a small municipal separate storm sewer system.

(18) Municipal separate storm sewer system means all separate storm sewers that are defined as "large" or "medium" or "small" municipal separate storm sewer systems pursuant to paragraphs (b)(4), (b)(7), and (b)(16) of this section, or designated under paragraph (a)(1)(v) of this section.

(19) MS4 means a municipal separate storm sewer system.

(20) Uncontrolled sanitary landfill means a landfill or open dump, whether in operation or closed, that does not meet the requirements for runoff or runoff controls established pursuant to subtitle D of the Solid Waste Disposal Act.

(c) Application requirements for storm water discharges associated with industrial activity and storm water discharges associated with small construction activity -- (1) Individual application. Dischargers of storm water associated with industrial activity and with small construction activity are required to apply for an individual permit or seek coverage under a promulgated storm water general permit. Facilities that are required to obtain an individual permit, or any discharge of storm water which the Director is evaluating for designation (see 124.52(c) of this chapter) under paragraph (a)(1)(v) of this section and is not a municipal storm sewer, shall submit an NPDES application in accordance with the requirements of § 122.21 as modified and supplemented by the provisions of this paragraph.

(i) Except as provided in § 122.26(c)(1)(ii)-(iv), the operator of a storm water discharge associated with industrial activity subject to this section shall provide:

(A) A site map showing topography (or indicating the outline of drainage areas served by the outfall(s) covered in the application if a topographic map is unavailable) of the facility including: each of its drainage and discharge structures; the drainage area of each storm water outfall; paved areas and buildings within the drainage area of each storm water outfall, each past or present area used for outdoor storage or disposal of significant materials, each existing structural control measure to reduce pollutants in storm water runoff, materials loading and access areas, areas where pesticides, herbicides, soil conditioners and fertilizers are applied, each of its hazardous waste treatment, storage or disposal facilities (including each area not required to have a RCRA permit which is used for accumulating hazardous waste under 40 CFR 262.34); each well where fluids from the facility are injected underground; springs, and other surface water bodies which receive storm water discharges from the facility;

(B) An estimate of the area of impervious surfaces (including paved areas and building roofs) and the total area drained by each outfall (within a mile radius of the facility) and a narrative description of the following: Significant materials that in the three years prior to the submittal of this application have been treated, stored or disposed in a manner to allow exposure to storm water; method of treatment, storage or disposal of such materials; materials management practices employed, in the three years prior to the submittal of this application, to minimize contact by these materials with storm water runoff; materials loading and access areas; the location, manner and frequency in which pesticides, herbicides, soil conditioners and fertilizers are applied; the location and a description of existing structural and non-structural control measures to reduce pollutants in storm water runoff; and a description of the treatment the storm water receives, including the ultimate disposal of any solid or fluid wastes other than by discharge;

(C) A certification that all outfalls that should contain storm water discharges associated with industrial activity have been tested or evaluated for the presence of non-storm water discharges which are not covered by a NPDES permit; tests for such non-storm water discharges may include smoke tests, fluorometric dye tests, analysis of accurate schematics, as well as other appropriate tests. The certification shall include a description of the method used, the date of any testing, and the on-site drainage points that were directly observed during a test;

(D) Existing information regarding significant leaks or spills of toxic or hazardous pollutants at the facility that have taken place within the three years prior to the submittal of this application;

(E) Quantitative data based on samples collected during storm events and collected in accordance with § 122.21 of this part from all outfalls containing a storm water discharge associated with industrial activity for the following parameters:

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- (1) Any pollutant limited in an effluent guideline to which the facility is subject;
- (2) Any pollutant listed in the facility's NPDES permit for its process wastewater (if the facility is operating under an existing NPDES permit);
- (3) Oil and grease, pH, BOD5, COD, TSS, total phosphorus, total Kjeldahl nitrogen, and nitrate plus nitrite nitrogen;
- (4) Any information on the discharge required under § 122.21(g)(7) (vi) and (vii);
- (5) Flow measurements or estimates of the flow rate, and the total amount of discharge for the storm event(s) sampled, and the method of flow measurement or estimation; and
- (6) The date and duration (in hours) of the storm event(s) sampled, rainfall measurements or estimates of the storm event (in inches) which generated the sampled runoff and the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event (in hours);
- (F) Operators of a discharge which is composed entirely of storm water are exempt from the requirements of § 122.21 (g)(2), (g)(3), (g)(4), (g)(5), (g)(7)(iii), (g)(7)(iv), (g)(7)(v), and (g)(7)(viii); and
- (G) Operators of new sources or new discharges (as defined in § 122.2 of this part) which are composed in part or entirely of storm water must include estimates for the pollutants or parameters listed in paragraph (c)(1)(i)(E) of this section instead of actual sampling data, along with the source of each estimate. Operators of new sources or new discharges composed in part or entirely of storm water must provide quantitative data for the parameters listed in paragraph (c)(1)(i)(E) of this section within two years after commencement of discharge, unless such data has already been reported under the monitoring requirements of the NPDES permit for the discharge. Operators of a new source or new discharge which is composed entirely of storm water are exempt from the requirements of § 122.21 (k)(3)(ii), (k)(3)(iii), and (k)(5).
- (ii) An operator of an existing or new storm water discharge that is associated with industrial activity solely under paragraph (b)(14)(x) of this section or is associated with small construction activity solely under paragraph (b)(15) of this section, is exempt from the requirements of § 122.21(g) and paragraph (c)(1)(i) of this section. Such operator shall provide a narrative description of:
- (A) The location (including a map) and the nature of the construction activity;
- (B) The total area of the site and the area of the site that is expected to undergo excavation during the life of the permit;
- (C) Proposed measures, including best management practices, to control pollutants in storm water discharges during construction, including a brief description of applicable State and local erosion and sediment control requirements;
- (D) Proposed measures to control pollutants in storm water discharges that will occur after construction operations have been completed, including a brief description of applicable State or local erosion and sediment control requirements;
- (E) An estimate of the runoff coefficient of the site and the increase in impervious area after the construction addressed in the permit application is completed, the nature of fill material and existing data describing the soil or the quality of the discharge; and
- (F) The name of the receiving water.
- (iii) The operator of an existing or new discharge composed entirely of storm water from an oil or gas exploration, production, processing, or treatment operation, or transmission facility is not required to submit a permit application in accordance with paragraph (c)(1)(i) of this section, unless the facility:
- (A) Has had a discharge of storm water resulting in the discharge of a reportable quantity for which notification is or was required pursuant to 40 CFR 117.21 or 40 CFR 302.6 at anytime since November 16, 1987; or
- (B) Has had a discharge of storm water resulting in the discharge of a reportable quantity for which notification is or was required pursuant to 40 CFR 110.6 at any time since November 16, 1987; or
- (C) Contributes to a violation of a water quality standard.

(iv) The operator of an existing or new discharge composed entirely of storm water from a mining operation is not required to submit a permit application unless the discharge has come into contact with, any overburden, raw material, intermediate products, finished product, byproduct or waste products located on the site of such operations.

(v) Applicants shall provide such other information the Director may reasonably require under § 122.21(g)(13) of this part to determine whether to issue a permit and may require any facility subject to paragraph (c)(1)(ii) of this section to comply with paragraph (c)(1)(i) of this section.

(2) [Reserved]

(d) Application requirements for large and medium municipal separate storm sewer discharges. The operator of a discharge from a large or medium municipal separate storm sewer or a municipal separate storm sewer that is designated by the Director under paragraph (a)(1)(v) of this section, may submit a jurisdiction-wide or system-wide permit application. Where more than one public entity owns or operates a municipal separate storm sewer within a geographic area (including adjacent or interconnected municipal separate storm sewer systems), such operators may be a coapplicant to the same application. Permit applications for discharges from large and medium municipal storm sewers or municipal storm sewers designated under paragraph (a)(1)(v) of this section shall include;

(1) Part 1. Part 1 of the application shall consist of;

(i) General information. The applicants' name, address, telephone number of contact person, ownership status and status as a State or local government entity.

(ii) Legal authority. A description of existing legal authority to control discharges to the municipal separate storm sewer system. When existing legal authority is not sufficient to meet the criteria provided in paragraph (d)(2)(i) of this section, the description shall list additional authorities as will be necessary to meet the criteria and shall include a schedule and commitment to seek such additional authority that will be needed to meet the criteria.

(iii) Source identification. (A) A description of the historic use of ordinances, guidance or other controls which limited the discharge of non-storm water discharges to any Publicly Owned Treatment Works serving the same area as the municipal separate storm sewer system.

