

Draft of the Municipal Regional Urban Runoff NPDES Permit Provisions

October 13, 2006

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

A. DISCHARGE PROHIBITION

The Permittees shall, within their respective jurisdictions, effectively prohibit the discharge of non-stormwater (materials other than stormwater) into the storm drain systems and watercourses. NPDES permitted discharges are exempt from this prohibition. Compliance with this prohibition shall be demonstrated in accordance with Provision C.1 and C.9 of this Order. Provision C.9 describes a tiered categorization of non-stormwater discharges based on potential for pollutant content, which may be discharged upon adequate assurance that the discharge contains no pollutants of concern, at concentrations that will impact beneficial uses or cause exceedances of water quality standards.

B. RECEIVING WATER LIMITATIONS

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

C. PROVISIONS

1. Water Quality Standards Exceedances

The Permittees shall comply with Discharge Prohibition A and Receiving Water Limitations B.1 and B.2 through the timely implementation of control measures and other actions to reduce pollutants in the discharge of stormwater runoff. The Permittees shall implement control measures/BMPs to reduce pollutants in stormwater discharges to the maximum extent practicable in accordance with

the requirements of this permit, including any modifications. The performance standards specified in Provisions C.2 through C.X are designed to achieve compliance with Receiving Water Limitations B.1 and B.2. through implementation of management practices, specification of level of implementation, and requirement of timely and complete reporting to enable determination of compliance with the specified performance standards. If exceedance(s) of water quality standards or water quality objectives (collectively, WQSs) persist notwithstanding implementation of these Provisions, a Permittee shall assure compliance with Discharge Prohibition A and Receiving Water Limitations B.1 and B.2 by complying with the following procedure:

- a. Upon a determination by either the Permittee(s) or the Regional Board that discharges are causing or contributing to an exceedance of an applicable WQS, the Permittee(s) shall promptly notify and thereafter submit a report to the Regional Board that describes BMPs that are currently being implemented and the current level of implementation and additional BMPs that will be implemented, and/or an increased level of implementation, to prevent or reduce any pollutants that are causing or contributing to the exceedance of WQSs. The report may be incorporated in the annual report, unless the Water Board directs an earlier submittal, and shall constitute a request to the Water Board for amendment of the NPDES Permit requirements. The report and application for amendment shall include an implementation schedule. The Water Board may require modifications to the report and application for amendment;
- b. Submit any modifications to the report required by the Regional Board within 30 days of notification;
- c. Within 30 days following adoption of the amendment to the Permit described above by the Water Board, the Permittees shall incorporate the approved modified control measures and levels of implementation, and any additional monitoring required; and,
- d. Implement the revised Permit requirements and monitoring program in accordance with the adopted schedule.

As long as Permittees have complied with the procedures set forth above and are implementing the revised Permit, they do not have to repeat the same procedure for continuing or recurring exceedances of the same receiving water limitations unless directed by the Regional Board to develop additional control measures and BMPs, and re-initiate Permit amendment.

- 2. Municipal Maintenance**
- 3. New Development and Redevelopment**
- 4. Industrial Inspection**
- 5. Illicit Discharge**
- 6. Construction Inspection**
- 7. Public Information and Outreach**
- 8. Monitoring**
- 9. Pesticides Toxicity**
- 10. Trash**
- 11. Mercury**
- 12. PCBs**
- 13. Copper**
- 14. Exempt Non-Stormwater Discharges**

2. Municipal Maintenance Activities

Public Streets, Roads and Highways Operation and Maintenance

1. Street and Road Sweeping and Cleaning		
Task Description	Implementation Level	Recording/Reporting
<p>a. Sweeping Frequency, Timing and Efficiency and Equipment Used</p> <p>i. Permittees shall identify and designate streets, roads, and public parking lot sweeping within their jurisdiction by the following three categories. Sweeping frequency can also be based on trash levels generated. The following priorities shall be assigned:</p> <ul style="list-style-type: none"> – High Priority: Streets, road segments and/or agency parking lots designated as high priority (may) include at least, but not limited to, high traffic zones, heavy commercial and industrial districts, shopping malls, high density residential dwellings and plazas. These areas consistently generate high volumes of trash, debris and other storm water pollutants; – Medium Priority: Streets, road segments and/or agency parking lots designated as medium priority include at least, may include, but not 	<p>i. Permittees shall identify and map designated streets, roads, and public parking lots for sweeping by _____ (6 months after permit adoption).</p> <p>ii. Permittees shall sweep streets/roads/public parking lots as follows:</p> <ul style="list-style-type: none"> – High Priority: average of at least twice per month; – Medium Priority: average of at least once per month; and – Low Priority: as necessary, but at least twice before the onset of the rainy season. <p>iii. Where street sweeping is not technically feasible, Permittees shall increase implementation of trash/litter control procedures to minimize pollutant discharges to storm drains and creeks.</p> <p>iv. For effective pollutant reduction, Permittees shall employ efficient street sweeping methods that are capable of removing fine particulates.</p> <p>v. Permittees shall phase in 50% of existing street sweepers with new street sweeping equipment purchases within five years after the adoption of this Order.</p> <p>vi. Permittees shall conduct seasonal efforts to remove leaves from paved surfaces, especially during the fall season.</p>	<p>Permittees shall fully comply with the following report and record keeping requirements relevant to the tasks and implementation levels of Street and Road Sweeping and Cleaning Provision.</p> <p>i. In the first reporting year, identify and map the high, medium, and low priority areas. Annually identify any changes thereafter, and report basis for those changes.</p> <p>ii. Keep records of types of sweepers used, swept curb miles, volume or weight of materials removed.</p> <p>iii. Identify public outreach efforts to improve sweeping efficiency.</p> <p>iv. Annually report which measures used and how often to improve efficiency.</p> <p>v. Report on street flushing and sanitary sewer discharge measures (vacator, pump station cross over).</p> <p>vi. Describe sweeping operation verification and results.</p> <p>vii. Report which efficiency measures are used and level of implementation</p> <p>viii. Keep the results of quarterly internal audit.</p> <p>ix. Report on street flushing instances.</p>

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Public Streets, Roads and Highways Operation and Maintenance

1. Street and Road Sweeping and Cleaning		
Task Description	Implementation Level	Recording/Reporting
<p>limited to, medium traffic zones, warehouse districts, and medium commercial and industrial districts; and</p> <p>– Low Priority: Streets, road segments and/or agency parking lots designated as low priority include at least, but not limited to, light traffic zones, residential zones and light commercial districts.</p>	<p>vii. Follow California Department of Transportation’s definition for high, medium, and low traffic levels and housing density.</p>	<p>x. Submit annual report on date of staff training or workshop provided and percent (%) of attendance.</p> <p>xi. Report information for items ii – xi (listed above) in summary form within Annual Reports</p>
<p>b. Sweeping Equipment Selection and Operation</p> <p>i. When replacing existing sweeping equipments, Permittees shall select and operate high performing sweepers that would be efficient in removing pollutants from stormwater runoff to the maximum extent practicable.</p>	<p>i. Permittees shall follow equipment design performance specifications to ensure that street sweeping equipment operates effectively at the proper equipment design speed (verify by appropriate mechanism); and is properly maintained to optimize pollutant removal from the curb (where dirt deposition is probably higher).</p>	
<p>c. Measures to Improve Efficiency</p> <p>i. Permittees shall quantify and measure their efforts to continuously evaluate and improve their street sweeping efficiency to reduce pollutants from stormwater runoff to the maximum extent practicable.</p>	<p>i. Permittees shall annually evaluate street sweeping efficiency to improve pollutant removal.</p> <p>ii. In areas where street sweeping schedules are not posted, Permittees shall use alternative methods to minimize the number of parked cars to maximize sweeping effectiveness to the curb. To further improve their street sweeping efficiency,</p>	

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1. Street and Road Sweeping and Cleaning		
Task Description	Implementation Level	Recording/Reporting
	<p>Permittees shall do one or more of the following: temporary signage, use of extra sweepers or other techniques during heavy leaf-drop season, coordinated sweeping with green waste and garbage pick-up schedules and public education about sweeping schedules.</p> <p>iii. Permittees shall quarterly perform internal audit or supervised inspection to ensure street sweeping effectiveness to the maximum extent practicable.</p>	
d. Management of Material Removed by Sweeping - Permittees shall develop proper handling and management of waste material collected from street sweeping.	<p>i. To prevent discharges of pollutants to waterways, Permittees shall ensure proper handling and dispose of materials removed from streets to appropriate disposal facility.</p> <p>ii. Permittees shall prohibit discharging of wash water from street sweeping and street sweeper rinse out to storm drains.</p>	
e. Street Cleaning (Wet) and Flushing – Permittees shall prohibit discharge of waste water from street cleaning and flushing to storm drains.	i. Permittees shall capture all street flushing discharges and discharge them to sanitary sewer	
f. Staff Training - Permittees shall annually provide training and workshops to municipal maintenance staff and contract sweepers.	i. Permittees shall provide annual training to municipal staff and contract sweepers on how to fully comply with Performance Standards and permit requirements.	

2. Municipal Maintenance Activities

Public Streets, Roads and Highways Operation and Maintenance

2. Street and Road Repair and Maintenance		
Task Description	Implementation Level	Recording/Reporting
<p>a. Asphalt/Concrete Removal, Installation and Repair</p> <p>i. Permittees shall develop and implement appropriate best management practices (BMPs) to control debris and waste materials during road and parking lot installation or repair maintenance activities</p>	<p>i. Permittees who do not have established ordinances that prohibit discharges of maintenance waste to storm drain inlets or waterways shall develop and implement appropriate BMPs to ensure that all pavement cutting crews recover and properly dispose of saw cutting wastes.</p> <p>ii. If concrete slurry enters the storm drain system (from accidental spills or releases), Permittees shall immediately remove all waste materials from the discharge site.</p> <p>iii. Permittees shall properly manage concrete slurry, asphalt, and other street and road maintenance materials and waste to prevent discharge to storm water runoff.</p> <p>iv. Permittees shall implement effective BMPs (for storm drain protection) and sediment transport control measures when performing maintenance activities involving construction, regardless of project size.</p> <p>v. Permittees shall prohibit discharge of wash water from maintenance areas to storm drains) vector wastewater and haul to appropriate disposal.</p> <p>vi. Permittees shall sweep and/or vacuum to remove debris, concrete, or sediment residues from work sites upon completion of work. Permittees shall</p>	<p>Consistent with the tasks and implementation levels of Provision 2 – Street and Road Repair and Maintenance, Permittees shall report the following:</p> <p>i. Periodically train public works inspectors and maintenance crews to comply with stormwater requirements.</p> <p>ii. Annually certify implementation and compliance with the BMPs listed in Tasks “a” – “d” of this section.</p> <p>ii. Report inspection and re-signing progress.</p>

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	<p>clean up all construction remains, spills and leaks using dry methods (e.g., absorbent materials, rags, pads, and vacuum) consistent with methods outlined in the BASMAA “Blueprint for a Clean Bay”.</p> <p>vii. Permittees shall ensure implementation of appropriate BMPs and SOPs for pollutant removal from street maintenance/utility repairs.</p>	
<p>b. Equipment Cleaning, Maintenance, and Storage</p> <p>v. Permittees shall develop and implement appropriate best management practices for equipment cleaning, maintenance and storage areas.</p>	<p>i. Unless there is an existing ordinance, Permittees shall develop an ordinance that prohibits discharge of wash water from equipment cleaning and maintenance activities to storm drains or waterways six months after the adoption of this Order.</p> <p>v. Permittees shall contain washout from concrete trucks, chutes, and/or concrete rinse within a designated area during all concrete pours and operation. These wastes shall not be discharged to storm drain inlets, streets or ditches.</p>	
<p>c. Signing and Striping - Permittees shall not discharge waste materials from signing and stripping activities.</p>	<p>v. Permittees shall contain and properly dispose of paint waste and/or thermoplastic residue and shall prevent discharges to storm drains.</p>	
<p>d. Storm Drain Inlets Signage - Permittees shall ensure that storm drain inlets are marked with stormwater awareness message.</p>	<p>i. Permittees shall mark all storm drain inlets with stormwater awareness message and annually inspect and repair them.</p>	

2. Municipal Maintenance Activities

Public Streets, Roads and Highways Operation and Maintenance

3. Sidewalk/Plaza Maintenance		
Task Description	Implementation Level	Recording/Reporting
a. Cleaning Protocols - Permittees shall develop BMPs to prohibit discharge of wash water from sidewalk and plaza cleaning operations to storm drains.	i. Permittees shall prevent discharge of wash waters from sidewalk and plaza to storm drains. Cleaning crews shall contain and properly dispose of wash water to sanitary sewer.	i. Permittees shall annually certify implementation and compliance with the BMPs.
b. Permittees shall enforce implementation of developed Performance Standards for pavement washing, mobile cleaner, and pressure wash operations.	ii. Permittees shall require that pavement washing, mobile cleaner, and pressure wash operators comply with the developed Performance Standards for such practices.	
4. Bridge and Structure Maintenance		
a. Repair Work – Permittees shall develop appropriate BMPs to prevent pollutant discharge from bridge and structural maintenance activities.	i. Permittees shall prevent concrete, steel, wood paint and paint chips, coating chips, metal parts, tools or other work-related materials from entering storm drains or water courses.	Permittees shall annually certify implementation and compliance with the BMPs listed in the tasks and implementation level of this provision.
b. Graffiti Removal – Permittees shall develop Performance Standards for graffiti removal and such activities would not violate water quality standards.	i. Permittees shall protect nearby storm drain inlets prior to removing graffiti from walls, signs, sidewalks or other structures needing graffiti abatement. Permittees shall prevent any discharge of debris, cleaning compound waste, paint waste or wash water- containing cleaning compounds from entering storm drains or water courses. ii. Permittees shall use wet vacuum and discharge to sanitary sewer during graffiti removal activities.	

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Public Streets, Roads and Highways Operation and Maintenance

5. Landscape Maintenance		
Task Description	Implementation Level	Recording/Reporting
a. Erosion Controls – Permittees shall implement effective BMPs for erosion and sedimentation control when conducting landscape maintenance activities.	i. Permittees shall maintain vegetative cover on medians and road embankments to prevent soil erosion from storm water runoff.	Permittees shall annually certify implementation and compliance with the requirements of this provision.
b. Irrigation Practices – Permittees shall regularly inspect their irrigation systems to prevent excess runoff to storm drains.	i. Permittees shall regularly inspect irrigation systems for broken water lines, sprinkler heads and valves to ensure that only the necessary amount of water is applied and that runoff is not occurring to violate water quality standards.	
c. Vegetation Controls – Permittees shall use man labor or other environmental-friendly mowing mechanism to remove excess vegetation from storm drain ditches. All yard waste material shall be recycled or kept outside waterways.	i. Where practicable, Permittees shall mow and avoid the use of herbicides to remove excess vegetation along road sides and storm drain ditches. ii. Permittees shall keep removed vegetation (including clippings, chips and pruning debris) away from storm drain inlets and water courses.	

Litter/Trash Control

6. Litter Trash Control		
Task Description	Implementation Level	Recording/Reporting
<p>a. Litter/Trash Clean Up – Permittees shall perform litter/trash clean up activities within their jurisdiction to minimize pollutant discharges to stormwater runoff.</p>	<p>Permittees shall implement the following measures to reduce litter/trash from stormwater runoff to the maximum extent practicable:</p> <ul style="list-style-type: none"> i. Identify and assess potential litter/trash accumulation areas, particularly in high priority street sweeping areas. ii. Identify potential management actions to reduce trash levels at the identified sites. iii. Implement preferred/pilot trash management actions. Evaluate the effectiveness of the implemented actions. If the management actions are not measurably effective, propose and implement an alternative management action. iv. Implement appropriate trash removal program in creeks and storm water conveyance systems and waterways at least twice a year (before and after the rainy season). v. In waterways that have trash problem areas and where access is feasible, perform trash removal during the rainy season as frequently as it is needed, or at the first major accumulation of trash following first flush, and once after the wet season. vi. For major water courses within the Permittee’s jurisdiction, identify and prioritize business centers (e.g., malls, plazas, recreation centers, and densely populated) areas based on their proximity to waterways and the likelihood of contributing trash to waterways. Implement, at least ten (10) sites for each Program or County, litter/trash prevention and removal activities for the prioritized business/areas on a pilot basis. 	<p>Annually report on actions taken for items a, b, and c, potential revisions to trash management actions and enforcement actions taken.</p>
<p>b) Litter Receptacles Placement and Maintenance – Permittees shall place and regularly maintain litter receptacles in parks</p>	<p>i. Permittees shall provide public trash receptacles in trash prone areas, most probably in high priority sweeping and prevent overflowing trash receptacles in these areas.</p>	

Litter/Trash Control

and public places as part of their pollutant sources control efforts.		
c. Public Education – As part of their litter prevention efforts, Permittees shall develop and coordinate effective public outreach programs.	<ul style="list-style-type: none">i. Permittees shall incorporate litter prevention messages in public information and participation (PIP) outreach programs and coordinate composting messages with current PIP efforts. If appropriate, coordinate with other local programs.ii. Permittees shall focus additional public awareness efforts in pilot high priority areas.	
d. Enforcement of Anti-littering Codes – Permittees shall develop and enforce anti-littering codes.	<ul style="list-style-type: none">i. Permittees shall ensure enforcement of anti-littering codes within their jurisdictional areas.	

Storm Drain Operation and Maintenance

7. Catch Basin Inspection and Cleaning		
Baseline List of BMPs	Level of Implementation	Recording/Reporting
<p>a. Catch Basin Inspection and Cleaning – Permittees shall annually inspect all catch basins or storm drain inlets, and as needed, clean them to reduce sediment deposition and pollutant sources from stormwater runoff.</p>	<p>Permittees shall comply with the following implementation levels to reduce pollutants sources from storm drain inlets and catch basins:</p> <ul style="list-style-type: none"> i. Demonstrate possession of maps of all storm drain inlets, outfalls and drainage areas contributing to those outfalls within the Co-permittee’s jurisdiction so that the Water Board can verify that inlets are cleaned and stenciled appropriately. ii. Ensure each storm drain inlet is labeled/stenciled with “No Dumping - Drains to Bay” or equivalent signage, and inspected/refreshed once a year or consistent with the material’s longevity. iii. Maintain storm drain inlets and storm water collection system in accordance with a maintenance plan, including but not limited to the following: <ul style="list-style-type: none"> (a) Inspect and clean storm drain inlets/catch basins of trash and accumulated debris at least annually, before the rainy season. (b) Increase inspection frequency in problem areas that accumulate excessive sediment and debris to twice each year, before and after the rainy season. (c) During inspections, Permittees must check for the following: <ul style="list-style-type: none"> 1) Structural integrity; 2) Accumulation of trash, sediments and pollutants (e.g., oily sheen); 3) Presence of illicit discharges, and 4) Stencil legibility. iv. Revise inspection and clean up schedule of storm drain inlets based on previous year’s effectiveness evaluation, to increase 	<ul style="list-style-type: none"> i. Permittees shall keep records of inspections, cleaning, and maintenance for each drain inlet annually and shall provide such information in a summary form within the annual report. ii. Permittees shall report on any planned revisions to the storm drain inspection and clean out schedule based on the effectiveness evaluation iii. Permittees shall report on the effectiveness of trash reductions through storm drain inlet retrofits or other end-of-pipe treatments that are implemented annually.

Storm Drain Operation and Maintenance

<p>b. Catch Basin Retrofits – Permittees shall retrofit or redesign catch basin grates in litter problem areas to improve trash interception and removal by street sweepers.</p>	<p>effort in heavy impact areas.</p> <p>v. Identify storm drain inlets with high accumulations of litter/trash in Permittees’ jurisdictions to prioritize areas where retrofit BMPs will be most effective in preventing trash from entering the storm drain system.</p> <p>vi. Research or use current trash collection/control options for retrofits of storm drain inlets. Use information collected by Los Angeles (City and County), CalTrans, and other cities nationwide to provide a list of devices/BMPs and the pros and cons for each one. Determine the relative ease of implementation, costs and effectiveness of each device investigated.</p> <p>vii. Permittees will select a subset of the trash control retrofit options investigated in Item vi above and implement pilot/demonstration studies at multiple locations within the region to assess their effectiveness and associated costs.</p> <p>viii. Permittees will select from the “toolbox” of trash control retrofit options and implement them at a subset of storm drain inlets with trash problems identified in Item v above.</p> <p>ix. Identify additional areas for implementing storm drain inlet retrofits or other trash control/collection options each year. Use information collected through trash assessments collected by Storm Water Quality Monitoring Programs.</p>	
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Storm Drain Operation and Maintenance

8. Stormwater Pump Station and Conveyance Systems		
Task Description	Implementation Level	Recording/Reporting
<p>a. Operation and Maintenance of Storm water Pump Station and Conveyance Systems (e.g., Ditches, Canals, Channels, Culverts, Wet Wells, and Junction Boxes) – Permittees shall develop and implement guidelines to properly operate, inspect, and maintain these facilities to meet water quality objectives.</p>	<p>Permittees shall comply with the following implementation measures to reduce pollutant discharges to stormwater runoff from pump stations and conveyance systems:</p> <ul style="list-style-type: none"> i. Inspect pump stations after the rainy season and develop a schedule for maintenance activities to address water quality problems, including trash control and removal, prior to the next rainy season. ii. Prepare and implement guidelines for operation and maintenance of conveyance systems (e.g., ditches, canals, channels, culverts, wet wells, junction boxes, and pump stations). iii. Establish an inventory of the pump stations and/or conveyance system and inspection frequencies. Based on vegetation density and sediment accumulation, inspect these facilities, at a minimum, twice a year (once before the beginning of the rainy season and once after the rainy season). iv. Monitor dry weather flows, dissolved oxygen, conductivity, and other pollutants. v. Explore diversion of dry weather and first flush discharges from pump station to sanitary sewer to reduce impacts to water quality. vi. Establish maintenance frequencies for removal of accumulated sediments, trash and debris. Areas that show rapid vegetation growth and frequent sediment accumulation shall be routinely inspected and maintained to restore capacity and to prevent flooding incidents. vii. Obtain appropriate permits for sediment and vegetation removal 	<p>Permittees shall annually compile and report the information below to be in compliance with the tasks and implementation requirements of this provision:</p> <ul style="list-style-type: none"> i. Keep records of the areas or sites inspected and cleaned. ii. Keep records of the number of systems inspected and maintained, volume or mass of waste materials removed from conveyance systems. iii. Keep records of corrective and enforcement actions in case of unauthorized activities. iv. Compile and report information gathered in i- iii above in a

Storm Drain Operation and Maintenance

	<p>from jurisdictional waters. Mitigation may be also required for temporal loss of wetland functions and values from sediment removal.</p> <p>viii. To minimize impacts to water quality, wildlife and aquatic habitat, obtain permits from appropriate regulatory agencies when performing maintenance activities in waterways. With the exception of certain special species breeding habitat areas, all maintenance activities that involve impacts to water quality shall be performed during the allowable construction period prior to the beginning of the rainy season (i.e., between April 15 and October 15).</p> <p>ix. Inspect trash racks and oil absorbent booms during or within 24-hours of significant storm events. Remove debris in trash racks and replace oil absorbent booms, as needed.</p>	<p>summary form within the annual report.</p>
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Rural Public Works Maintenance and Support

9. Rural Public Works Maintenance and Support		
Task Description	Implementation Level	Recording/Reporting
<p>a. Rural Road Maintenance - Permittees shall implement and require contractors to implement BMPs for erosion and sedimentation control measures when performing maintenance activities in or adjacent to stream channels. In emergency circumstances, after consultation with appropriate agencies, contractors may be able to work before permit issuance and obtain the appropriate permit after the fact.</p>	<p>i. Permittees with rural public works activities shall develop and periodically evaluate performance standards, BMPs and SOPs for the following activities:</p> <ul style="list-style-type: none"> (a) Management and preservation of large woody debris in stream channels and preservation of vegetation in riparian corridors. (b) Stream bank stabilization projects/activities. (c) Road or culvert construction designs. (d) Maintenance and repair of roads and culverts in rural areas to prevent and control related erosion. (e) Management of stormwater runoff to reduce erosion. (f) Obtain appropriate agency permits for rural public works activities. (g) Always notify Water Board, Department of Fish and Game and U.S. Army Corps of Engineers before work in or near creeks and wetlands, even in emergencies. 	<p>i. Permittees with rural public roads shall annually report on the rural road public works activities described in the tasks and implementation requirements of this provision.</p> <p>ii. Permittees with rural public road shall report on increased maintenance in priority areas.</p>
<p>b. General Road Construction and Maintenance Practices – Permittees with rural road shall develop Performance Standards for regular inspection and maintenance to prevent impacts to water quality.</p>	<p>i. Permittees with rural public rural roads shall prioritize rural roads for increased maintenance based on soil type, slope steepness and stream habitat resources.</p> <p>ii. Permittees with rural public roads shall inspect facilities prior to rainy season to maintain roads structural integrity and potential impacts to water quality.</p>	

Rural Public Works Maintenance and Support

9. Rural Public Works Maintenance and Support		
Task Description	Implementation Level	Recording/Reporting
<p>c. Special Consideration for Stream Crossings and Steep Slopes– Permittees with rural roads shall replace or design new creek-friendly culverts in rural public roads along or adjacent to stream crossings and steep slopes.</p>	<p>Permittees with rural public road shall implement the following measures to comply with water quality standards:</p> <ul style="list-style-type: none"> i. Identify roads adjacent to streams and riparian habitat for increased maintenance to reduce erosion, replace damaging shotgun culverts, slope roads outward, and install water bars. ii. Consult with and obtain appropriate permits from Water Board, Department of Fish and Game, and U.S. Army Corps of Engineers before working in or near creeks ii. Before the beginning of each rainy season, conduct surveys to identify and fix roads susceptible to potential erosion and excess sedimentation that may pose potential threats to water quality standards. For projects that involve fill or discharge of jurisdictional water bodies or streams, obtain approvals and appropriate permits from interested regulatory agencies before beginning construction work. v. If feasible, identify existing culverts that may be rehabilitated with environmental friendly measures to reduce erosion, provide fish passage and/or maintain stream natural flows. v. Ensure each storm drain inlet is labeled/stenciled with “No Dumping, Drains to Bay” or equivalent signage. 	

Corporation Yard Maintenance

10. Corporation Yard Maintenance		
Task Description	Implementation Level	Recording/Reporting
<p>a. Corporation Yard Maintenance</p> <p>i. Permittees shall prepare and implement a specif Stormwater Pollution Prevention Plan (SWPPP) for public vehicle maintenance and parking areas, material storage facilities and corporation yards that have the potential to discharge pollutants to storm water and/or the waters of the State.</p> <p>ii. The requirements in this provision on apply to facilities that are not already covered under the Industrial Stormwater NPDES General Permit.</p>	<p>i. Permittees shall maintain a list of all municipal yards, including their location and a description of facility use.</p> <p>ii. Permittees shall implement BMPs to minimize pollutant discharges in stormwater and prohibit non-stormwater discharges, such as wash waters and street sweeper, vactor and other related equipment cleanout water. Pollution control actions shall include, but not limited to, good housekeeping practices, material storage control, vehicle leak and spill control and illicit discharge control.</p> <p>iii. Permittees shall routinely inspect corporation yards to ensure that no illegal discharges are entering the storm drain system and that during storms, pollutant discharges are controlled to the maximum extent practicable. At a minimum, inspections shall occur prior to the start of the rainy season.</p> <p>iv. All vehicle and equipment wash areas shall be plumbed to the sanitary sewer after coordination with local authorities and equipped with a pre-treatment device (if necessary) in accordance with the requirements of the local sewer agency.</p> <p>v. Permittees shall use dry clean up methods when cleaning debris from corporate yards. If wet cleaning methods must be used (e.g., pressure washing), Permittees shall ensure that wash-water is collected and disposed in the sanitary sewer in accordance with the requirements of the local sewer agency. Any private companies hired by the agency to perform cleaning activities on agency-owned property shall follow these same requirements.</p> <p>vi. Outdoor storage areas containing pollutants shall be covered and/or bermed to prevent cross contamination of stormwater run-on to operation areas or to prevent runoff from reaching storm drain inlets.</p>	<p>Permittees shall annually report on any changes or updates to the SWPPP.</p>

Corporation Yard Maintenance

10. Corporation Yard Maintenance		
Task Description	Implementation Level	Recording/Reporting
	<p>vii. Storage areas for refuse and waste materials removed from yards and storm drainage facilities shall be designated and be properly designed and/or covered to prevent cross contamination of stormwater run-on to operation areas or to prevent runoff from reaching storm drain inlets.</p> <p>viii. Ensure each storm drain inlet is labeled/stenciled with “No Dumping, Drains to Bay” or equivalent signage.</p>	
<p>b. Staff Training – Permittees shall train maintenance staff and inspectors to constantly refresh their knowledge on SWPPP requirements and BMPs effectiveness at Corp Yards</p>	<p>i. Permittees shall provide training and workshops to maintenance crews and corporate yard workers.</p> <p>ii. Permittees shall inspect corporate yards annually by staff outside municipal maintenance to ensure compliance with stormwater requirements..</p>	<p>i. Permittees shall report on staff training received in annual report.</p> <p>ii. Permittees shall report on corporate yards inspection results.</p>
<p>c. Permittees shall revise and update procedures and plans for their consistency with stormwater requirements as needed.</p>	<p>Permittees shall yearly review and if necessary improve SWPPP for corporate yards to cope with new changes and available BMPs, but with full review at least once every five years.</p>	<p>Permittees shall report when full review of the SWPPP occurs.</p>

Lagoon Maintenance

11. Lagoon Maintenance		
Task Description	Implementation Level	Recording/Reporting
<p>a. Lagoon Management</p> <p>i. Permittees shall prepare and implement a standardized protocol for routine and non-routine application of pesticides, herbicides and fertilizers consistent with the State Water Board's guidelines and monitoring requirements for application of aquatic pesticides to surface waters (WQ Order No. 2001-12 DWQ).</p> <p>ii. The requirements in this provision only apply to Permittees with lagoons that have hydrologic connection to the Bay or other jurisdictional waters of the State.</p>	<p>This section may or not be in the final draft since the number of lagoons are limited within the Bay area. Issues or activities related to lagoon maintenance may be handled by other permits.</p> <p>i. Permittees shall conduct monitoring and report analytical data consistent with the requirements of WQ Order No. 2001-12 DWQ.</p> <p>ii. Permittees shall obtain appropriate permits and approvals from regulatory agencies when maintaining bank stabilization or similar works along jurisdictional portion of lagoons.</p> <p>iii. Permittees shall install only environmentally-friendly, non-chemically treated in-water support structures (e.g., piers made of metal, concrete, or synthetic wood for new construction).</p> <p>iv. Permittees shall maintain and implement proper BMPs to reduce potential pathways for pathogens.</p> <p>v. Permittees shall improve Performance Standards for lagoon management annually; however, major changes shall require Permit amendment.</p> <p>vi. The level of implementation listed above</p>	<p>Report on presence of lagoons and management practices.</p>

Lagoon Maintenance

11. Lagoon Maintenance		
Task Description	Implementation Level	Recording/Reporting
	applies only to municipalities that own and operate lagoons within their jurisdiction.	

3. New Development and Redevelopment Performance Standards

a. New Development and Redevelopment Performance Standard Implementation

i. Task Description: As a minimum each Permittee shall:

- (1) Have adequate legal authority to implement the requirements of C.3. and require developers whose projects will disturb ≥ 1 acre of soil to demonstrate coverage under the State's General Construction Permit and all developers to implement effective erosion and sediment control plans;
- (2) Have adequate permitting procedures and conditions of approval. For projects discharging directly to 303(d) listed water bodies, conditions of approval must require that post-project runoff not exceed pre-project levels for such pollutants that are listed;
- (3) Evaluate water quality effects and identify appropriate mitigation measures when conducting environmental reviews, such as CEQA;
- (4) Provide adequate training for staff including inter-departmental training;
- (5) Implement adequate outreach, including providing education materials to municipal staff, developers, contractors, construction site operators, and owner/builders, early in the planning process and as appropriate;
- (6) Require access to treatment measures for Mosquito and Vector Control Agency staff.
- (7) Require adequate site design measures that call for minimizing land disturbance and impervious surfaces (especially parking lots); clustering of structures and pavement; disconnecting roof downspouts; use of micro-detention, including landscape detention; preservation of high-quality open space; maintenance and/or restoration of riparian areas and wetlands as project amenities;
- (8) Require adequate source control measures to limit pollutant generation, discharge, and runoff, to the maximum extent practicable, including indoor mat/equipment wash racks for restaurants, or covered outdoor wash racks plumbed to the sanitary sewer; covered trash and food compactor enclosures with a sanitary sewer connection for dumpster drips; sanitary sewer drains for swimming pools; sanitary drained outdoor covered wash areas for vehicles, equipment, and accessories; sanitary sewer drain connections to take fire sprinkler test water; storm drain system stenciling; landscaping that minimizes irrigation and runoff, promotes surface infiltration where appropriate, and minimizes the use of pesticides and fertilizers; and appropriate covers, drains, and storage precautions for outdoor material storage areas, loading docks, repair/maintenance bays, and fueling areas.
- (9) Revise, as necessary, General Plans to incorporate water quality and watershed protection principles and policies and to require implementation of the measures required by Provision C.3. for all Regulated Projects defined in Provision C.3.b.

ii. Implementation Level: All elements of this task should already be fully implemented because they were required in the Permittees' existing stormwater permits.

Due Date for Full Implementation: Upon adoption of the MRP.

iii. Reporting: to be determined.

b. Regulated Projects

Effective Date: Upon MRP adoption until the end of the third year after MRP adoption

i. Task Description: Permittees shall require all projects fitting the category descriptions listed below to design and install stormwater treatment systems to reduce the discharge of stormwater pollutants to the maximum extent practicable. Permittees shall require these stormwater treatment systems to be sized in accordance with Provision C.3.d.

- (1) Commercial, industrial, multi-unit residential, mixed-use, or public **new development** projects that create 10,000 square feet or more of impervious surface (collectively over the entire project). This category includes development projects on public or private land, which falls under the planning and building authority of the Permittees.
- (2) Commercial, industrial, multi-unit residential, mixed-use, or public **redevelopment** projects that create and/or replace 10,000 square feet or more of impervious surface (collectively over the entire project). This category includes redevelopment projects on public or private land, which falls under the planning and building authority of the Permittees.

Specific exclusions to this category are:

- Interior remodels; and
 - Routine maintenance or repair such as:
 - roof or exterior wall surface replacement,
 - pavement resurfacing, repaving and rehabilitation within the existing footprint.
- (i) If a redevelopment project increases or replaces **more than 50 percent** of the impervious surface of a previously existing development that was not subject to Provision C.3., the entire project must be included in the treatment system design (i.e., stormwater treatment systems must be designed and sized to treat stormwater runoff from the entire project).
 - (ii) If a redevelopment project increases or replaces **less than 50 percent** of the impervious surface of a previously existing development that was not subject to Provision C.3., only the new and/or replaced portion of the project must be included in the treatment system design (i.e., stormwater treatment systems must be designed and sized to treat stormwater runoff from the new and/or replaced portion of the project).
- (3) Streets, roads, highways, and freeways that are under the Permittees' jurisdiction and that create and/or replace 10,000 square feet or more of impervious surface (collectively over the entire project). This category includes any newly constructed or replaced paved surface used primarily for the transportation of automobiles, trucks, motorcycles, and other motorized vehicles.
The following are excluded from this category only if they are not built or constructed as part of a street, road, highway, or freeway project:
 - Sidewalks,

- Bicycle lanes,
- Trails,
- Bridge accessories,
- Guardrails, and
- Landscape features.

ii. Implementation Level: All elements of this task shall be fully implemented and a database shall be developed and maintained that contains all the information listed under Reporting.

Due Date for Full Implementation: Upon adoption of the MRP.

iii. Reporting: For each Regulated Project approved during the reporting period (fiscal year) the following information shall be reported electronically in tabular form (see sample tables and instructions for tables):

- Project Name, Number, Street Address, and Location (cross street);
- Name of Developer, Phase No. (if project is being constructed in Phases, each Phase should have a separate entry), Project Type (e.g., commercial, industrial, multi-unit residential, mixed-use, public), and description;
- Project watershed;
- Site Acreage (or square footage of land disturbance);
- Surface area of new and/or replaced impervious surface area;
- Status of Project (e.g., application date, application deemed complete date, project approval date);
- Approved source control measures;
- Approved site design measures;
- Approved onsite post construction stormwater treatment system(s);
- Hydraulic Sizing Criteria used and reviewing entity (e.g., Planning Department, Building Department, third party reviewer);
- Alternative Compliance (if applicable)
 - Basis of impracticability used
 - Alternative Compliance measures included (if Regional Project, provide summary of Project (goals, duration, total estimated costs);
- HMP – If not required, state why not. If required, state control method used and attach pre- and post-project hydrographs;
- Operation & maintenance responsibility mechanism; and
- Pesticide reduction measures included in the Project.

Effective Date: Beginning the fourth year after MRP adoption until MRP expiration

i. Task Description: Permittees shall require all projects fitting the category descriptions listed below to design and install stormwater treatment systems to reduce the discharge of stormwater pollutants to the maximum extent practicable. Permittees shall require these stormwater treatment systems to be sized in accordance with Provision C.3.d.

- (1) Commercial, industrial, multi-unit residential, mixed-use, or public **new development** projects that create 5000 square feet or more of impervious surface

(collectively over the entire project). This category includes development projects on public or private land, which falls under the planning and building authority of the Permittees.

- (2) Commercial, industrial, multi-unit residential, mixed-use, or public **redevelopment** projects that create and/or replace 5000 square feet or more of impervious surface (collectively over the entire project). This category includes redevelopment projects on public or private land, which falls under the planning and building authority of the Permittees.

Specific exclusions to this category are:

- Interior remodels; and
 - Routine maintenance or repair such as:
 - roof or exterior wall surface replacement,
 - pavement resurfacing, repaving and rehabilitation within the existing footprint.
- (i) If a redevelopment project increases or replaces **more than 50 percent** of the impervious surface of a previously existing development that was not subject to Provision C.3., the entire project must be included in the treatment system design (i.e., stormwater treatment systems must be designed and sized to treat stormwater runoff from the entire project).
- (ii) If a redevelopment project increases or replaces **less than 50 percent** of the impervious surface of a previously existing development that was not subject to Provision C.3., only the new and/or replaced portion of the project must be included in the treatment system design (i.e., stormwater treatment systems must be designed and sized to treat stormwater runoff from the new and/or replaced portion of the project).
- (3) Streets, roads, highways, and freeways that are under the Permittees' jurisdiction and that create and/or replace 5000 square feet or more of impervious surface (collectively over the entire project). This category includes any newly constructed or replaced paved surface used primarily for the transportation of automobiles, trucks, motorcycles, and other motorized vehicles.

The following are excluded from this category only if they are not built or constructed as part of a street, road, highway, or freeway project:

- Sidewalks,
- Bicycle lanes,
- Trails,
- Bridge accessories,
- Guardrails, and
- Landscape features.

- ii. Implementation Level:** All elements of this task shall be fully implemented and a database shall be developed and maintained that contains all the information listed under Reporting.

Due Date for Full Implementation: Within 3 years of adoption of the MRP.

iii. Reporting: For each Regulated Project approved during the reporting period (fiscal year) the following information shall be reported electronically in tabular form (see sample tables and instructions for tables):

- Project Name, Number, Street Address, and Location (cross street);
- Name of Developer, Phase No. (if project is being constructed in Phases, each Phase should have a separate entry), Project Type (e.g., commercial, industrial, multi-unit residential, mixed-use, public), and description;
- Project watershed;
- Site Acreage (or square footage of land disturbance);
- Surface area of new and/or replaced impervious surface area;
- Status of Project (e.g., application date, application deemed complete date, project approval date);
- Approved source control measures BMPs;
- Approved site design measures BMPs;
- Approved onsite post construction stormwater treatment system(s);
- Hydraulic Sizing Criteria used and reviewing entity (e.g., Planning Department, Building Department, third party reviewer);
- Alternative Compliance (if applicable)
 - Basis of impracticability used
 - Alternative Compliance measures included (if Regional Project, provide summary of Project (goals, duration, total estimated costs);
- HMP – If not required, state why not. If required, state control method used and attach pre- and post-project hydrographs;
- Operation & maintenance responsibility mechanism; and
- Pesticide reduction measures included in the Project.

c. Single-Family Homes

i. Task Description: Permittees shall require all single-family home projects that create and/or replace 5000 square feet or more of impervious surface (collectively over the entire project) to implement one or more stormwater Best Management Practices (BMPs) from the **list of BMPS** contained in Appendix _____. This category includes all single-family home projects that require approvals and/or permits issued under the Permittees' planning, building, or other comparable authority.

ii. Implementation Level: All elements of this task shall be fully implemented and a database shall be developed and maintained that contains all the information listed under Reporting.

Due Date for Full Implementation: Within three years of adoption of the MRP.

iii. Reporting: **Reporting requirements for tracking stormwater BMPs installed for single-family homes – to be determined.**

d. Numeric Sizing Criteria for Stormwater Treatment Systems

- i. Task Description:** Permittees shall require that stormwater treatment systems constructed by projects described in Provision C.3.b. meet, at least one of the following hydraulic sizing design criteria:
- (1) **Volume Hydraulic Design Basis:** Treatment systems whose primary mode of action depends on volume capacity shall be designed to treat stormwater runoff equal to:
 - (i) The maximized stormwater capture volume for the area, based on historical rainfall records, determined using the formula and volume capture coefficients set forth in *Urban Runoff Quality Management, WEF Manual of Practice No. 23 / ASCE Manual of Practice No. 87, (1998)*, pages 175-178 (e.g., approximately the 85th percentile 24-hour storm runoff event); or
 - (ii) The volume of annual runoff required to achieve 80 percent or more capture, determined in accordance with the methodology set forth in Appendix D of the *California Stormwater Best Management Practices Handbook (1993)*, using local rainfall data.
 - (2) **Flow Hydraulic Design Basis:** Treatment systems whose primary mode of action depends on flow capacity shall be sized to treat:
 - (i) 10 percent of the 50-year peak flowrate;
 - (ii) The flow of runoff produced by a rain event equal to at least two times the 85th percentile hourly rainfall intensity for the applicable area, based on historical records of hourly rainfall depths; or
 - (iii) The flow of runoff resulting from a rain event equal to at least 0.2 inches per hour intensity.
 - (3) **Combination Flow and Volume Design Basis:** Treatment systems that use a combination of flow and volume capacity shall be sized to treat at least 80% of the total runoff over the life of the project. The total runoff must be determined using continuous simulation modeling with a minimum of 30 years of rainfall data.
- ii. Level of Implementation:** Permittees shall fully implement this task.
Due Date for Full Implementation: Upon adoption of the MRP.
- iii. Reporting:** To be done within reporting table required in Provision C.3.b.

e. Operation and Maintenance of Stormwater Treatment Systems

- i. Task Description:** Each Permittee shall implement an Operation and Maintenance (O&M) Verification Program.
- ii. Level of Implementation:** At a minimum, the O&M Verification shall include the following elements:
- (1) Conditions of approval for all Regulated Projects that, at a minimum, require at least one of the following from all project proponents:

- (i) The project proponent's signed statement accepting responsibility for the operation and maintenance of the installed stormwater treatment system(s) until such responsibility is legally transferred to another entity;
 - (ii) Written conditions in the sales or lease agreement for the project that requires the buyer or lessee to assume responsibility for the operation and maintenance of the installed stormwater treatment system(s) until such responsibility is legally transferred to another entity;
 - (iii) Written text in project conditions, covenants and restrictions (CCRs) for multi-unit residential projects that require the Homeowners Association to assume responsibility for the operation and maintenance of the installed stormwater treatment system(s) until such responsibility is legally transferred to another entity;
 - (iv) Any other legally enforceable agreement or mechanism that assigns the operation and maintenance responsibility for the installed treatment system(s).
- (2) Conditions of approval for all Regulated Projects that require project proponents to notify the local Mosquito and Vector Control Agency when stormwater treatment systems are installed.
- (3) Conditions of approval for all Regulated Projects that require the granting of site access to all representatives of the Permittee, local Mosquito and Vector Control Agency staff, and Water Board staff, to perform O&M inspections of the installed stormwater treatment system(s).
- (4) A database of all Regulated Projects (public and private) that have installed stormwater treatment systems. This database shall include the following information for each Regulated Project:
 - (i) Name and address of the Project;
 - (ii) Specific description of the location (or a map showing the location) of the installed stormwater treatment system(s);
 - (iii) Date(s) that the treatment system(s) is/are installed;
 - (iv) Description of the type and size of the treatment system(s) installed;
 - (v) Responsible operator(s) of each treatment system;
 - (vi) Dates and findings of inspections (routine and follow-up) of the treatment system(s) by the Permittee;
 - (vii) Compliance status of treatment system(s);
 - (viii) Any enforcement actions taken.
- (5) A prioritized scheme for inspecting all installed stormwater treatment systems. At a minimum, this prioritized scheme must specify the following for each fiscal year:
 - (i) Inspection of all newly installed stormwater treatment systems within 30 days of installation to ensure approved plans have been followed;
 - (ii) Inspection of at least 20 percent of the total number (at the end of the preceding fiscal year) of installed stormwater treatment systems;
 - (iii) Inspection of at least 20 percent of the total number (at the end of the preceding fiscal year) of installed vault systems.

Due Date for Full Implementation: Within one year of adoption of MRP.

iii. Reporting:

- (1) For each Regulated Project inspected during the reporting period (fiscal year) the following information shall be reported electronically in tabular form (see sample table and instructions for table):
 - Name of facility/site inspected
 - Name of responsible operator for installed stormwater treatment systems
 - For each inspection:
 - Date of inspection
 - Type of inspection (e.g., annual, follow-up, spot).
 - Type of stormwater treatment systems inspected.
 - Compliance status (e.g., compliance, non-compliance/violation).
 - Enforcement action(s) taken (e.g., verbal warning, notice of violation, administrative citation, administrative order);
- (2) Provide a list of newly installed (installed within the reporting period) stormwater treatment systems to the local Mosquito and Vector Control Agency. This list shall include the facility locations and a description of the stormwater treatment measures installed;
- (3) Overall compliance rate/percentage for facilities inspected during the reporting period;
- (4) Compliance rate/percentage for specific types stormwater treatment systems inspected;
- (5) Comparison of the compliance rates/percentages during the reporting period with compliance rates/percentages from past reporting periods to see if there is improvement;
- (6) Discussion of effectiveness of O&M Program; and
- (7) Proposed changes to improve O&M Program (e.g., changes in prioritization scheme for frequency of O&M inspections, changes to improve effectiveness of program).

f. Limitation on Increase of Stormwater Runoff Discharge Rates and Durations (Hydromodification Management)

i. Task Description: Implement the hydromodification management requirements set forth in:

- Appendix ____ for Alameda Countywide Clean Water Program
- Appendix ____ for San Mateo Countywide Pollution Prevention Program
- Appendix ____ for Contra Costa Clean Water Program
- Appendix ____ for City of Vallejo
- Appendix ____ for Fairfield/Suisun Sewer District

For Santa Clara, (placeholder for tweaks to Santa Clara's HMP)

ii. Level of Implementation: to be determined

Due Date for Implementation: to be determined

iii. Reporting: to be determined

g. Alternative Compliance with Requirement (Provisions C.3.b. and C.3.d.) to Install Stormwater Treatment Systems

- i. Task Description:** Each Permittee may adopt the Alternative Compliance Program described in Appendix _____ (see flowchart) to allow Regulated Projects the option to apply for alternative compliance with the requirement to install stormwater treatment system(s) in compliance with Provisions C.3.b. and C.3.d.
- ii. Level of Implementation:** This provision is optional. Permittees do not need to adopt the Alternative Compliance Program described in Appendix _____. However, Permittees do not have the option to propose their own alternative compliance programs. All alternative compliance programs previously approved by the Executive Officer will be invalid upon adoption of this Order.
Due Date for Implementation: none
- iii. Reporting:** Any Permittee adopting the Alternative Compliance Program in Appendix ____ must submit a report on the Ordinance/legal authority and procedural changes made in order to implement the Alternative Compliance Program. This report is due 60 days prior to the Permittee's proposed implementation date for the Alternative Compliance Program. Annual reporting will be done in conjunction with reporting requirements under Provision C.3.b.

h. Alternative Certification of Adherence to Design Criteria for Stormwater Treatment Systems

- i. Task Description:** In lieu of reviewing a Regulated Project's adherence to Provision C.3.d., a Permittee may elect to have a third party conduct detailed review and certify the Project's adherence to Provision C.3.d. The third party reviewer must be a Civil Engineer or a Licensed Architect or Landscape Architect registered in the State of California, or another Permittee that has overlapping jurisdictional project permitting authority.
- ii. Level of Implementation:** The Permittee accepting third party reviews must make a reasonable effort to ensure that the third party has no conflict of interest with regard to the Regulated Projects in question (i.e., the Regulated Project proponent should not pay for the services of the third party conducting the review). The Permittee must verify that the third party certifying the Regulated Projects has current training on stormwater treatment system design (within three years of the certification signature date) for water quality and understands the groundwater protection principles applicable to the Regulated Project sites. Training conducted by an organization with stormwater treatment system design expertise (e.g., a university, American Society of Civil Engineers, American Society of Landscape Architects, American Public Works Association, or the California Water Environment Association) may be considered qualifying training.

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

i. Limitations on Use of Infiltration Devices in Stormwater Treatment Systems

i. Task Description: For Regulated Projects, each Permittee shall ensure that installed stormwater treatment systems with no under-drain and that function primarily as infiltration devices do not cause or contribute to the degradation of groundwater quality at the project sites.

ii. Level of Implementation: For any Regulated Project that plans to install stormwater treatment systems that function primarily as infiltration devices, the Permittee shall ensure that:

- (1) Appropriate pollution prevention and source control measures are implemented to protect groundwater at the project site;
- (2) Adequate maintenance is provided to maximize pollutant removal capabilities;
- (3) The vertical distance from the base of any infiltration device to the seasonal high groundwater mark is at least 10 feet. (Note that some locations within the Permittees' jurisdictions are characterized by highly porous soils and/or high groundwater tables. In these areas, treatment system approvals should be subject to a higher level of analysis that considers the potential for pollutants (such as from onsite chemical use), the level of pretreatment to be achieved, and other similar factors);
- (4) Unless stormwater is first treated by a method other than infiltration, infiltration devices are not approved as treatment measures for areas of industrial or light industrial activity; areas subject to high vehicular traffic (i.e., 25,000 or greater average daily traffic on a main roadway or 15,000 or more average daily traffic on any intersecting roadway); automotive repair shops; car washes; fleet storage areas (e.g., bus, truck etc.); nurseries; and other land uses that pose a high threat to water quality; and
- (5) Infiltration devices are located a minimum of 100 feet horizontally from any know water supply wells.

iii. Reporting: none

j. Collection of Impervious Surface Data for Small Projects

Effective Date: Upon MRP adoption until the end of the third year after MRP adoption

i. Task Description: Each Permittee shall develop and maintain a database for all new and re-development projects that can be described by the categories listed below and that create 1000 to 10,000 square feet or more of impervious surface (collectively over the entire project).

- Commercial
- Mixed Use
- Industrial
- Public

- Multi-unit Residential
- Single-family home projects that require approvals and/or permits issued under the Permittees' planning, building, or other comparable authority.
- Parking Lots

ii. Level of Implementation: For each approved project, the database shall include, at a minimum, the following information:

- Project Name, Number, Street Address, and Location (cross street);
- Name of responsible party;
- Project type (e.g., commercial, industrial, mixed use, public, multi-unit residential, single-family home, parking lot);
- Project description;
- Project watershed;
- Site Acreage (or square footage of land disturbance);
- New or replaced impervious surface area;
- Status of Project (e.g., application date, application deemed complete date, project approval date);
- Source control measures installed, if applicable;
- Site design measures installed, if applicable; and
- Stormwater treatment system(s) installed, if applicable.

Due Date for Full Implementation: Upon adoption of the MRP.

iii. Reporting: Each Permittee shall submit in electronic format the minimum database information listed above for all projects approved during the reporting period (fiscal year).

Effective Date: Beginning the fourth year after MRP adoption until MRP expiration

i. Task Description: Each Permittee shall develop and maintain a database for all new and re-development projects that can be described by the categories listed below and that create 1000 to 5000 square feet or more of impervious surface (collectively over the entire project).

- Commercial
- Mixed Use
- Industrial
- Public
- Multi-unit Residential
- Single-family home projects that require approvals and/or permits issued under the Permittees' planning, building, or other comparable authority.
- Parking Lots

ii. Level of Implementation: For each approved project, the database shall include, at a minimum, the following information:

- Project Name, Number, Street Address, and Location (cross street);
- Name of responsible party;
- Project type (e.g., commercial, industrial, mixed use, public, multi-unit residential, single-family home, parking lot);

- Project description;
- Project watershed;
- Site Acreage (or square footage of land disturbance);
- New or replaced impervious surface area;
- Status of Project (e.g., application date, application deemed complete date, project approval date);
- Source control measures installed, if applicable;
- Site design measures installed, if applicable; and
- Stormwater treatment system(s) installed, if applicable.

Due Date for Full Implementation: Within three years of adoption of the MRP.

iii. Reporting: Each Permittee shall submit in electronic format the minimum database information listed above for all projects approved during the reporting period (fiscal year).

k. Development of Lot-Scale Stormwater Treatment Measures

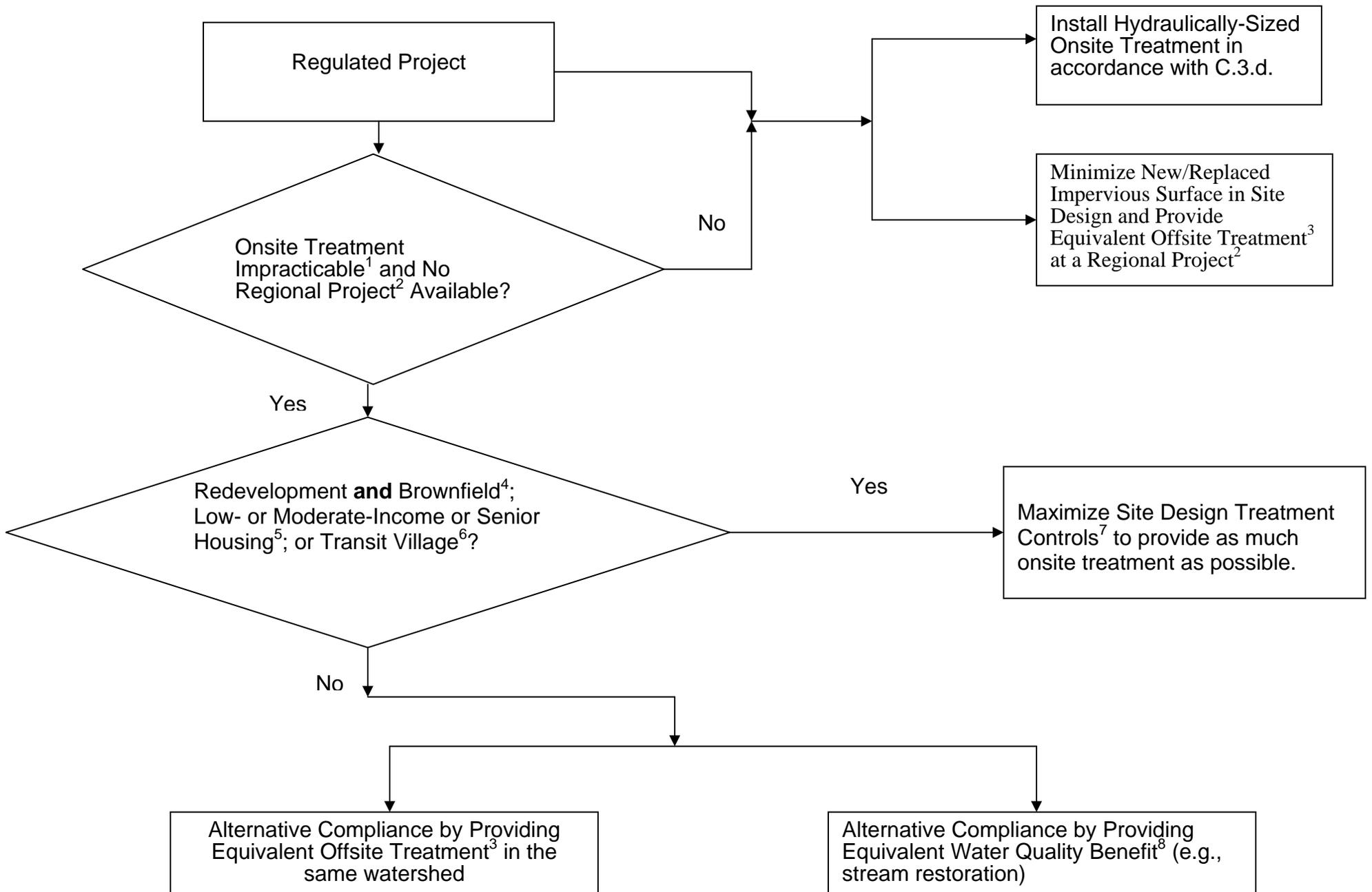
i. Task Description: Permittees shall develop standard specifications for lot-scale treatment measures (e.g., for roof runoff and paved areas) as a resource for relatively small Regulated Projects.

ii. Level of Implementation: This task may be fulfilled by Permittees working together on a county-wide basis.

Due Date for Implementation: Within the first three years after adoption of the MRP.

iii. Reporting: A report containing the standard specifications for lot-scale treatment measures for each county (Alameda, Contra Costa, San Mateo, Santa Clara) and the cities of Fairfield, Suisun City, and Vallejo) shall be submitted by the end of the third year after adoption of the MRP.

Municipal Regional Permit, Provision C.3.g. Alternative Compliance with Requirement to Install Onsite Stormwater Treatment System



- ¹ Impracticable – Implementation of onsite treatment is considered impracticable under the following criteria:
 - a. Projected cost of treatment measures (labor and materials) exceeds 2% of total project costs; (Total project cost includes the construction (labor) and materials cost of the physical improvements proposed; but does not include land, transaction, financing, permitting, demolition or offsite mitigation costs) or
 - b. Installation of treatment measures would result in inability of project sponsor to comply with other regulatory requirements at the federal, state and/or local levels.
- ² Regional Project – A regional or municipal stormwater treatment facility that discharges into the same watershed that the project does. The Regional Project must be completed within 3 years after the end of construction of the regulated project.
- ³ Equivalent Offsite Treatment – Based on the area of new/replaced impervious surface created by the project, the amount of pollutant loading, surface area, or quantity of runoff, which would be treated if hydraulically-sized treatment controls, in accordance with Provision C.3.d., were installed onsite. The cost of treatment does not have to exceed 2% of total project costs.
- ⁴ Brownfield – Use EPA definition but project must receive subsidy or similar benefits under a program designed to redevelop such sites.
- ⁵ Low-income, moderate-income and senior housing – Use Government Code Section 65589.5(h)(3) or (4) or 65195(b) but for purposes of this section, only the actual low-or moderate-income or senior housing portion of the development will be allowed the “special treatment” provided in this section.
- ⁶ Transit Village – Developments located within ¼ mile of an existing or planned bus, light rail, heavy rail, or intermodal station and/or major transfer point. Bus stops are not included in this definition. An intermodal station or transfer point is where different modes of transportation connect.
- ⁷ Maximize Site Design Treatment Controls will be defined to include specific measures that must be included in the project, such as bioretention gardens.
- ⁸ Equivalent Water Quality Benefit will be limited to only certain types of projects (e.g., stream restoration) in the same watershed that will be specifically listed in the MRP.

Notes:

- Watershed or the scale of watershed for purposes of C.3.g. will be defined.
- Individual programs/cities will no longer be able to submit individual Alternative Compliance Programs for approval. This supersedes any Alternative Compliance Programs previously approved by the Water Board’s Executive Officer.

4. INDUSTRIAL/COMMERCIAL INSPECTION PROGRAM

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 update its ordinances and/or other relevant legal documents, as necessary and to the extent necessary, in order to insure that they have the following regulatory authority:

I. Response to violations:

Permittees shall have the ability to immediately bring about the cease and desist of a discharge and/or the cleanup and abatement of the discharge, including the ability to:

- A. effectively require the discharger to cleanup and abate their discharges, or, if that is not possible,
- B. perform the work and bill the responsible party, if necessary, and
- C. achieve results within 48 hours for ongoing or occurred discharge and within 7-30 days for threatened discharge. Either time frame to be shortened at a Permittee's discretion.

Permittees shall have the ability to refer responsible parties to the District Attorney for criminal penalties.

II. Monetary penalties (direct and indirect):

Permittees shall have the ability to:

- A. levy administrative fines against responsible parties, and
- B. require recovery and/or remediation from responsible parties.

ii. Implementation Level

Permittees shall enforce its stormwater ordinances for all industrial and commercial sites/sources as necessary to maintain compliance with this Order. If necessary to achieve the legal authority element described in 1.a.i., Permittees shall revise local ordinances within six months of Order adoption.

iii. Reporting

The annual report shall include the following information:

- I. Summary of current stormwater ordinance legal authority sufficiency to above requirements.
- II. Planned changes to stormwater ordinance, including timeline for adoption.

b. Industrial and Commercial Business Inspection Plan (Inspection Plan)

i. Task Description

Each Permittee shall submit a five-year Inspection Plan within six months of Order adoption, or with the first annual report, whichever is later. The Inspection Plan shall contain the following information:

- I. Number and list of Industrial and Commercial sites requiring inspection, within each Permittee's jurisdiction, for the five-year period, including a prioritization of stormwater pollution, and proposed inspection frequency, consistent with ii. 3. below;
- II. A list of types of business within the Permittee's jurisdiction with the number of businesses in each category as part of the priority and frequency list in i.1.;
- III. A description of the process for prioritizing inspections and rationale for inspecting a business or business type more frequently or before another business or business type. Each Permittee will explain criteria used for designating a business as high priority. If any geographical areas are to be targeted for yearly inspections because of their high potential for stormwater pollution, these areas should be indicated in the Inspection Plan, with optional maps indicating priority zoning, if any, in each Permittees' jurisdiction;
- IV. A description of Permittee's procedures for follow-up inspections, enforcement actions or referral to another agency, including appropriate time periods of action; and,

ii. Implementation Level

I. Commercial and Industrial Source Identification

Each Permittee shall annually update and maintain a list of industrial and commercial sites to inspect that could reasonably be considered to cause or contribute to pollution of stormwater runoff.

The following types of businesses that shall be inspected include, but are not be limited to:

- A. Automobile mechanical repair, maintenance, fueling, or cleaning;
- B. Airplane mechanical repair, maintenance, fueling, or cleaning;
- C. Boat mechanical repair, maintenance, fueling, or cleaning;
- D. Automobile and other vehicle body repair or painting;
- E. Mobile automobile and other vehicle washing;
- F. Mobile carpet, drape, or furniture cleaning;
- G. Retail or wholesale fueling;
- H. Pest control services;
- I. Kennels
- J. Cement mixing or cutting;
- K. Masonry;
- L. Botanical or zoological gardens and exhibits;

- M. Landscaping;
- N. Nurseries and greenhouses;
- O. Golf courses, parks and other recreational areas;
- P. Cemeteries;
- Q. Pool and fountain cleaning;
- R. Marinas;
- S. Port-a-Potty servicing;
- T. Auto Dismantlers/metal recyclers
- U. Eating and drinking establishments
- V. Facilities that store or handle hazardous materials regulated under Title 22;
- W. NOI Facilities that do not belong to any of the categories described in b.ii.I.A-V.
- X. POTW Pretreatment Facilities that do not belong to any of the categories described b.ii.I.A-V.
- Y. Other facilities based on significance of potential stormwater pollutant discharge, known history of non-storm water discharges or potential therefore, inspection for fire safety

Each facility on the list shall include the following information at a minimum:

- a. the name and address of the business owner/operator;
- b. A narrative description of business including SIC code, priority, and inspection frequency;
- c. pollutants potentially generated by the site ; and
- d. requirement, if necessary, for coverage under the General Industrial Stormwater Permit.

II. Types/Contents of Inspections

Each Permittee shall conduct inspections for compliance with its ordinances, permits, and this Order. Inspections shall include but not be limited to:

- A. Check for coverage under the General Industrial Stormwater Permit, if applicable;
- B. SWPPP available and onsite;
- C. Assessment of compliance with the General Industrial Permit, this Permit, and local ordinances;
- D. Visual observations for evidence of unauthorized discharges, potential illicit connections, and potential discharge of pollutants to stormwater; and
- E. Referral to Water Board as needed for enforcement.

Permittees need not perform additional inspections at those facilities determined by the Permittee to have no pollutant exposure to storm water from commercial or industrial activity. Permittees shall continue to track these businesses/facilities,

noting in their pollutant source inventories their determination to discontinue inspections.

III. Inspection Frequency

Permittees shall inspect facilities according to the following inspection schedule:

- A. Heavy NOIs (e.g., auto dismantlers, concrete batch plants, etc. – complete list will be in Definitions Section of MRP) shall be inspected annually unless they have record of compliance for two consecutive years.
- B. Facilities with high potential for stormwater pollution (per determination of Permittee pursuant to b.i.III.) shall be inspected annually. All other facilities shall be inspected at least once every three years.
- C. Facilities with noted first tier (observed or evidence of discharge or high potential for discharge of any volume/amount of non- exempt stormwater into storm drain, street, or waters of the State) violations shall be inspected annually until compliance is achieved.

iii. Reporting

The annual report shall include the following information:

- I. a list of inspections performed, including follow-up for problem resolution.
- II. a list of planned inspections for the next year, including frequencies for each priority category

c. Enforcement Response Plan

i. Task Description

Permittees shall develop and employ an Enforcement Response Plan (ERP) that leads to effective site management by operators. The ERP shall consist of the following elements:

- I. Verbal warnings must be documented in an inspection database and are only allowed for the first observed offense within yearly period.
- II. Written warnings shall be issued for a second violation within yearly period.
- III. Written enforcement actions shall be issued for observed or evidence of discharges/
- IV. The ERP will provide guidelines on when to issue a citation and/or require cleanup, cost recovery, administrative penalties.
- V. Permittee's ERP shall incorporate all their enforcement options, in a reasonable progression.

ii. Implementation Level

I. Tracking repeat offenses:

Permittees shall employ a five-year rolling window for tracking repeat and escalating stormwater offenses. If there is a change in ownership, the rolling window shall start again

Violations shall be cited regardless of whether the discharge must travel through agency-owned conveyance system before entering Waters of the State. Examples of situations where discharge may not travel through “MS4” conveyance system:

- A. Receiving water body is a Water of the State but the local agency does not have a flood control easement (such as a privately owned creek segment);
- B. Location of discharge is adjacent to Water of the State and therefore discharge does not have to travel through agency’s street and water conveyance structures in order to reach Water of the State, but discharge originates on property within agency’s jurisdictions.

II. Referral and Coordination with Water Board

Each Permittee shall enforce its storm water ordinances as necessary to achieve compliance at sites with observed violations. For cases in which Permittee enforcement tools are inadequate to remedy the non-compliance, referral to the Water Board or District Attorney for additional enforcement shall occur.

iii. Reporting

The annual report shall include the following information:

- I. Enforcement actions taken, including violation history. Sites may be listed using a unique identifier and categorized by type of business. Water Board staff shall be able to, if necessary, require more detailed information on a specific site.
- II. Compiled summary of types of violations noted by business category
- III. Full report of deviations from the ERP and why the ERP was deviated from.
- IV. NOI facilities that have reported violations
- V. Facilities that are required to have coverage under the General Industrial Stormwater Permit but have not yet done so.

d. Annual Program Self-Evaluation and Planning

i. Task Description

Permittees shall evaluate activities and results of the previous year, and provide a description of planned activities for the next year based on “lessons learned”.

ii. Implementation Level

Create Plan based on previous year's inspection results.

iii. Reporting

The annual report shall include the following information:

- I. Changes to inspection plan and ERP
- II. Focus facility types for inspection and enforcement

d. Staff Training

i. Task Description

Permittees shall provide focused training for inspectors at least annually. Trainings may be either Program-wide, or Agency-specific. Agency-specific training may be required if certain conditions arise

ii. Implementation Level

At a minimum, inspectors shall be trained in the following topics:

- I. Urban runoff
- II. Illicit Discharge Detection and Elimination observations, and follow-up
- III. Lawful disposal of catch basin and other MS4 cleanout wastes
- IV. California's Statewide General NPDES permit for Stormwater Discharges Associated with Industrial Activities
- V. California's Statewide General NPDES permit for Stormwater Discharges Associated with Construction Activities
- VI. 401 Water Quality Certification by the SFBRWQCB
- VII. Local requirements beyond statewide general permits
- VIII. Water quality impacts associated with land development

Permittees, either County-wide or regionally, shall create or adopt a Bay Area-specific Guidebook for inspectors. All Permittees shall be collectively responsible for preparing the Guidebook within 18 months following permit adoption. All Permittees shall also be responsible for annual updates thereafter.

iii. Reporting

The annual report shall include the following information:

- I. Dates of trainings
- II. Training topics that have been covered
- III. Number of attendees at each training
- IV. Results of training evaluations

5. Illicit Discharge Detection and Elimination

a. Legal Authority

i. Task Description

Legal Authority:

Permittees will update ordinances and/or other relevant legal instruments necessary to ensure adequate legal authority to fully implement their Enforcement Response Plans.

Definition of a Violation:

Observed or evidence of discharge of any volume/amount of non- exempt stormwater into storm drain, street, or Waters of the State; Refer to California Water Code, Federal Clean Water Act, and municipal stormwater NPDES permit regulations; or,

Potential discharge of any volume/amount of non-stormwater into storm drain, street, or Waters of the State of CA

Violation exists, whether or not discharge must travel through agency-owned conveyance system before entering Waters of the State of CA. Examples of situations where discharge may not travel through “MS4” conveyance system:

Receiving water body is a Water of the State but the local agency does not have a flood control easement (such as a privately owned creek segment);

Location of discharge is adjacent to Water of the State and therefore discharge does not have to travel through agency’s street and water conveyance structures in order to reach Water of the State, but discharge originates on property within agency’s jurisdiction

ii. **Implementation Level** – Adequate legal authority in place six months after adoption.

iii. **Reporting** – Report status of legal authority in first annual report.

b. Spill and Dumping Response, Complaint Response, and Frequency of Inspections

i. Task Description

Permittees shall have a central contact person for complaint and spill response, and publicize for both internal Permittee staff and the public. If 911 is selected, also create and maintain a staffed non-emergency number.

Permittees shall develop a Spill/Dumping Response Flow Chart and Phone Tree, which shows the various responsible agencies and

their contacts, who would be involved in Illicit Discharge incidence response that goes beyond the Permittees immediate capabilities.

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

ii. Implementation Level – Have the contact information available and integrated into training and outreach within 3 months of Permit adoption.

iii. Reporting

Submit complaint and spill, response number, flow chart and Phone Tree with first Annual Report, updating annually if changed.

c. Create and Maintain an Enforcement Response Plan

i. Task Description

I. Range of Enforcement Capabilities: Permittee shall have a range of enforcement options that meet the goals of each category (A – D) listed below, and that can be used easily and in a timely fashion. There may be multiple legal mechanisms, in current and regular use by municipalities, which would meet these requirements.

A. Quick response: Ability to bring about the cease and desist of a known or reported discharge and/or order the cleanup and abatement of the discharge, or, if that is not possible, the Agency does the work and bills the responsible party, if necessary.

B. Timely results: within 48 hours for ongoing or occurred discharge and within 7-30 days for threatened discharge (either time frame to be shortened at agency's discretion). In specific situations where resolution is not achievable within the specified time frame, the initiation of the process leading towards a swift resolution will be considered in compliance.

C. Monetary penalties (direct and indirect): Permittee shall have the ability to levy administrative fines, and the ability to require recovery and/or remediation from responsible party. In addition, Permittee will have the ability to stop work on an active construction project causing a polluted discharge, and ability to effect cleanup and collect reimbursement from the responsible party.

D. Permittee shall have the ability to refer recalcitrant cases to the District Attorney for enforcement.

II. Tracking and Follow-up:

Permittee will have a system to track pollution problems discovered to resolution. Demonstrate escalating response for repeated problems, and inter/intra-agency coordination where appropriate.

III. Progressive Response and Enforcement:

The Enforcement Response Plan shall contain progressive response guidance for their staff on how to respond appropriately to illicit discharges of varying seriousness, and/or repeat violations. This guidance shall explain how and when to use each type of enforcement available in permittee's 'toolbox', in a reasonable progression.

- ii. **Implementation Level** – Develop and maintain an Enforcement Response Plan within 6 months of Permit adoption and fully train staff on the Enforcement Response Plan within 12 months of Permit adoption.
- iii. **Reporting** – Report progress or completion status in annual report.

d. Collection System Screening

i. Task Description

Routine survey of above-ground check points in the collection system (such as are typically inspected---end of pipes, creeks and catch basins), in coordination with Public Works / Flood Control maintenance surveys; (Televising of storm drains is acceptable alternative to visual inspection of system from above-ground.)

- ii. **Implementation Level** – Whenever Permittee staff are working in collection system, and at strategic collection system access points (one screening point per square mile of Permittee jurisdiction area, less open space) once in dry season and once in wet season.

- iii. **Reporting** – Summary of results of collection system screening.

e. Tracking-Self Evaluation

- i. **Task Description** – All incidents reported to complaint/ spill system shall be logged to track follow-up and response through problem resolution. See also above, under “Required Reporting / Effectiveness Demonstration”, for the Enforcement Response Plan.

- ii. Implementation Level** – Create and maintain tracking and follow-up database system within six months of Permit adoption.
- iii. Reporting**
Report the following in Annual Report:
Summary of cases/investigations conducted and enforcement actions, through problem resolution – if case is ongoing, report that status and ongoing activities; Summary of types of violations by discharge category.

f. Planning

i. Task Description

Based on assessment of previous year annual report data on illicit discharge activities, briefly describe plan for next year based on lessons learned, particularly detailing: A) any changes to Enforcement Response Plan, B) focus illicit discharge categories and/or geographic areas for additional inspections. There may be repetition in annual focus.

ii. Implementation Level

Complete brief assessment and plan to include in annual report.

iii. Reporting

Assessment and plan in annual report.

g. Staff Training

i. Task Description

Annual training, to consist of either of the following options:
Training event (given by permittee, program-wide, or outside provider) (1x/year);
Inspector's Network Meetings (within one big city or county-wide, BASMAA wide), to meet 3x/year.

ii. Implementation Level

Training event, given by permittee, program-wide, region-wide, or outside provider 1x/year.

iii. Reporting

Annual Report to include information on training topics covered, dates of training, Permittee attendees.

6. Construction Site Stormwater Pollution Management

a. Legal Authority for Effective Site Management

- i. Task Description – Permittees shall have sufficient legal enforcement authority to obtain effective stormwater pollutant control on all construction sites, regardless of size. This legal authority shall include the ability to impose fines without lawsuit, the ability to stop work, and the ability to seek reimbursement if the permittee must do cleanup or other discharge remediation.
- ii. Implementation Level –
 1. Each permittee shall establish the legal authority to oversee and require effective erosion control at all construction sites, regardless of size, through all phases of grading, building, and finishing lots.
 2. Permittee shall be legally able to require effective erosion control, sediment control, and source control for non-sediment pollutants
 3. Legal authority to fine and/or stop work shall be available 12 months after adoption.
 4. Rainy season shall be defined as the period from October 1 to April 30 of each year, but may be extended by official written notice to all permittees from Water Board Executive Officer or designee, if there is an early start or late end to the rainy season. However, rainfall can occur during any month of the year, and erosion control must be in place when rain falls.
- iii. Reporting – One year after permit reissuance, permittee will provide copy of relevant ordinances in annual report. All updates to ordinances will be reported in the annual report.

b. Enforcement Response Plan

- i. Task Description – Permittees shall develop and employ an enforcement response plan that leads to effective site management by operators
- ii. Implementation Level – Each permittee shall have an Enforcement Response Plan, such that the permittee responds to violations with an appropriate educational or enforcement response, and repeat violations are dealt with in progressively stricter responses as needed to achieve compliance.

The Enforcement Response Plan shall contain the following elements:

1. Verbal Warnings: shall be primarily consultation in nature, and specify the nature of violation and required corrective action.

Any BMP failure or housekeeping issues that were noted in the Pre-Rainy Season Inspection form, and are not corrected by the site by October 1, shall be considered a violation.

2. Written Notices: stipulate nature of violation and required corrective action, with timeline. Each permittee shall have the legal ability to employ any combination of the enforcement actions below (or their functional equivalent),

but the discretion of when and which legal action(s) to use is up to the permittee.

3. Citations (with Fines): levying of civil penalties or monetary penalties.
4. Withholding of inspections: requiring that storm water protection BMPs be properly installed before allowing for portion of construction work to continue.
5. Stop Work Orders: requiring that construction activities be halted, except for those activities directed at cleaning up, abating discharge and correct installation of appropriate BMPs.
6. Permittee performs work and seeks reimbursement from construction site responsible party: Permittee performs the work and collects against the project's bond, or directly bills to pay for the work and materials.
7. Referral to Water Board: After Permittee enforcement has been exhausted, Permittee may proceed to Water Board for referral. Referral will be made with background information on issues identified and enforcement actions employed.
8. Plan shall be implemented within 6 months of adoption of this Order.

iii. Reporting – Permittees will provide a copy and description of Enforcement Plan in annual report. Report will include summaries of enforcement actions, excluding verbal warnings in annual report.

c. Minimum Required Management Practices

- i. Task Description – Permittees will ensure that the minimum management practices are maintained at all construction sites:
- ii. Implementation Level – Permittees shall implement the following minimum required management practices:
- iii. Reporting – None required

d. Plan Check

- i. Task Description – Permittees will require developers to submit and Erosion Control Plan as a condition of issuance for a grading permit.
- ii. Implementation Level – As a condition of issuance of a grading permit, each permittee shall require an Erosion Control Plan (as defined above). Plan checker shall review with developer the Minimum Required Management Practices, and ensure that their Erosion Control Plan addresses each required practice. Review plans annually during Pre-Rainy Season inspection, or more frequently as needed.
- iii. Reporting – Permittees will provide documentation in annual report that appropriate measures have been taken to include erosion control planning in to the grading permit process.

e. Types of Sites

i. Task Description – Permittees will establish parameters to define large and small construction sites

ii. Implementation Level –

Small sites: Sites less than one acre of disturbed land area.

Large sites: Sites greater than or equal to one acre of disturbed land area

iii. Reporting – The types of sites inspected will be reported in the database of stormwater inspections included in the annual report.

f. Frequency of Inspections

i. Task Description – Permittees will establish inspection frequencies for both large and small construction sites

ii. Implementation Level – The table below is the water board staff proposal

Site Size	Season	Frequency
Large	Dry	Storm water-specific: 1x / month
	Pre-rainy Season Inspection and Reminder Letter	By September 1 of each year
	Rainy Season	<u>Screening</u> : 3x/week <u>Storm water-specific Inspection</u> : 1x/ month or as needed because of BMP failures and/or enforcement oversight
Small	Dry	Screening inspections when on-site.
	Pre-rainy Season Inspection and Reminder Letter	NA
	Rainy Season	<u>Screening</u> : when on-site <u>Storm water-specific Inspection</u> : as needed because of BMP failures and/or enforcement oversight

iii. Reporting – The inspection frequency for large and small sites will be reported in the annual report.

g. Type/Contents of Inspection

i. Task Description – Permittees will conduct screening level and stormwater specific inspections to monitor construction sites

ii. Implementation Level –

1. Screening Level: Inspections completed during routine inspections for other purposes. Screening Level inspections are not typically comprehensive with respect to storm water, but point out obvious problems that do not meet the Minimum Required Management Practices (defined above), when / if observed by the inspector as they are on the site for various other reasons. Inspector shall follow Enforcement Response Plan if a violation is noted in a Screening Level inspection.
2. Storm water-Specific Inspection: is a full walk of the site, looking for presence of Minimum Required Management Practices (defined above), in accordance with Enforcement Response Plan. Inspector shall follow Enforcement Response Plan if a violation is noted in a screening level inspection.

iii. Reporting- The types and content of inspections performed will be reported in the database of stormwater inspections included in the annual report.

h. Education and Outreach (considering moving this section to PIP)

- i. Task Description – Permittees will implement education and outreach activities for construction contractors
- ii. Implementation Level – Permittees will conduct the following education and outreach programs for both large and small construction sites.
 1. Large Sites:
 - a. Promote yearly attendance by contractor representatives at Water Board’s construction seminars (or equivalent seminar or educational experience).
 - b. Provide outreach materials during plan review and/or inspections.
 2. Small Sites:
 - a. Provide outreach materials during plan review and/or inspections.

iii. Reporting- In annual report, provide summary of training including dates, topics, and number of attendees.

i. Staff Training

- i. Task Description – Permittee will conduct training to educate municipal staff conducting stormwater inspections
- ii. Implementation Level – Provide training at least every other year to municipal staff responsible for conducting construction site stormwater inspections. The training will cover elements of each category of construction site, updated information on BMPs (including ‘lessons learned’ from previous year BMP failures), and implementation of Enforcement Response Plan.

iii. Reporting- Permittee will provide summary information on training and number of staff attending.

j. Tracking Self/Evaluation

i. Task Description – The permittee will track stormwater inspections and enforcement actions using an electronic database

ii. Implementation Level –

1. Use inspection form or equivalent electronic documentation for Pre-Rainy Season Inspections, Storm water-Specific Inspections, and numerically track all violations (as defined above).

2. Use database to track Storm water-Specific Inspections, and all violations (regardless of which type of inspection); and the follow-up enforcement actions. Note whether compliance has been achieved.

3. Maintain file of completed Pre-Rainy Season Inspection forms, for referring back to during first Storm water-Specific Inspection of the Rainy season. (Make these available to Water Board upon request; not necessary to submit with Annual Report.)

iii. Reporting- Permittee will record in an electronic database the number of active sites, number of inspections completed, number of written enforcement actions, and a summary of types of violations identified in the field. An electronic copy of each cities database will be provided to the water board in the annual report

7. Public Information, Outreach and Public Participation Efforts

a. Storm Drain Stenciling

i. Task Description

At least 95% of municipally-maintained storm drain inlets shall be marked with appropriate stormwater pollution prevention message, such as “no dumping, drains to Bay” or equivalent. All storm drain inlet markings shall be inspected and maintained at least once per five year permit cycle.

ii. Implementation Level

Inspect and mark at least 95% of municipally-maintained inlets legibly with a “no dumping” message or equivalent once per permit cycle.

iii. Reporting

In the fourth annual report of the permit cycle, report the percentage of municipally-maintained inlet markings inspected and maintained as legible with a “no dumping” message or equivalent once per permit cycle.

b. Advertising Campaign/ Media Buys

i. Task Description

Participate in or contribute to an advertising campaign. Participate in the buying of media time. Significantly increase overall awareness of message and behavior change in target audience.

ii. Implementation Level

Advertising campaigns/media buys, coordinated regionally, shall target two pollutants of concern (POC), for which it is appropriate to target a broad audience, over the permit cycle.

iii. Reporting

Permittees shall conduct a pre-campaign survey, one mid-point survey (between POC’s) and one post-campaign survey to measure (1) the overall awareness of the message and (2) behavior change. Surveys may be done regionally. Results shall be reported in the Annual Report following completion of each survey.

c. Media Relations – Use of Free Media

i. Task Description - Participate in or contribute to a media relations campaign. Maximize use of free media/media coverage to significantly increase overall awareness of message and behavior change in target audience.

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 and/or regional level.

iii. Reporting

In each Annual Report, include the details of each media pitch, such as the medium, date, and content of the pitch.

d. Create and Maintain a 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 and stormwater quality.

ii. Implementation Level

Maintain and publicize one point of contact.

iii. Reporting

Describe in each Annual Report how this point of contact is publicized and maintained.

e. Events e.g.: Fairs, Shows, Workshops (public, commercial, etc), Community Events

i. Task Description

Participate in and/or host events such as fairs, shows, workshops (public, commercial, etc), community events, and farmers markets in order to reach a broad spectrum of the community.

ii. Implementation Level

Each Permittee annually shall participate and/or host the number of events based on its population, as shown in table below¹:

< 10,000:	2
10,001 – 40,000:	3
40,001 – 100,000:	4
100,001-250,000:	6
> 250,000:	8
Non-population-base agencies:	6

iii. Reporting

Annual Reports shall state the number of events 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, post-event survey results, quantity/volume materials cleaned up and comparisons to previous efforts).

f. Actively support watershed stewardship collaborative efforts

i. Task Description

Permittees shall individually or collectively actively support watershed stewardship collaborative efforts, e.g., Watershed Forum, SCBWMI, “Friends of Creek” groups. If none exist, support development of grassroots watershed groups or encourage an existing group (e.g., neighborhood association) to take up the cause, where appropriate. Coordinate with existing groups to undertake stewardship efforts.

¹ Clarification: If a Permittee goes to the farmer’s market monthly, that counts as 12, not 1. However, participation in 12 farmers markets may not reach a broad spectrum of the community.

ii. Implementation Level

Annually demonstrate effort.

iii. Reporting

In Annual Reports, state level of effort; describe the support given; state what efforts were undertaken and the results of these efforts. Evaluate the effectiveness of these efforts.

g. Support Citizen Involvement Events

i. Task Description

Permittees shall individually or collectively, support Citizen Involvement events, e.g., Creek/shore Clean-ups, Adopt-a-Creek/Beach programs, volunteer monitoring, service learning activities, community riparian restoration activities, Community Grants, other participation and/or host volunteer activities.

ii. Implementation Level

Each Permittee annually shall participate and/or host the number of events based on its population, as shown in table below ²:

< 10,000: 1

10,001 – 40,000: 1

40,001 – 100,000: 3

100,001-250,000: 3

> 250,000: 5

Non-population-based agencies: 2

iii. Reporting

Annual Reports shall state the number of events 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, post-event survey results, , number of creeks/shores/parks/etc adopted, quantity/volume materials cleaned up, data trends, and comparisons to previous efforts).

h. Education Outreach

i. Task Description

Permittees shall individually or collectively implement outreach activities designed to change specific behaviors and/or increase awareness in school-age children (through high school level), to significantly increase their overall awareness of stormwater and/or watershed message(s) and to cause behavior change(s).

ii. Implementation Level

Annually demonstrate a significant level of effort and assess the effectiveness of efforts.

iii. Reporting

In Annual Reports, state the level of effort, spectrum of children reached, methods, and an evaluation of the effectiveness of these efforts.

² Clarification: An activity such as a high school creek monitoring program that goes out monthly to collect samples counts as 1 activity, not 12. If a Permittee hosts 10 sites for Coastal Clean-up Day, that counts as 1, not 10.

i. Prepare and utilize outreach materials

i. Task Description

Prepare and utilize outreach materials, such as printed materials, newsletter/ journal articles, videos, other. As needed, develop or acquire and utilize materials that contribute to an increase in overall awareness of stormwater quality issues. Provide information through a variety of means.

ii. Implementation Level

As needed to support goals.

iii. Reporting

Annually report what materials were used, which materials seem to be most effective, and which materials may be modified or discontinued in the upcoming year(s).

j. Pollutants of Concern (POCs) Outreach

i. Task Description

For the topics of pesticides, mercury, trash, and sediment comply with outreach requirements mandated by TMDL/POC pollution prevention and/or pollutant reduction plans. Provide guidance and/or assist with outreach activities in these other Stormwater Program areas.

ii. Implementation Level

Dependant on pollutant of concern, the implement level is given in individual pollutant reduction plans.

iii. Reporting

Annually report on compliance with outreach requirements defined in pollutant reduction plans and other areas beyond PI/P and describe actions taken.

k. Commercial / Industrial / Illicit Discharge-Related Outreach

i. Task Description

Permittees shall conduct outreach to at least one of the following or similar categories each year, based on the most prevalent type of illicit discharges within their jurisdiction:

- Contracting, concrete waste, paint waste, remodel/lot finishing activities
- Washing activities (miscellaneous)
- Community car washes (fundraisers)
- Dumping (roadside or directly to water body)
- Mobile washers (including carpet cleaners, vent hood filter cleaners)
- Door hangers in areas where illicit discharges have occurred.

It is acceptable but not required for activities targeting the above areas to be organized on a county-wide or region-wide level.

ii. Implementation Level

Focus on one polluting illicit activity a year for proactive activities.

iii. Reporting

In Annual Report, state the focus area, describe actions taken, and evaluation effectiveness.

k. Outreach to Municipal Officials

i. Task Description

Permittees shall conduct outreach to municipal officials, e.g., Nonpoint Education for Municipal Education (NEMO), in order to significantly increase overall awareness of stormwater and/or watershed message(s).

ii. Implementation Level

At least once per permit cycle, or more often.

iii. Reporting

In Annual Reports, state level of effort.

l. Research Surveys, Studies, Focus Groups, Other

i. Task Description Identify & quantify:

- Audiences
- Knowledge
- Trends
- Attitudes and/or Practices

ii. Implementation Level

At least once per permit cycle, Permittees shall individually or collectively undertake research to identify and quantify audiences, knowledge, attitudes, practices, and trends (as compared to previous research).

iii. Reporting

In Annual Report, report results and use the results to:

- plan/update outreach strategies;
- evaluate activities; and
- measure behavior change and changes in awareness.

m. Reporting

Both the level of implementation and the success of each PI/P activity shall be reported annually. Success may be measured through direct or indirect means, such as observation of business/citizen behavior; surveys; and/or analysis of available data on public involvement in or response to PI/P activities.

8. Water Quality Monitoring

Finding: Monitoring Program Objectives

The objectives of the Monitoring Program include, but are not limited to:

- Assess compliance with this Order;
- Assess the chemical, physical, and biological impacts of urban runoff on receiving waters;
- Characterize stormwater discharges;
- Assess compliance with Total Maximum Daily Loads and Waste Load Allocations in impaired water bodies;
- Assess progress towards reducing receiving water concentrations of impairing pollutants;
- Assess compliance with numeric and narrative water quality objectives and standards;
- Identify sources of pollutants;
- Assess the overall health and evaluate long-term trends in receiving water quality; and
- Measure and improve the effectiveness of Stormwater Programs and implemented Best Management Practices.
- Assess channel function/condition

Ultimately, the results of the monitoring program must be used to reduce pollutant loadings and protect and enhance the beneficial uses of the receiving waters in the Permittees' jurisdictions and the San Francisco Bay.

a. Regional Collaboration

i. Permittee Responsibilities

Each Permittee shall comply with all requirements in this Provision. A Permittee may comply by contributing financially to its Stormwater Program, as determined appropriate by the Program's Permittee members, so that the Stormwater Program conducts monitoring on behalf of its members. When an individual Permittee does not support either Stormwater Program or Regional Monitoring Group monitoring efforts, that Permittee shall fulfill all monitoring requirements within its own jurisdictional boundaries

ii. Regional Monitoring Group

In order to conduct monitoring more cost efficiently, obtain more useful data, and benefit from work conducted by the Regional Monitoring Program and/or the Surface Water Ambient Monitoring Program, Permittees may comply with the requirements of this Provision by contributing financially, as determined appropriate by the group's Permittee members, to a Regional Monitoring Group that conducts the required monitoring in the areas covered by its members. This group would develop and implement a Regional Status and Trends Monitoring Plan; Regional Monitoring Projects; and/or TMDL Monitoring that

produce at least the level of information as required within this Provision. To be most effective, the group should include representative(s) from each Stormwater Program; the environmental non-profit sector; entities such as water districts, flood control agencies, and resource agencies; and Board staff.

iii. Regional Monitoring Plans

A Regional Status and Trends Monitoring Plan and/or a Regional Monitoring Projects Plan must be submitted to the Executive Officer, for Board approval, within 9 months of the date of this permit and must be implemented beginning in the second year of the permit term. If such Plan(s) is/are not submitted within 9 months of the date of this permit, then all Permittees shall conduct monitoring and reporting as required in sub-provisions b. - f. In subsequent years, individual monitoring may be replaced by regional monitoring following approval of a Plan by the Board.

iv. Permittees may fulfill requirements of this Provision using data collected by citizen monitors or other non-Permittee governmental and non-governmental entities, provided the data are demonstrated to meet the data quality objectives described in sub-provision #.

b. Status and Trends Monitoring

i. Locations

OPTION A: Permittees shall conduct Status and Trends Monitoring on all their urban water bodies within the five-year Permit term. Urban water bodies are defined as water bodies whose watersheds contain 50% or more by area urban land uses. Water bodies are listed in Appendix A; from this list, Permittees must determine which are urban water bodies. Urban water bodies other than lakes, reservoirs, and estuaries shall be split into reaches, and first order creeks shall be combined with second order creeks, so that the split or combined water body has a watershed area of up to 1000 acres. If watershed area is larger than 1000 acres, the minimum number of samples shall be increased proportionately. Permittees shall determine exact sampling locations based on water body conditions, access, and similar considerations.

OPTION B: Permittees shall conduct Status and Trends Monitoring on each of water bodies listed below within the five-year Permit term. Samples within these water bodies shall be collected where the discharging watershed contains 50% or more by area urban land uses. These water bodies shall be split into reaches, so that the samples represent a watershed area of up to 1000 acres. If watershed area is larger than 1000 acres, the minimum number of samples shall be increased proportionately. Permittees shall determine exact sampling locations based on water body conditions, access, and similar considerations.

ACCWP:

- Arroyo Valle below Livermore or lower
- low end of Arroyo Mocho
- low end of Tassajara Creek/Alamo Creek
- Alameda Creek at Fremont or below
- San Lorenzo / San Leandro Creeks at lower elevations
- Creeks in Oakland, Berkeley, Albany at lower elevations

Contra Costa County

- Kirker Creek at Pittsburg or below
- Mt. Diablo Creek at Concord or below
- Walnut Creek below confluence of Lafayette Creek
- Alhambra Creek where land use is 50% urban or more
- Rodeo / Pinole / San Pablo / Wildcat Creeks where land use is 50% urban or more

Fairfield-Suisun

- Laurel Creek
- Ledge wood Creek

San Mateo

- San Mateo Creek and waterbodies to the north, below land uses of 50% urban or more
- San Francisquito Creek and northward to San Mateo Creek, below land uses of 50% urban or more
- Water bodies draining Daly City / San Pedro Creek urban reaches
- Pilarcitos Creek, from City of Half Moon Bay to Ocean

Santa Clara County

- Coyote Creek and tributaries in land uses of 50% urban or more
- Guadalupe River and tributaries in land uses of 50% urban or more
- Saratoga / Calabazas Creeks in land uses of 50% urban or more
- Permanente / Matadero / Adobe Creeks in land uses of 50% urban or more

Vallejo

- Rindler Creek / Blue Rock Springs Creek / Lake Chabot
- Hiddenbrook Creek (urban?)
- White Slough?
- Strait?

- ii. Parameters, Methods, Frequencies, Triggers
Permittees shall conduct Status and Trends Monitoring as described in Table # 1. To guide Permittees in determining where specific types of

monitoring should be done, applicability of individual indicators or data types for monitoring in local water bodies is described in Appendix B.

- iii. **San Francisco Bay Monitoring**
Permittees shall participate in the San Francisco Estuary Regional Monitoring Program for Trace Substances (RMP) or an acceptable alternative monitoring program, by contributing financially on an annual basis. [Placeholder for more specificity]

- iv. **Long Term Trends Monitoring / Observation Watersheds**
Each Permittee shall monitor one long term monitoring station annually for the parameters listed in Table # 1. Permittees working within a Stormwater Program shall establish one long term monitoring station for the entire Program. Permittees working within the Regional Monitoring Group shall establish a minimum of five long term monitoring stations for the entire region. Long term monitoring stations shall coincide with the Clean Estuary Partnership's Urban Creek Monitoring locations where possible or be selected based on the same criteria.¹ The regional monitoring group may use long term monitoring data conducted under the Surface Water Ambient Monitoring Program to comply with this requirement.

¹ *CEP Urban Creeks Monitoring Plan, 2005-6* (or most current), Prepared by Armand Ruby for Clean Estuary Partnership, Feb. 2006.

Table #.1 Status and Trends Monitoring Elements

Monitoring Parameter	Method ²	Level of Implementation		Minimum # Sample Sites/Water body/Yr ³ SCVURPPP & ACCWP / CCCWP & SMSTOPP / Vallejo & Fairfield-Suisun	Trigger ⁴ for “Monitoring Project” (or other option)
		Minimum Sampling Frequency ⁵	Minimum Sampling Interval ⁶		
Biological Assessment – BMIs (Includes General Water Quality Parameters)	CSBP ⁷ [group TRIADS together]	1/yr (Spring Sampling)	Grab sample	25 / 15 / 5	TRIAD: IBI score that indicates substantially degraded community
Chlorine (Free and Total)	Field Test Strips or Equivalent	In conjunction w/ BMIs	Grab sample	25 / 15 / 5	After immediate re-sampling, concentrations remain > 0.1 mg/L
General Water Quality ⁸	Multi-Parameter Probe	1/yr (During the Most Relevant Time of Year)	15 minute intervals for 1-2 weeks	3 / 2 / 1	Water repeatedly ⁹ exceeds one or more water quality standard or established threshold
Temperature	Hobo Temperature Logger or equivalent	See interval	15 minute intervals April-Nov.	9 / 6 / 3	Water consistently or repeatedly exceeds applicable temperature threshold ¹⁰
Toxicity – Water Column ¹¹	Applicable SWAMP Comparable Method	2/yr (1/Dry Season & 1 Storm Event)	Grab or composite sample	3 / 2 / 1	≥ 20% decrease in survival compared to control in at least one sampling event

² Refers to field protocol, instrumentation and/or laboratory protocol.

³ Number of sampling sites is based on the relative population in each Stormwater Program and is listed in this order: Santa Clara Valley & Alameda Countywide / Contra Costa & San Mateo Countywide / Vallejo & Fairfield-Suisun Programs

⁴ Follow-up to Status & Trends Monitoring is described in Monitoring Projects and Appendix B.

⁵ Refers to the number of sampling events at a specific site in a given year.

⁶ Refers to the duration of sampling event (e.g., grab sample or every 15 mins. for 1 hr/24hrs/1 week).

⁷ California Stream Bioassessment Procedure (California Department of Fish and Game, 2003).

⁸ Includes Dissolved Oxygen, Temperature, Conductivity, pH and Stream Flow.

⁹ i.e., if dissolved oxygen repeatedly falls below threshold in warm months, or spikes with no obvious natural explanation are observed

¹⁰ i.e., if temperatures exceed applicable threshold at various seasons or times or day, or spikes with no obvious natural explanation are observed. MWAT for salmonids – see Karen T for further detail.

¹¹ 3-species chronic bioassay with acute and chronic endpoints.

Monitoring Parameter	Method ²	Level of Implementation		Minimum # Sample Sites/Water body/Yr ³ SCVURPPP & ACCWP / CCCWP & SMSTOPP / Vallejo & Fairfield-Suisun	Trigger ⁴ for “Monitoring Project” (or other option)
		Minimum Sampling Frequency ⁵	Minimum Sampling Interval ⁶		
Toxicity – Bedded Sediment, fine grained sediment	Applicable SWAMP Comparable Method	1/yr (Beginning of Dry Season)	Grab sample	6 / 4 / 1	TRIAD ¹² : ≥ 20% decrease in survival compared to control in at least one sampling event.
Bedded Sediment – pollutants, ¹³ fine grained sediment	Applicable SWAMP Comparable Method Inc. grain size	1/yr (Beginning of Dry Season)	Grab Sample	6 / 4 / 1	TRIAD ¹⁴ : sediment concentrations consistently or repeatedly greater than documented adverse freshwater effects levels ¹⁵
Geomorphology – Cross Section and/or Longitudinal Profile	Method depends on site-specific conditions	1/yr	N/A	3 / 2 / 1: each site continues for 5 yrs* Add mean of 1 site each year	Evidence of ongoing changes in cross section or longitudinal profile
Substrate Characterization – particle size classes and embeddedness	Method depends on site-specific conditions ¹⁶	1/yr	N/A	3 / 2 / 1: each site continues for 5 yrs* Add avg of 1 site each year	Evidence of ongoing causes of alteration of substrate that adversely affects beneficial uses
Stream Flow	Method depends on site-specific conditions ¹⁷	Continuous	Time series interval depends on site-specific conditions	3 / 2 / 1: each site continues for 5 yrs	Episodic or anomalous changes in stream flow

¹² See Appendix ___ for description of the TRIAD trigger. [Placeholder: may add growth component to trigger.]

¹³ Bedded sediments should be fine-grain from depositional areas. Grain size must be reported. Analytes could include: Cu, Ni, Hg, PCBs, DDT, Chlordane, Dieldrin and other contaminants of interest (e.g., pyrethroids). Coordinate with plans described in TMDL Monitoring Provisions

¹⁴ See Appendix ___ for description of the TRIAD trigger.

¹⁵ MacDonald 2000.

¹⁶ Method must be sufficient to measure changes over a multi-year period. Methods must be sufficient to measure changes seasonally, during storms, and during minimum flow conditions.

¹⁷ Method must be sufficient to measure bankfull (or effective discharge) and changes seasonally, during storms, and during minimum flow conditions.

Monitoring Parameter	Method ²	Level of Implementation		Minimum # Sample Sites/Water body/Yr ³ SCVURPPP & ACCWP / CCCWP & SMSTOPP / Vallejo & Fairfield-Suisun	Trigger ⁴ for “Monitoring Project” (or other option)
		Minimum Sampling Frequency ⁵	Minimum Sampling Interval ⁶		
Pathogen Indicators ¹⁸	Applicable SWAMP Comparable Method	1 yr (During summer)	Follow EPA protocol	5 / 5 / * *Vallejo & Fairfield: 5 sites twice in permit period	Exceedence of EPA or Basin Plan criteria
Trash Assessment – Baseline & Trends	See Provision ___ , requirements regarding trash monitoring.				
Stream Survey (stream walk & mapping)	USA ¹⁹ or equivalent	1 water body/yr	N/A	9 / 6 / 3 stream miles/year	N/A

¹⁸ Includes Fecal Coliform and *E. Coli*.

¹⁹ Center for Watershed Protection, Manual 10: *Unified Stream Assessment: A User's Manual*, February 2005

- c. **Status & Trends Electronic Reporting**
Permittees shall submit an Electronic Data Report of Status & Trends data no later than October 1 of each year, reporting on all data collected during the foregoing July 1 - June 30 period. Electronic Data Reports shall be in a format compatible with the SWAMP database²⁰. Permittees shall make electronic reports available through their websites and notify stakeholders and members of the general public about the availability of monitoring reports through notices distributed through appropriate means, such as email listserves.
- d. **Status & Trends Comprehensive Reporting**
Permittees shall submit a comprehensive Status & Trends Monitoring Report annually by January 15 that includes the results and evaluation of the results of monitoring conducted during the foregoing July 1 - June 30 period. Each Status & Trends Monitoring Report shall include, at a minimum:
- i. Maps and descriptions of all monitoring locations.
 - ii. Data tables, discussion of data quality, and graphical data summaries;
 - iii. An analysis of the data / findings, which shall include the following:
 - Calculate the metrics used in the CSBP (*see footnote 7*) and compare mean biological and habitat assessment metric values between stations and year-to-year trends;
 - Evaluate the effectiveness of existing control measures;
 - Develop hypotheses to investigate;
 - Identify and prioritize water quality problems;
 - Identify potential sources of the water quality problems;
 - Recommend future monitoring; and
 - Identify management measures to address water quality problems.
 - iv. Identification and analysis of any long term trends in storm water or receiving water quality;
 - v. A comparison to the applicable Water Quality Standards for each monitoring program component. The lowest applicable standard from the Basin Plan, the Ocean Plan, or the California Toxics Rule shall be used for comparison. Constituents that exceed applicable Water Quality Standards shall be highlighted. When data indicate that discharges are causing or contributing to exceedances of applicable Water Quality Standards, including narrative standards, a discussion of possible pollutant sources shall be included in the monitoring report and a Receiving Water Limitations Compliance Report (*see Provision C.1*) shall be submitted with the subsequent Annual Report.
- e. **Monitoring Projects**

²⁰ Data are submitted on a standard spreadsheet.

- i. During the five-year Permit term, Permittees shall initiate²¹ and conduct²² the number of Monitoring Projects given below:
 - ACCWP and SCVURPPP each shall conduct a minimum of five Monitoring Projects each year, and shall initiate a minimum of eight Monitoring Projects every five years.
 - CCCWP and SMSTOPPP each shall conduct a minimum of four Monitoring Projects each year, and shall initiate a minimum of six Monitoring Projects every five years.
 - Fairfield-Suisun and Vallejo each shall conduct a minimum of three Monitoring Projects each year, and shall initiate a minimum of five Monitoring Projects every five years.

- ii. Required Monitoring Projects
 Permittees shall include the following monitoring projects among the monitoring projects they initiate during the permit term:
 - Characterize dry weather discharges from all pump stations during the permit term. This shall be initiated by the beginning of the second year of the permit term;
 - When Status & Trends results indicate a monitoring parameter has “triggered” a Monitoring Project, as indicated in Table #.1, Permittees shall conduct Monitoring Project(s) and/or take follow-up action(s)²³ as required in Provision C.1. This shall be initiated no later than the second sampling-year following the sampling event that “triggered” the Monitoring Project.
 - One project that investigates the effectiveness of best management practices for stormwater treatment and/or hydromodification control.

- iv. Reporting: Permittees shall submit a Monitoring Project Report within four months of completion of each monitoring project. This Report shall include, at a minimum: a description of the project; maps of all monitoring locations; data tables; graphical summaries of the data; discussion of data quality; identification of potential sources of water quality problems; and identification of management measures to address water quality problems. Reporting shall be in SWAMP-compatible and electronic format where appropriate.

f. TMDL Monitoring

In order to estimate inputs of Pollutants of Concern to the Bay from urban runoff, over the five-year permit term Permittees shall work collaboratively (regionally) or within their Stormwater Programs to develop the following monitoring components. Permittees shall implement these monitoring components by the beginning of year three of this Permit term.

²¹ Initiate: A monitoring project shall be initiated by conducting (not planning) water body sampling or a management action(s) in response to a known water quality problem.

²² To conduct a Monitoring Project is to be in the process of carrying it out (not planning), as opposed to initiating it.

²³ Possible Monitoring Projects and follow-up actions are listed in Appendix B.

- i. Mass Emissions and Loading Studies: Locate and implement fixed monitoring stations for long-term monitoring for pollutant loads. The monitoring stations shall be sufficient in quantity and in coverage of land uses to determine urban stormwater's contribution to loading to the Bay of copper, mercury, PAHs, PCBs, Organochloride Pesticides, selenium, emerging pollutants (pyrethroids, endocrine disrupting compounds, PCBs, PFOs/PFAs, NP/NPEs), sediments, and trash.
- ii. Develop a robust sediment delivery estimate/sediment budget in local tributaries and urban drainages. 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. Mass Emissions monitoring stations may be used to collect some of the necessary data to fulfill this objective.
- iii. Develop initial loading estimates and source analyses for selenium through strategic monitoring, research, and appropriate calculations.
- iv. Develop baseline estimates and follow-up actions for trash, as specified in **Provision ___**.
- v. Reporting: Permittees shall submit reports of the methods used, data, calculations, load estimates, and source estimates for TMDL monitoring components i-iii upon completion of the component/study.
- vi. Permittees shall sample for diazinon and toxicity in sediment and the water column as described in the Clean Estuary Program's Urban Creeks Monitoring Plan.²⁴ Sample locations shall be the same locations used for Status and Trends monitoring, except that only one location per Program is required. Permittees shall report on these monitoring efforts and results in a separate section of their annual Status and Trends monitoring report. This reporting shall include a discussion of the management questions listed on page 2 of the Urban Creeks Monitoring Plan.
- vii. Develop a workplan for initial loading estimates and source analyses for emerging pollutants (pyrethroids, endocrine disrupting compounds, PCBs, PFOs/PFAs, NP/NPEs). This workplan, which is to be implemented in the next Permit term, shall be submitted with the Integrated Receiving Water Impacts Report described below.
- viii. Complete pilot studies to determine the loads of mercury and PCBs avoided and removed by the Permittees' management actions that are required under the Pollutants of Concern Provision of this Permit. This may be completed through strategic monitoring and/or research and appropriate calculations. Permittees shall report this load reduction assessment as part of the report [*GIVE ACTUAL NAME OF REPORT* on implementation measures] required under the Pollutants of Concern Provision of this Permit.

g. Water body Assessment

²⁴ The current year's Clean Estuary Program Urban Creeks Monitoring Program is described in CEP Urban Creeks Monitoring Plan, 2005-06, prepared by Armand Ruby for Clean Estuary Partnership, Feb. 2006

Water body Assessment is the collection and analysis of physical, chemical, and biological information related to water body conditions and functions. This information, from multiple sources and focused on a single water body, is used to draw conclusions concerning the historical, current and potential future condition and functions of that water body to support decision-making and watershed management actions. The scope of a Water body Assessment is the stream/water body as a whole, and includes both urban and non-urban reaches. