

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

<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;

<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,

<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%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%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> 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.
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	Spring 20 / 10 / 4	BMI metrics that indicate substantially degraded community as per Attachment H, 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 to SWAMP Roundtable 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).

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.
dissolved organic carbon, suspended sediment concentration)	comparable methods for Nutrients				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 F <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. *An 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	5 / 5 / * *Fairfield-Suisun & Vallejo Permittees: 3 sites twice in permit term	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, PCBs, 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 Exceedence** – 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.

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<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-