(B) A USGS 7.5 minute topographic map (or equivalent topographic map with a scale between 1:10,000 and 1:24,000 if cost effective) extending one mile beyond the service boundaries of the municipal storm sewer system covered by the permit application. The following information shall be provided:

(1) The location of known municipal storm sewer system outfalls discharging to waters of the United States;

(2) A description of the land use activities (e.g. divisions indicating undeveloped, residential, commercial, agricultural and industrial uses) accompanied with estimates of population densities and projected growth for a ten year period within the drainage area served by the separate storm sewer. For each land use type, an estimate of an average runoff coefficient shall be provided;

(3) The location and a description of the activities of the facility of each currently operating or closed municipal landfill or other treatment, storage or disposal facility for municipal waste;

(4) The location and the permit number of any known discharge to the municipal storm sewer that has been issued a NPDES permit;

(5) The location of major structural controls for storm water discharge (retention basins, detention basins, major infiltration devices, etc.); and

(6) The identification of publicly owned parks, recreational areas, and other open lands.

(iv) Discharge characterization. (A) Monthly mean rain and snow fall estimates (or summary of weather bureau data) and the monthly average number of storm events.

(B) Existing quantitative data describing the volume and quality of discharges from the municipal storm sewer, including a description of the outfalls sampled, sampling procedures and analytical methods used.

(C) A list of water bodies that receive discharges from the municipal separate storm sewer system, including downstream segments, lakes and estuaries, where pollutants from the system discharges may accumulate and cause wa-

ter degradation and a brief description of known water quality impacts. At a minimum, the description of impacts shall include a description of whether the water bodies receiving such discharges have been:

(1) Assessed and reported in section 305(b) reports submitted by the State, the basis for the assessment (evaluated or monitored), a summary of designated use support and attainment of Clean Water Act (CWA) goals (fishable and swimmable waters), and causes of nonsupport of designated uses;

(2) Listed under section 304(l)(1)(A)(i), section 304(l)(1)(A)(ii), or section 304(l)(1)(B) of the CWA that is not expected to meet water quality standards or water quality goals;

(3) Listed in State Nonpoint Source Assessments required by section 319(a) of the CWA that, without additional action to control nonpoint sources of pollution, cannot reasonably be expected to attain or maintain water quality standards due to storm sewers, construction, highway maintenance and runoff from municipal landfills and municipal sludge adding significant pollution (or contributing to a violation of water quality standards);

(4) Identified and classified according to eutrophic condition of publicly owned lakes listed in State reports required under section 314(a) of the CWA (include the following: A description of those publicly owned lakes for which uses are known to be impaired; a description of procedures, processes and methods to control the discharge of pollutants from municipal separate storm sewers into such lakes; and a description of methods and procedures to restore the quality of such lakes);

(5) Areas of concern of the Great Lakes identified by the International Joint Commission;

(6) Designated estuaries under the National Estuary Program under section 320 of the CWA;

(7) Recognized by the applicant as highly valued or sensitive waters;

(8) Defined by the State or U.S. Fish and Wildlife Services's National Wetlands Inventory as wetlands; and

(9) Found to have pollutants in bottom sediments, fish tissue or biosurvey data.

(D) Field screening. Results of a field screening analysis for illicit connections and illegal dumping for either selected field screening points or major outfalls covered in the permit application. At a minimum, a screening analysis shall include a narrative description, for either each field screening point or major outfall, of visual observations made during dry weather periods. If any flow is observed, two grab samples shall be collected during a 24 hour period with a minimum period of four hours between samples. For all such samples, a narrative description of the color, odor, turbidity, the presence of an oil sheen or surface scum as well as any other relevant observations regarding the potential presence of non-storm water discharges or illegal dumping shall be provided. In addition, a narrative description of the results of a field analysis using suitable methods to estimate pH, total chlorine, total copper, total phenol, and detergents (or surfactants) shall be provided along with a description of the flow rate. Where the field analysis does not involve analytical methods approved under 40 CFR part 136, the applicant shall provide a description of the method used including the name of the manufacturer of the test method along with the range and accuracy of the test. Field screening points shall be either major outfalls or other outfall points (or any other point of access such as manholes) randomly located throughout the storm sewer system by placing a grid over a drainage system map and identifying those cells of the grid which contain a segment of the storm sewer system or major outfall. The field screening points shall be established using the following guidelines and criteria:

(1) A grid system consisting of perpendicular north-south and east-west lines spaced 1/4 mile apart shall be overlaid on a map of the municipal storm sewer system, creating a series of cells;

(2) All cells that contain a segment of the storm sewer system shall be identified; one field screening point shall be selected in each cell; major outfalls may be used as field screening points;

(3) Field screening points should be located downstream of any sources of suspected illegal or illicit activity;

(4) Field screening points shall be located to the degree practicable at the farthest manhole or other accessible location downstream in the system, within each cell; however, safety of personnel and accessibility of the location should be considered in making this determination;

(5) Hydrological conditions; total drainage area of the site; population density of the site; traffic density; age of the structures or buildings in the area; history of the area; and land use types;

(6) For medium municipal separate storm sewer systems, no more than 250 cells need to have identified field screening points; in large municipal separate storm sewer systems, no more than 500 cells need to have identified field screening points; cells established by the grid that contain no storm sewer segments will be eliminated from consideration; if fewer than 250 cells in medium municipal sewers are created, and fewer than 500 in large systems are created by the overlay on the municipal sewer map, then all those cells which contain a segment of the sewer system shall be subject to field screening (unless access to the separate storm sewer system is impossible); and

(7) Large or medium municipal separate storm sewer systems which are unable to utilize the procedures described in paragraphs (d)(1)(iv)(D) (1) through (6) of this section, because a sufficiently detailed map of the separate storm sewer systems is unavailable, shall field screen no more than 500 or 250 major outfalls respectively (or all major outfalls in the system, if less); in such circumstances, the applicant shall establish a grid system consisting of north-south and east-west lines spaced 1/4 mile apart as an overlay to the boundaries of the municipal storm sewer system, thereby creating a series of cells; the applicant will then select major outfalls in as many cells as possible until at least 500 major outfalls (large municipalities) or 250 major outfalls (medium municipalities) are selected; a field screening analysis shall be undertaken at these major outfalls.

(E) Characterization plan. Information and a proposed program to meet the requirements of paragraph (d)(2)(iii) of this section. Such description shall include: the location of outfalls or field screening points appropriate for representative data collection under paragraph (d)(2)(iii)(A) of this section, a description of why the outfall or field screening point is representative, the seasons during which sampling is intended, a description of the sampling equipment. The proposed location of outfalls or field screening points for such sampling should reflect water quality concerns (see paragraph (d)(1)(iv)(C) of this section) to the extent practicable.

(v) Management programs. (A) A description of the existing management programs to control pollutants from the municipal separate storm sewer system. The description shall provide information on existing structural and source controls, including operation and maintenance measures for structural controls, that are currently being implemented. Such controls may include, but are not limited to: Procedures to control pollution resulting from construction activities; floodplain management controls; wetland protection measures; best management practices for new subdivisions; and emergency spill response programs. The description may address controls established under State law as well as local requirements.

(B) A description of the existing program to identify illicit connections to the municipal storm sewer system. The description should include inspection procedures and methods for detecting and preventing illicit discharges, and describe areas where this program has been implemented.

(vi) Fiscal resources. (A) A description of the financial resources currently available to the municipality to complete part 2 of the permit application. A description of the municipality's budget for existing storm water programs, including an overview of the municipality's financial resources and budget, including overall indebtedness and assets, and sources of funds for storm water programs.

(2) Part 2. Part 2 of the application shall consist of:

(i) Adequate legal authority. A demonstration that the applicant can operate pursuant to legal authority established by statute, ordinance or series of contracts which authorizes or enables the applicant at a minimum to:

(A) Control through ordinance, permit, contract, order or similar means, the contribution of pollutants to the municipal storm sewer by storm water discharges associated with industrial activity and the quality of storm water discharged from sites of industrial activity;

(B) Prohibit through ordinance, order or similar means, illicit discharges to the municipal separate storm sewer;

(C) Control through ordinance, order or similar means the discharge to a municipal separate storm sewer of spills, dumping or disposal of materials other than storm water;

(D) Control through interagency agreements among coapplicants the contribution of pollutants from one portion of the municipal system to another portion of the municipal system;

(E) Require compliance with conditions in ordinances, permits, contracts or orders; and

(F) Carry out all inspection, surveillance and monitoring procedures necessary to determine compliance and non-compliance with permit conditions including the prohibition on illicit discharges to the municipal separate storm sewer.



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(ii) Source identification. The location of any major outfall that discharges to waters of the United States that was not reported under paragraph (d)(1)(iii)(B)(1) of this section. Provide an inventory, organized by watershed of the name and address, and a description (such as SIC codes) which best reflects the principal products or services provided by each facility which may discharge, to the municipal separate storm sewer, storm water associated with industrial activity;

(iii) Characterization data. When "quantitative data" for a pollutant are required under paragraph (d)(2)(iii)(A)(3) of this section, the applicant must collect a sample of effluent in accordance with § 122.21(g)(7) and analyze it for the pollutant in accordance with analytical methods approved under part 136 of this chapter. When no analytical method is approved the applicant may use any suitable method but must provide a description of the method. The applicant must provide information characterizing the quality and quantity of discharges covered in the permit application, including:

(A) Quantitative data from representative outfalls designated by the Director (based on information received in part 1 of the application, the Director shall designate between five and ten outfalls or field screening points as representative of the commercial, residential and industrial land use activities of the drainage area contributing to the system or, where there are less than five outfalls covered in the application, the Director shall designate all outfalls) developed as follows:

(1) For each outfall or field screening point designated under this subparagraph, samples shall be collected of storm water discharges from three storm events occurring at least one month apart in accordance with the requirements at § 122.21(g)(7) (the Director may allow exemptions to sampling three storm events when climatic conditions create good cause for such exemptions);

(2) A narrative description shall be provided of the date and duration of the storm event(s) sampled, rainfall estimates of the storm event which generated the sampled discharge and the duration between the storm event sampled and the end of the previous measurable (greater than 0.1 inch rainfall) storm event;

(3) For samples collected and described under paragraphs (d)(2)(iii) (A)(1) and (A)(2) of this section, quantitative data shall be provided for: the organic pollutants listed in Table II; the pollutants listed in Table III (toxic metals, cyanide, and total phenols) of appendix D of 40 CFR part 122, and for the following pollutants:

Total suspended solids (TSS)

Total dissolved solids (TDS)

COD

BOD[5]

Oil and grease

Fecal coliform

Fecal streptococcus

pH

Total Kjeldahl nitrogen

Nitrate plus nitrite

Dissolved phosphorus

Total ammonia plus organic nitrogen

Total phosphorus

(4) Additional limited quantitative data required by the Director for determining permit conditions (the Director may require that quantitative data shall be provided for additional parameters, and may establish sampling conditions such as the location, season of sample collection, form of precipitation (snow melt, rainfall) and other parameters necessary to insure representativeness);

(B) Estimates of the annual pollutant load of the cumulative discharges to waters of the United States from all identified municipal outfalls and the event mean concentration of the cumulative discharges to waters of the United States from all identified municipal outfalls during a storm event (as described under § 122.21(c)(7)) for BOD[sub]5, COD, TSS, dissolved solids, total nitrogen, total ammonia plus organic nitrogen, total phosphorus, dissolved phospho-

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rus, cadmium, copper, lead, and zinc. Estimates shall be accompanied by a description of the procedures for estimating constituent loads and concentrations, including any modelling, data analysis, and calculation methods;

(C) A proposed schedule to provide estimates for each major outfall identified in either paragraph (d)(2)(ii) or (d)(1)(iii)(B)(1) of this section of the seasonal pollutant load and of the event mean concentration of a representative storm for any constituent detected in any sample required under paragraph (d)(2)(iii)(A) of this section; and

(D) A proposed monitoring program for representative data collection for the term of the permit that describes the location of outfalls or field screening points to be sampled (or the location of instream stations), why the location is representative, the frequency of sampling, parameters to be sampled, and a description of sampling equipment.

(iv) Proposed management program. A proposed management program covers the duration of the permit. It shall include a comprehensive planning process which involves public participation and where necessary intergovernmental coordination, to reduce the discharge of pollutants to the maximum extent practicable using management practices, control techniques and system, design and engineering methods, and such other provisions which are appropriate. The program shall also include a description of staff and equipment available to implement the program. Separate proposed programs may be submitted by each coapplicant. Proposed programs may impose controls on a systemwide basis, a watershed basis, a jurisdiction basis, or on individual outfalls. Proposed programs will be considered by the Director when developing permit conditions to reduce pollutants in discharges to the maximum extent practicable. Proposed management programs shall describe priorities for implementing controls. Such programs shall be based on:

(A) A description of structural and source control measures to reduce pollutants from runoff from commercial and residential areas that are discharged from the municipal storm sewer system that are to be implemented during the life of the permit, accompanied with an estimate of the expected reduction of pollutant loads and a proposed schedule for implementing such controls. At a minimum, the description shall include:

(1) A description of maintenance activities and a maintenance schedule for structural controls to reduce pollutants (including floatables) in discharges from municipal separate storm sewers;

(2) A description of planning procedures including a comprehensive master plan to develop, implement and enforce controls to reduce the discharge of pollutants from municipal separate storm sewers which receive discharges from areas of new development and significant redevelopment. Such plan shall address controls to reduce pollutants in discharges from municipal separate storm sewers after construction is completed. (Controls to reduce pollutants in discharges from municipal separate storm sewers containing construction site runoff are addressed in paragraph (d)(2)(iv)(D) of this section;

(3) A description of practices for operating and maintaining public streets, roads and highways and procedures for reducing the impact on receiving waters of discharges from municipal storm sewer systems, including pollutants discharged as a result of deicing activities;

(4) A description of procedures to assure that flood management projects assess the impacts on the water quality of receiving water bodies and that existing structural flood control devices have been evaluated to determine if retrofitting the device to provide additional pollutant removal from storm water is feasible;

(5) A description of a program to monitor pollutants in runoff from operating or closed municipal landfills or other treatment, storage or disposal facilities for municipal waste, which shall identify priorities and procedures for inspections and establishing and implementing control measures for such discharges (this program can be coordinated with the program developed under paragraph (d)(2)(iv)(C) of this section); and

(6) A description of a program to reduce to the maximum extent practicable, pollutants in discharges from municipal separate storm sewers associated with the application of pesticides, herbicides and fertilizer which will include, as appropriate, controls such as educational activities, permits, certifications and other measures for commercial applicators and distributors, and controls for application in public right-of-ways and at municipal facilities.

(B) A description of a program, including a schedule, to detect and remove (or require the discharger to the municipal separate storm sewer to obtain a separate NPDES permit for) illicit discharges and improper disposal into the storm sewer. The proposed program shall include:

(1) A description of a program, including inspections, to implement and enforce an ordinance, orders or similar means to prevent illicit discharges to the municipal separate storm sewer system; this program description shall address all types of illicit discharges, however the following category of non-storm water discharges or flows shall be addressed

where such discharges are identified by the municipality as sources of pollutants to waters of the United States: water line flushing, landscape irrigation, diverted stream flows, rising ground waters, uncontaminated ground water infiltration (as defined at 40 CFR 35.2005(20)) to separate storm sewers, uncontaminated pumped ground water, discharges from potable water sources, foundation drains, air conditioning condensation, irrigation water, springs, water from crawl space pumps, footing drains, lawn watering, individual residential car washing, flows from riparian habitats and wetlands, dechlorinated swimming pool discharges, and street wash water (program descriptions shall address discharges or flows from fire fighting only where such discharges or flows are identified as significant sources of pollutants to waters of the United States);

(2) A description of procedures to conduct on-going field screening activities during the life of the permit, including areas or locations that will be evaluated by such field screens;

(3) A description of procedures to be followed to investigate portions of the separate storm sewer system that, based on the results of the field screen, or other appropriate information, indicate a reasonable potential of containing illicit discharges or other sources of non-storm water (such procedures may include: sampling procedures for constituents such as fecal coliform, fecal streptococcus, surfactants (MBAS), residual chlorine, fluorides and potassium; testing with fluorometric dyes; or conducting in storm sewer inspections where safety and other considerations allow. Such description shall include the location of storm sewers that have been identified for such evaluation);

(4) A description of procedures to prevent, contain, and respond to spills that may discharge into the municipal separate storm sewer;

(5) A description of a program to promote, publicize, and facilitate public reporting of the presence of illicit discharges or water quality impacts associated with discharges from municipal separate storm sewers;

(6) A description of educational activities, public information activities, and other appropriate activities to facilitate the proper management and disposal of used oil and toxic materials; and

(7) A description of controls to limit infiltration of seepage from municipal sanitary sewers to municipal separate storm sewer systems where necessary;

(C) A description of a program to monitor and control pollutants in storm water discharges to municipal systems from municipal landfills, hazardous waste treatment, disposal and recovery facilities, industrial facilities that are subject to section 313 of title III of the Superfund Amendments and Reauthorization Act of 1986 (SARA), and industrial facilities that the municipal permit applicant determines are contributing a substantial pollutant loading to the municipal storm sewer system. The program shall:

(1) Identify priorities and procedures for inspections and establishing and implementing control measures for such discharges;

(2) Describe a monitoring program for storm water discharges associated with the industrial facilities identified in paragraph (d)(2)(iv)(C) of this section, to be implemented during the term of the permit, including the submission of quantitative data on the following constituents: Any pollutants limited in effluent guidelines subcategories, where applicable; any pollutant listed in an existing NPDES permit for a facility; oil and grease, COD, pH, BOD5, TSS, total phosphorus, total Kjeldahl nitrogen, nitrate plus nitrite nitrogen, and any information on discharges required under § 122.21(g)(7) (vi) and (vii).

(D) A description of a program to implement and maintain structural and non-structural best management practices to reduce pollutants in storm water runoff from construction sites to the municipal storm sewer system, which shall include:

(1) A description of procedures for site planning which incorporate consideration of potential water quality impacts;

(2) A description of requirements for nonstructural and structural best management practices;

(3) A description of procedures for identifying priorities for inspecting sites and enforcing control measures which consider the nature of the construction activity, topography, and the characteristics of soils and receiving water quality; and

(4) A description of appropriate educational and training measures for construction site operators.

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(v) Assessment of controls. Estimated reductions in loadings of pollutants from discharges of municipal storm sewer constituents from municipal storm sewer systems expected as the result of the municipal storm water quality management program. The assessment shall also identify known impacts of storm water controls on ground water.

(vi) Fiscal analysis. For each fiscal year to be covered by the permit, a fiscal analysis of the necessary capital and operation and maintenance expenditures necessary to accomplish the activities of the programs under paragraphs (d)(2)(iii) and (iv) of this section. Such analysis shall include a description of the source of funds that are proposed to meet the necessary expenditures, including legal restrictions on the use of such funds.

(vii) Where more than one legal entity submits an application, the application shall contain a description of the roles and responsibilities of each legal entity and procedures to ensure effective coordination.

(viii) Where requirements under paragraph (d)(1)(iv)(E), (d)(2)(ii), (d)(2)(iii)(B) and (d)(2)(iv) of this section are not practicable or are not applicable, the Director may exclude any operator of a discharge from a municipal separate storm sewer which is designated under paragraph (a)(1)(v), (b)(4)(ii) or (b)(7)(ii) of this section from such requirements. The Director shall not exclude the operator of a discharge from a municipal separate storm sewer identified in appendix F, G, H or I of part 122, from any of the permit application requirements under this paragraph except where authorized under this section.

(e) Application deadlines. Any operator of a point source required to obtain a permit under this section that does not have an effective NPDES permit authorizing discharges from its storm water outfalls shall submit an application in accordance with the following deadlines:

(1) Storm water discharges associated with industrial activity. (i) Except as provided in paragraph (e)(1)(ii) of this section, for any storm water discharge associated with industrial activity identified in paragraphs (b)(14)(i) through (xi) of this section, that is not part of a group application as described in paragraph (c)(2) of this section or that is not authorized by a storm water general permit, a permit application made pursuant to paragraph (c) of this section must be submitted to the Director by October 1, 1992;

(ii) For any storm water discharge associated with industrial activity from a facility that is owned or operated by a municipality with a population of less than 100,000 that is not authorized by a general or individual permit, other than an airport, powerplant, or uncontrolled sanitary landfill, the permit application must be submitted to the Director by March 10, 2003.

(2) For any group application submitted in accordance with paragraph (c)(2) of this section:

(i) Part 1. (A) Except as provided in paragraph (e)(2)(i)(B) of this section, part 1 of the application shall be submitted to the Director, Office of Wastewater Enforcement and Compliance by September 30, 1991;

(B) Any municipality with a population of less than 250,000 shall not be required to submit a part 1 application before May 18, 1992.

(C) For any storm water discharge associated with industrial activity from a facility that is owned or operated by a municipality with a population of less than 100,000 other than an airport, powerplant, or uncontrolled sanitary landfill, permit applications requirements are reserved.

(ii) Based on information in the part 1 application, the Director will approve or deny the members in the group application within 60 days after receiving part 1 of the group application.

(iii) Part 2. (A) Except as provided in paragraph (e)(2)(iii)(B) of this section, part 2 of the application shall be submitted to the Director, Office of Wastewater Enforcement and Compliance by October 1, 1992;

(B) Any municipality with a population of less than 250,000 shall not be required to submit a part 1 application before May 17, 1993.

(C) For any storm water discharge associated with industrial activity from a facility that is owned or operated by a municipality with a population of less than 100,000 other than an airport, powerplant, or uncontrolled sanitary landfill, permit applications requirements are reserved.

(iv) Rejected facilities. (A) Except as provided in paragraph (e)(2)(iv)(B) of this section, facilities that are rejected as members of the group shall submit an individual application (or obtain coverage under an applicable general permit) no later than 12 months after the date of receipt of the notice of rejection or October 1, 1992, whichever comes first.

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(B) Facilities that are owned or operated by a municipality and that are rejected as members of part 1 group application shall submit an individual application no later than 180 days after the date of receipt of the notice of rejection or October 1, 1992, whichever is later.

(v) A facility listed under paragraph (b)(14) (i)-(xi) of this section may add on to a group application submitted in accordance with paragraph (e)(2)(i) of this section at the discretion of the Office of Water Enforcement and Permits, and only upon a showing of good cause by the facility and the group applicant; the request for the addition of the facility shall be made no later than February 18, 1992; the addition of the facility shall not cause the percentage of the facilities that are required to submit quantitative data to be less than 10%, unless there are over 100 facilities in the group that are submitting quantitative data; approval to become part of group application must be obtained from the group or the trade association representing the individual facilities.

(3) For any discharge from a large municipal separate storm sewer system;

(i) Part 1 of the application shall be submitted to the Director by November 18, 1991;

(ii) Based on information received in the part 1 application the Director will approve or deny a sampling plan under paragraph (d)(1)(iv)(E) of this section within 90 days after receiving the part 1 application;

(iii) Part 2 of the application shall be submitted to the Director by November 16, 1992.

(4) For any discharge from a medium municipal separate storm sewer system;

(i) Part 1 of the application shall be submitted to the Director by May 18, 1992.

(ii) Based on information received in the part 1 application the Director will approve or deny a sampling plan under paragraph (d)(1)(iv)(E) of this section within 90 days after receiving the part 1 application.

(iii) Part 2 of the application shall be submitted to the Director by May 17, 1993.

(5) A permit application shall be submitted to the Director within 180 days of notice, unless permission for a later date is granted by the Director (see § 124.52(c) of this chapter), for:

(i) A storm water discharge that the Director, or in States with approved NPDES programs, either the Director or the EPA Regional Administrator, determines that the discharge contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States (see paragraphs (a)(1)(v) and (b)(15)(ii) of this section);

(ii) A storm water discharge subject to paragraph (c)(1)(v) of this section.

(6) Facilities with existing NPDES permits for storm water discharges associated with industrial activity shall maintain existing permits. Facilities with permits for storm water discharges associated with industrial activity which expire on or after May 18, 1992 shall submit a new application in accordance with the requirements of 40 CFR 122.21 and 40 CFR 122.26(c) (Form 1, Form 2F, and other applicable Forms) 180 days before the expiration of such permits.

(7) The Director shall issue or deny permits for discharges composed entirely of storm water under this section in accordance with the following schedule:

(i)(A) Except as provided in paragraph (e)(7)(i)(B) of this section, the Director shall issue or deny permits for storm water discharges associated with industrial activity no later than October 1, 1993, or, for new sources or existing sources which fail to submit a complete permit application by October 1, 1992, one year after receipt of a complete permit application;

(B) For any municipality with a population of less than 250,000 which submits a timely Part I group application under paragraph (e)(2)(i)(B) of this section, the Director shall issue or deny permits for storm water discharges associated with industrial activity no later than May 17, 1994, or, for any such municipality which fails to submit a complete Part II group permit application by May 17, 1993, one year after receipt of a complete permit application;

(ii) The Director shall issue or deny permits for large municipal separate storm sewer systems no later than November 16, 1993, or, for new sources or existing sources which fail to submit a complete permit application by November 16, 1992, one year after receipt of a complete permit application;

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(iii) The Director shall issue or deny permits for medium municipal separate storm sewer systems no later than May 17, 1994, or, for new sources or existing sources which fail to submit a complete permit application by May 17, 1993, one year after receipt of a complete permit application.

(8) For any storm water discharge associated with small construction activities identified in paragraph (b)(15)(i) of this section, see § 122.21(c)(1). Discharges from these sources require permit authorization by March 10, 2003, unless designated for coverage before then.

(9) For any discharge from a regulated small MS4, the permit application made under § 122.33 must be submitted to the Director by:

(i) March 10, 2003 if designated under § 122.32(a)(1) unless your MS4 serves a jurisdiction with a population under 10,000 and the NPDES permitting authority has established a phasing schedule under § 123.35(d)(3) (see § 122.33(c)(1)); or

(ii) Within 180 days of notice, unless the NPDES permitting authority grants a later date, if designated under § 122.32(a)(2) (see § 122.33(c)(2)).

(f) Petitions. (1) Any operator of a municipal separate storm sewer system may petition the Director to require a separate NPDES permit (or a permit issued under an approved NPDES State program) for any discharge into the municipal separate storm sewer system.

(2) Any person may petition the Director to require a NPDES permit for a discharge which is composed entirely of storm water which contributes to a violation of a water quality standard or is a significant contributor of pollutants to waters of the United States.

(3) The owner or operator of a municipal separate storm sewer system may petition the Director to reduce the Census estimates of the population served by such separate system to account for storm water discharged to combined sewers as defined by 40 CFR 35.2005(b)(11) that is treated in a publicly owned treatment works. In municipalities in which combined sewers are operated, the Census estimates of population may be reduced proportional to the fraction, based on estimated lengths, of the length of combined sewers over the sum of the length of combined sewers and municipal separate storm sewers where an applicant has submitted the NPDES permit number associated with each discharge point and a map indicating areas served by combined sewers and the location of any combined sewer overflow discharge point.

(4) Any person may petition the Director for the designation of a large, medium, or small municipal separate storm sewer system as defined by paragraph (b)(4)(iv), (b)(7)(iv), or (b)(16) of this section.

(5) The Director shall make a final determination on any petition received under this section within 90 days after receiving the petition with the exception of petitions to designate a small MS4 in which case the Director shall make a final determination on the petition within 180 days after its receipt.

(g) Conditional exclusion for "no exposure" of industrial activities and materials to storm water. Discharges composed entirely of storm water are not storm water discharges associated with industrial activity if there is "no exposure" of industrial materials and activities to rain, snow, snowmelt and/or runoff, and the discharger satisfies the conditions in paragraphs (g)(1) through (g)(4) of this section. "No exposure" means that all industrial materials and activities are protected by a storm resistant shelter to prevent exposure to rain, snow, snowmelt, and/or runoff. Industrial materials or activities include, but are not limited to, material handling equipment or activities, industrial machinery, raw materials, intermediate products, by-products, final products, or waste products. Material handling activities include the storage, loading and unloading, transportation, or conveyance of any raw material, intermediate product, final product or waste product.

(1) Qualification. To qualify for this exclusion, the operator of the discharge must:

(i) Provide a storm resistant shelter to protect industrial materials and activities from exposure to rain, snow, snow melt, and runoff;

(ii) Complete and sign (according to § 122.22) a certification that there are no discharges of storm water contaminated by exposure to industrial materials and activities from the entire facility, except as provided in paragraph (g)(2) of this section;

(iii) Submit the signed certification to the NPDES permitting authority once every five years;

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- (iv) Allow the Director to inspect the facility to determine compliance with the "no exposure" conditions;
- (v) Allow the Director to make any "no exposure" inspection reports available to the public upon request; and
- (vi) For facilities that discharge through an MS4, upon request, submit a copy of the certification of "no exposure" to the MS4 operator, as well as allow inspection and public reporting by the MS4 operator.

(2) Industrial materials and activities not requiring storm resistant shelter. To qualify for this exclusion, storm resistant shelter is not required for:

- (i) Drums, barrels, tanks, and similar containers that are tightly sealed, provided those containers are not deteriorated and do not leak ("Sealed" means banded or otherwise secured and without operational taps or valves);

- (ii) Adequately maintained vehicles used in material handling; and

- (iii) Final products, other than products that would be mobilized in storm water discharge (e.g., rock salt).

(3) Limitations. (i) Storm water discharges from construction activities identified in paragraphs (b)(14)(x) and (b)(15) are not eligible for this conditional exclusion.

- (ii) This conditional exclusion from the requirement for an NPDES permit is available on a facility-wide basis only, not for individual outfalls. If a facility has some discharges of storm water that would otherwise be "no exposure" discharges, individual permit requirements should be adjusted accordingly.

- (iii) If circumstances change and industrial materials or activities become exposed to rain, snow, snow melt, and/or runoff, the conditions for this exclusion no longer apply. In such cases, the discharge becomes subject to enforcement for un-permitted discharge. Any conditionally exempt discharger who anticipates changes in circumstances should apply for and obtain permit authorization prior to the change of circumstances.

- (iv) Notwithstanding the provisions of this paragraph, the NPDES permitting authority retains the authority to require permit authorization (and deny this exclusion) upon making a determination that the discharge causes, has a reasonable potential to cause, or contributes to an instream excursion above an applicable water quality standard, including designated uses.

(4) Certification. The no exposure certification must require the submission of the following information, at a minimum, to aid the NPDES permitting authority in determining if the facility qualifies for the no exposure exclusion:

- (i) The legal name, address and phone number of the discharger (see § 122.21(b));

- (ii) The facility name and address, the county name and the latitude and longitude where the facility is located;

- (iii) The certification must indicate that none of the following materials or activities are, or will be in the foreseeable future, exposed to precipitation:

- (A) Using, storing or cleaning industrial machinery or equipment, and areas where residuals from using, storing or cleaning industrial machinery or equipment remain and are exposed to storm water;

- (B) Materials or residuals on the ground or in storm water inlets from spills/leaks;

- (C) Materials or products from past industrial activity;

- (D) Material handling equipment (except adequately maintained vehicles);

- (E) Materials or products during loading/unloading or transporting activities;

- (F) Materials or products stored outdoors (except final products intended for outside use, e.g., new cars, where exposure to storm water does not result in the discharge of pollutants);

- (G) Materials contained in open, deteriorated or leaking storage drums, barrels, tanks, and similar containers;

- (H) Materials or products handled/stored on roads or railways owned or maintained by the discharger;

- (I) Waste material (except waste in covered, non-leaking containers, e.g., dumpsters);

- (J) Application or disposal of process wastewater (unless otherwise permitted); and

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(K) Particulate matter or visible deposits of residuals from roof stacks/vents not otherwise regulated, i.e., under an air quality control permit, and evident in the storm water outflow;

(iv) All "no exposure" certifications must include the following certification statement, and be signed in accordance with the signatory requirements of § 122.22: "I certify under penalty of law that I have read and understand the eligibility requirements for claiming a condition of "no exposure" and obtaining an exclusion from NPDES storm water permitting; and that there are no discharges of storm water contaminated by exposure to industrial activities or materials from the industrial facility identified in this document (except as allowed under paragraph (g)(2)) of this section. I understand that I am obligated to submit a no exposure certification form once every five years to the NPDES permitting authority and, if requested, to the operator of the local MS4 into which this facility discharges (where applicable). I understand that I must allow the NPDES permitting authority, or MS4 operator where the discharge is into the local MS4, to perform inspections to confirm the condition of no exposure and to make such inspection reports publicly available upon request. I understand that I must obtain coverage under an NPDES permit prior to any point source discharge of storm water from the facility. I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based upon my inquiry of the person or persons who manage the system, or those persons directly involved in gathering the information, the information submitted is to the best of my knowledge and belief true, accurate and complete. I am aware there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

14690 words



TITLE 40 -- PROTECTION OF ENVIRONMENT  
CHAPTER I -- ENVIRONMENTAL PROTECTION AGENCY  
SUBCHAPTER D -- WATER PROGRAMS  
PART 122 -- EPA ADMINISTERED PERMIT PROGRAMS: THE NATIONAL POLLUTANT DISCHARGE  
ELIMINATION SYSTEM  
SUBPART C -- PERMIT CONDITIONS

40 CFR 122.44

§ 122.44 Establishing limitations, standards, and other permit conditions (applicable to State NPDES programs, see § 123.25).

In addition to the conditions established under § 122.43(a), each NPDES permit shall include conditions meeting the following requirements when applicable.

(a)(1) Technology-based effluent limitations and standards based on: effluent limitations and standards promulgated under section 301 of the CWA, or new source performance standards promulgated under section 306 of CWA, on case-by-case effluent limitations determined under section 402(a)(1) of CWA, or a combination of the three, in accordance with § 125.3 of this chapter. For new sources or new dischargers, these technology based limitations and standards are subject to the provisions of § 122.29(d) (protection period).

(2) Monitoring waivers for certain guideline-listed pollutants.

(i) The Director may authorize a discharger subject to technology-based effluent limitations guidelines and standards in an NPDES permit to forego sampling of a pollutant found at 40 CFR Subchapter N of this chapter if the discharger has demonstrated through sampling and other technical factors that the pollutant is not present in the discharge or is present only at background levels from intake water and without any increase in the pollutant due to activities of the discharger.

(ii) This waiver is good only for the term of the permit and is not available during the term of the first permit issued to a discharger.

(iii) Any request for this waiver must be submitted when applying for a reissued permit or modification of a reissued permit. The request must demonstrate through sampling or other technical information, including information generated during an earlier permit term that the pollutant is not present in the discharge or is present only at background levels from intake water and without any increase in the pollutant due to activities of the discharger.

(iv) Any grant of the monitoring waiver must be included in the permit as an express permit condition and the reasons supporting the grant must be documented in the permit's fact sheet or statement of basis.

(v) This provision does not supersede certification processes and requirements already established in existing effluent limitations guidelines and standards.

(b)(1) Other effluent limitations and standards under sections 301, 302, 303, 307, 318 and 405 of CWA. If any applicable toxic effluent standard or prohibition (including any schedule of compliance specified in such effluent standard or prohibition) is promulgated under section 307(a) of CWA for a toxic pollutant and that standard or prohibition is more stringent than any limitation on the pollutant in the permit, the Director shall institute proceedings under these regulations to modify or revoke and reissue the permit to conform to the toxic effluent standard or prohibition. See also § 122.41(a).

(2) Standards for sewage sludge use or disposal under section 405(d) of the CWA unless those standards have been included in a permit issued under the appropriate provisions of subtitle C of the Solid Waste Disposal Act, Part C of Safe Drinking Water Act, the Marine Protection, Research, and Sanctuaries Act of 1972, or the Clean Air Act, or under State permit programs approved by the Administrator. When there are no applicable standards for sewage sludge use or disposal, the permit may include requirements developed on a case-by-case basis to protect public health and the environment from any adverse effects which may occur from toxic pollutants in sewage sludge. If any applicable standard for sewage sludge use or disposal is promulgated under section 405(d) of the CWA and that standard is more stringent

than any limitation on the pollutant or practice in the permit, the Director may initiate proceedings under these regulations to modify or revoke and reissue the permit to conform to the standard for sewage sludge use or disposal.

(3) Requirements applicable to cooling water intake structures under section 316(b) of the CWA, in accordance with part 125, subparts I, J, and N of this chapter.

(c) Reopener clause: For any permit issued to a treatment works treating domestic sewage (including "sludge-only facilities"), the Director shall include a reopener clause to incorporate any applicable standard for sewage sludge use or disposal promulgated under section 405(d) of the CWA. The Director may promptly modify or revoke and reissue any permit containing the reopener clause required by this paragraph if the standard for sewage sludge use or disposal is more stringent than any requirements for sludge use or disposal in the permit, or controls a pollutant or practice not limited in the permit.

(d) Water quality standards and State requirements: any requirements in addition to or more stringent than promulgated effluent limitations guidelines or standards under sections 301, 304, 306, 307, 318 and 405 of CWA necessary to:

(1) Achieve water quality standards established under section 303 of the CWA, including State narrative criteria for water quality.

(i) Limitations must control all pollutants or pollutant parameters (either conventional, nonconventional, or toxic pollutants) which the Director determines are or may be discharged at a level which will cause, have the reasonable potential to cause, or contribute to an excursion above any State water quality standard, including State narrative criteria for water quality.

(ii) When determining whether a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above a narrative or numeric criteria within a State water quality standard, the permitting authority shall use procedures which account for existing controls on point and nonpoint sources of pollution, the variability of the pollutant or pollutant parameter in the effluent, the sensitivity of the species to toxicity testing (when evaluating whole effluent toxicity), and where appropriate, the dilution of the effluent in the receiving water.

(iii) When the permitting authority determines, using the procedures in paragraph (d)(1)(ii) of this section, that a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above the allowable ambient concentration of a State numeric criteria within a State water quality standard for an individual pollutant, the permit must contain effluent limits for that pollutant.

(iv) When the permitting authority determines, using the procedures in paragraph (d)(1)(ii) of this section, that a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above the numeric criterion for whole effluent toxicity, the permit must contain effluent limits for whole effluent toxicity.

(v) Except as provided in this subparagraph, when the permitting authority determines, using the procedures in paragraph (d)(1)(ii) of this section, toxicity testing data, or other information, that a discharge causes, has the reasonable potential to cause, or contributes to an in-stream excursion above a narrative criterion within an applicable State water quality standard, the permit must contain effluent limits for whole effluent toxicity. Limits on whole effluent toxicity are not necessary where the permitting authority demonstrates in the fact sheet or statement of basis of the NPDES permit, using the procedures in paragraph (d)(1)(ii) of this section, that chemical-specific limits for the effluent are sufficient to attain and maintain applicable numeric and narrative State water quality standards.

(vi) Where a State has not established a water quality criterion for a specific chemical pollutant that is present in an effluent at a concentration that causes, has the reasonable potential to cause, or contributes to an excursion above a narrative criterion within an applicable State water quality standard, the permitting authority must establish effluent limits using one or more of the following options:

(A) Establish effluent limits using a calculated numeric water quality criterion for the pollutant which the permitting authority demonstrates will attain and maintain applicable narrative water quality criteria and will fully protect the designated use. Such a criterion may be derived using a proposed State criterion, or an explicit State policy or regulation interpreting its narrative water quality criterion, supplemented with other relevant information which may include: EPA's Water Quality Standards Handbook, October 1983, risk assessment data, exposure data, information about the pollutant from the Food and Drug Administration, and current EPA criteria documents; or

(B) Establish effluent limits on a case-by-case basis, using EPA's water quality criteria, published under section 304(a) of the CWA, supplemented where necessary by other relevant information; or

(C) Establish effluent limitations on an indicator parameter for the pollutant of concern, provided:

(1) The permit identifies which pollutants are intended to be controlled by the use of the effluent limitation;

(2) The fact sheet required by § 124.56 sets forth the basis for the limit, including a finding that compliance with the effluent limit on the indicator parameter will result in controls on the pollutant of concern which are sufficient to attain and maintain applicable water quality standards;

(3) The permit requires all effluent and ambient monitoring necessary to show that during the term of the permit the limit on the indicator parameter continues to attain and maintain applicable water quality standards; and

(4) The permit contains a reopener clause allowing the permitting authority to modify or revoke and reissue the permit if the limits on the indicator parameter no longer attain and maintain applicable water quality standards.

(vii) When developing water quality-based effluent limits under this paragraph the permitting authority shall ensure that:

(A) The level of water quality to be achieved by limits on point sources established under this paragraph is derived from, and complies with all applicable water quality standards; and

(B) Effluent limits developed to protect a narrative water quality criterion, a numeric water quality criterion, or both, are consistent with the assumptions and requirements of any available wasteload allocation for the discharge prepared by the State and approved by EPA pursuant to 40 CFR 130.7.

(2) Attain or maintain a specified water quality through water quality related effluent limits established under section 302 of CWA;

(3) Conform to the conditions to a State certification under section 401 of the CWA that meets the requirements of § 124.53 when EPA is the permitting authority. If a State certification is stayed by a court of competent jurisdiction or an appropriate State board or agency, EPA shall notify the State that the Agency will deem certification waived unless a finally effective State certification is received within sixty days from the date of the notice. If the State does not forward a finally effective certification within the sixty day period, EPA shall include conditions in the permit that may be necessary to meet EPA's obligation under section 301(b)(1)(C) of the CWA;

(4) Conform to applicable water quality requirements under section 401(a)(2) of CWA when the discharge affects a State other than the certifying State;

(5) Incorporate any more stringent limitations, treatment standards, or schedule of compliance requirements established under Federal or State law or regulations in accordance with section 301(b)(1)(C) of CWA;

(6) Ensure consistency with the requirements of a Water Quality Management plan approved by EPA under section 208(b) of CWA;

(7) Incorporate section 403(c) criteria under part 125, subpart M, for ocean discharges;

(8) Incorporate alternative effluent limitations or standards where warranted by "fundamentally different factors," under 40 CFR part 125, subpart D;

(9) Incorporate any other appropriate requirements, conditions, or limitations (other than effluent limitations) into a new source permit to the extent allowed by the National Environmental Policy Act, 42 U.S.C. 4321 et seq. and section 511 of the CWA, when EPA is the permit issuing authority. (See § 122.29(c)).

(e) Technology-based controls for toxic pollutants. Limitations established under paragraphs (a), (b), or (d) of this section, to control pollutants meeting the criteria listed in paragraph (e)(1) of this section. Limitations will be established in accordance with paragraph (e)(2) of this section. An explanation of the development of these limitations shall be included in the fact sheet under § 124.56(b)(1)(i).

(1) Limitations must control all toxic pollutants which the Director determines (based on information reported in a permit application under § 122.21(g)(7) or in a notification under § 122.42(a)(1) or on other information) are or may be discharged at a level greater than the level which can be achieved by the technology-based treatment requirements appropriate to the permittee under § 125.3(c) of this chapter; or

(2) The requirement that the limitations control the pollutants meeting the criteria of paragraph (e)(1) of this section will be satisfied by:

(i) Limitations on those pollutants; or

(ii) Limitations on other pollutants which, in the judgment of the Director, will provide treatment of the pollutants under paragraph (e)(1) of this section to the levels required by § 125.3(c).

(f) Notification level. A "notification level" which exceeds the notification level of § 122.42(a)(1)(i), (ii) or (iii), upon a petition from the permittee or on the Director's initiative. This new notification level may not exceed the level which can be achieved by the technology-based treatment requirements appropriate to the permittee under § 125.3(c)

(g) Twenty-four hour reporting. Pollutants for which the permittee must report violations of maximum daily discharge limitations under § 122.41(1)(6)(ii)(C) (24-hour reporting) shall be listed in the permit. This list shall include any toxic pollutant or hazardous substance, or any pollutant specifically identified as the method to control a toxic pollutant or hazardous substance.

(h) Durations for permits, as set forth in § 122.46.

(i) Monitoring requirements. In addition to § 122.48, the following monitoring requirements:

(1) To assure compliance with permit limitations, requirements to monitor:

(i) The mass (or other measurement specified in the permit) for each pollutant limited in the permit;

(ii) The volume of effluent discharged from each outfall;

(iii) Other measurements as appropriate including pollutants in internal waste streams under § 122.45(i); pollutants in intake water for net limitations under § 122.45(f); frequency, rate of discharge, etc., for noncontinuous discharges under § 122.45(e); pollutants subject to notification requirements under § 122.42(a); and pollutants in sewage sludge or other monitoring as specified in 40 CFR part 503; or as determined to be necessary on a case-by-case basis pursuant to section 405(d)(4) of the CWA.

(iv) According to test procedures approved under 40 CFR Part 136 for the analyses of pollutants or another method is required under 40 CFR subchapters N or O. In the case of pollutants for which there are no approved methods under 40 CFR Part 136 or otherwise required under 40 CFR subchapters N or O, monitoring must be conducted according to a test procedure specified in the permit for such pollutants.

(2) Except as provided in paragraphs (i)(4) and (i)(5) of this section, requirements to report monitoring results shall be established on a case-by-case basis with a frequency dependent on the nature and effect of the discharge, but in no case less than once a year. For sewage sludge use or disposal practices, requirements to monitor and report results shall be established on a case-by-case basis with a frequency dependent on the nature and effect of the sewage sludge use or disposal practice; minimally this shall be as specified in 40 CFR part 503 (where applicable), but in no case less than once a year.

(3) Requirements to report monitoring results for storm water discharges associated with industrial activity which are subject to an effluent limitation guideline shall be established on a case-by-case basis with a frequency dependent on the nature and effect of the discharge, but in no case less than once a year.

(4) Requirements to report monitoring results for storm water discharges associated with industrial activity (other than those addressed in paragraph (i)(3) of this section) shall be established on a case-by-case basis with a frequency dependent on the nature and effect of the discharge. At a minimum, a permit for such a discharge must require:

(i) The discharger to conduct an annual inspection of the facility site to identify areas contributing to a storm water discharge associated with industrial activity and evaluate whether measures to reduce pollutant loadings identified in a storm water pollution prevention plan are adequate and properly implemented in accordance with the terms of the permit or whether additional control measures are needed;

(ii) The discharger to maintain for a period of three years a record summarizing the results of the inspection and a certification that the facility is in compliance with the plan and the permit, and identifying any incidents of non-compliance;

(iii) Such report and certification be signed in accordance with § 122.22; and

(iv) Permits for storm water discharges associated with industrial activity from inactive mining operations may, where annual inspections are impracticable, require certification once every three years by a Registered Professional Engineer that the facility is in compliance with the permit, or alternative requirements.

(5) Permits which do not require the submittal of monitoring result reports at least annually shall require that the permittee report all instances of noncompliance not reported under § 122.41(l) (1), (4), (5), and (6) at least annually.

(j) Pretreatment program for POTWs. Requirements for POTWs to:

(1) Identify, in terms of character and volume of pollutants, any Significant Industrial Users discharging into the POTW subject to Pretreatment Standards under section 307(b) of CWA and 40 CFR part 403.

(2)(i) Submit a local program when required by and in accordance with 40 CFR part 403 to assure compliance with pretreatment standards to the extent applicable under section 307(b). The local program shall be incorporated into the permit as described in 40 CFR part 403. The program must require all indirect dischargers to the POTW to comply with the reporting requirements of 40 CFR part 403.

(ii) Provide a written technical evaluation of the need to revise local limits under 40 CFR 403.5(c)(1), following permit issuance or reissuance.

(3) For POTWs which are "sludge-only facilities," a requirement to develop a pretreatment program under 40 CFR part 403 when the Director determines that a pretreatment program is necessary to assure compliance with Section 405(d) of the CWA.

(k) Best management practices (BMPs) to control or abate the discharge of pollutants when:

(1) Authorized under section 304(e) of the CWA for the control of toxic pollutants and hazardous substances from ancillary industrial activities;

(2) Authorized under section 402(p) of the CWA for the control of storm water discharges;

(3) Numeric effluent limitations are infeasible; or

(4) The practices are reasonably necessary to achieve effluent limitations and standards or to carry out the purposes and intent of the CWA.

NOTE TO PARAGRAPH (k)(4): Additional technical information on BMPs and the elements of BMPs is contained in the following documents: Guidance Manual for Developing Best Management Practices (BMPs), October 1993, EPA No. 833/B-93-004, NTIS No. PB 94-178324, ERIC No. W498; Storm Water Management for Construction Activities: Developing Pollution Prevention Plans and Best Management Practices, September 1992, EPA No. 832/R-92-005, NTIS No. PB 92-235951, ERIC No. N482; Storm Water Management for Construction Activities, Developing Pollution Prevention Plans and Best Management Practices: Summary Guidance, EPA No. 833/R-92-001, NTIS No. PB 93-223550; ERIC No. W139; Storm Water Management for Industrial Activities, Developing Pollution Prevention Plans and Best Management Practices, September 1992; EPA 832/R-92-006, NTIS No. PB 92-235969, ERIC No. N477; Storm Water Management for Industrial Activities, Developing Pollution Prevention Plans and Best Management Practices: Summary Guidance, EPA 833/R-92-002, NTIS No. PB 94-133782; ERIC No. W492. Copies of those documents (or directions on how to obtain them) can be obtained by contacting either the Office of Water Resource Center (using the EPA document number as a reference) at (202) 260-7786; or the Educational Resources Information Center (ERIC) (using the ERIC number as a reference) at (800) 276-0462. Updates of these documents or additional BMP documents may also be available. A list of EPA BMP guidance documents is available on the OWM Home Page at <http://www.epa.gov/owm>. In addition, States may have BMP guidance documents.

These EPA guidance documents are listed here only for informational purposes; they are not binding and EPA does not intend that these guidance documents have any mandatory, regulatory effect by virtue of their listing in this note.

(l) Reissued permits. (1) Except as provided in paragraph (l)(2) of this section when a permit is renewed or reissued, interim effluent limitations, standards or conditions must be at least as stringent as the final effluent limitations, standards, or conditions in the previous permit (unless the circumstances on which the previous permit was based have materially and substantially changed since the time the permit was issued and would constitute cause for permit modification or revocation and reissuance under § 122.62.)

(2) In the case of effluent limitations established on the basis of Section 402(a)(1)(B) of the CWA, a permit may not be renewed, reissued, or modified on the basis of effluent guidelines promulgated under section 304(b) subsequent to the original issuance of such permit, to contain effluent limitations which are less stringent than the comparable effluent limitations in the previous permit.

(i) Exceptions -- A permit with respect to which paragraph (1)(2) of this section applies may be renewed, reissued, or modified to contain a less stringent effluent limitation applicable to a pollutant, if --

(A) Material and substantial alterations or additions to the permitted facility occurred after permit issuance which justify the application of a less stringent effluent limitation;

(B)(1) Information is available which was not available at the time of permit issuance (other than revised regulations, guidance, or test methods) and which would have justified the application of a less stringent effluent limitation at the time of permit issuance; or

(2) The Administrator determines that technical mistakes or mistaken interpretations of law were made in issuing the permit under section 402(a)(1)(b);

(C) A less stringent effluent limitation is necessary because of events over which the permittee has no control and for which there is no reasonably available remedy;

(D) The permittee has received a permit modification under section 301(c), 301(g), 301(h), 301(i), 301(k), 301(n), or 316(a); or

(E) The permittee has installed the treatment facilities required to meet the effluent limitations in the previous permit and has properly operated and maintained the facilities but has nevertheless been unable to achieve the previous effluent limitations, in which case the limitations in the reviewed, reissued, or modified permit may reflect the level of pollutant control actually achieved (but shall not be less stringent than required by effluent guidelines in effect at the time of permit renewal, reissuance, or modification).

(ii) Limitations. In no event may a permit with respect to which paragraph (1)(2) of this section applies be renewed, reissued, or modified to contain an effluent limitation which is less stringent than required by effluent guidelines in effect at the time the permit is renewed, reissued, or modified. In no event may such a permit to discharge into waters be renewed, issued, or modified to contain a less stringent effluent limitation if the implementation of such limitation would result in a violation of a water quality standard under section 303 applicable to such waters.

(m) Privately owned treatment works. For a privately owned treatment works, any conditions expressly applicable to any user, as a limited co-permittee, that may be necessary in the permit issued to the treatment works to ensure compliance with applicable requirements under this part. Alternatively, the Director may issue separate permits to the treatment works and to its users, or may require a separate permit application from any user. The Director's decision to issue a permit with no conditions applicable to any user, to impose conditions on one or more users, to issue separate permits, or to require separate applications, and the basis for that decision, shall be stated in the fact sheet for the draft permit for the treatment works.

(n) Grants. Any conditions imposed in grants made by the Administrator to POTWs under sections 201 and 204 of CWA which are reasonably necessary for the achievement of effluent limitations under section 301 of CWA.

(o) Sewage sludge. Requirements under section 405 of CWA governing the disposal of sewage sludge from publicly owned treatment works or any other treatment works treating domestic sewage for any use for which regulations have been established, in accordance with any applicable regulations.

(p) Coast Guard. When a permit is issued to a facility that may operate at certain times as a means of transportation over water, a condition that the discharge shall comply with any applicable regulations promulgated by the Secretary of the department in which the Coast Guard is operating, that establish specifications for safe transportation, handling, carriage, and storage of pollutants.

(q) Navigation. Any conditions that the Secretary of the Army considers necessary to ensure that navigation and anchorage will not be substantially impaired, in accordance with § 124.59 of this chapter.

(r) Great Lakes. When a permit is issued to a facility that discharges into the Great Lakes System (as defined in 40 CFR 132.2), conditions promulgated by the State, Tribe, or EPA pursuant to 40 CFR part 132.

(s) Qualifying State, Tribal, or local programs. (1) For storm water discharges associated with small construction activity identified in § 122.26(b)(15), the Director may include permit conditions that incorporate qualifying State, Tribal, or local erosion and sediment control program requirements by reference. Where a qualifying State, Tribal, or local program does not include one or more of the elements in this paragraph (s)(1), then the Director must include those elements as conditions in the permit. A qualifying State, Tribal, or local erosion and sediment control program is one that includes:

(i) Requirements for construction site operators to implement appropriate erosion and sediment control best management practices;

(ii) Requirements for construction site operators to control waste such as discarded building materials, concrete truck washout, chemicals, litter, and sanitary waste at the construction site that may cause adverse impacts to water quality;

(iii) Requirements for construction site operators to develop and implement a storm water pollution prevention plan. (A storm water pollution prevention plan includes site descriptions, descriptions of appropriate control measures, copies of approved State, Tribal or local requirements, maintenance procedures, inspection procedures, and identification of non-storm water discharges); and

(iv) Requirements to submit a site plan for review that incorporates consideration of potential water quality impacts.

(2) For storm water discharges from construction activity identified in § 122.26(b)(14)(x), the Director may include permit conditions that incorporate qualifying State, Tribal, or local erosion and sediment control program requirements by reference. A qualifying State, Tribal or local erosion and sediment control program is one that includes the elements listed in paragraph (s)(1) of this section and any additional requirements necessary to achieve the applicable technology-based standards of "best available technology" and "best conventional technology" based on the best professional judgment of the permit writer.

TITLE 40 -- PROTECTION OF ENVIRONMENT  
CHAPTER I -- ENVIRONMENTAL PROTECTION AGENCY  
SUBCHAPTER D -- WATER PROGRAMS  
PART 122 -- EPA ADMINISTERED PERMIT PROGRAMS: THE NATIONAL POLLUTANT DISCHARGE  
ELIMINATION SYSTEM  
SUBPART C -- PERMIT CONDITIONS

40 CFR 122.48

§ 122.48 Requirements for recording and reporting of monitoring results (applicable to State programs, see § 123.25).

All permits shall specify:

- (a) Requirements concerning the proper use, maintenance, and installation, when appropriate, of monitoring equipment or methods (including biological monitoring methods when appropriate);
- (b) Required monitoring including type, intervals, and frequency sufficient to yield data which are representative of the monitored activity including, when appropriate, continuous monitoring;
- (c) Applicable reporting requirements based upon the impact of the regulated activity and as specified in § 122.44. Reporting shall be no less frequent than specified in the above regulation.



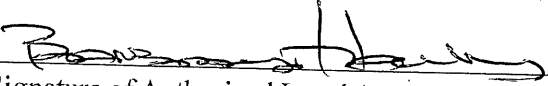
**8. CLAIM CERTIFICATION**

*Read, sign, and date this section and insert at the end of the test claim submission.\**

This test claim alleges the existence of a reimbursable state-mandated program within the meaning of article XIII B, section 6 of the California Constitution and Government Code section 17514. I hereby declare, under penalty of perjury under the laws of the State of California, that the information in this test claim submission is true and complete to the best of my own knowledge or information or belief.

Barbara Hawkins  
\_\_\_\_\_  
Print or Type Name of Authorized Local Agency  
or School District Official

City Engineer  
\_\_\_\_\_  
Print or Type Title

  
\_\_\_\_\_  
Signature of Authorized Local Agency or  
School District Official

10/07/10  
\_\_\_\_\_  
Date

*\* If the declarant for this Claim Certification is different from the Claimant contact identified in section 2 of the test claim form, please provide the declarant's address, telephone number, fax number, and e-mail address below.*

## Commission on State Mandates

Original List Date: 11/14/2010  
Last Updated:  
List Print Date: 11/18/2010  
Claim Number: 10-TC-02  
Issue: Municipal Regional Stormwater Permit - Alameda County

### Mailing List

#### TO ALL PARTIES AND INTERESTED PARTIES:

Each commission mailing list is continuously updated as requests are received to include or remove any party or person on the mailing list. A current mailing list is provided with commission correspondence, and a copy of the current mailing list is available upon request at any time. Except as provided otherwise by commission rule, when a party or interested party files any written material with the commission concerning a claim, it shall simultaneously serve a copy of the written material on the parties and interested parties to the claim identified on the mailing list provided by the commission. (Cal. Code Regs., tit. 2, § 1181.2.)

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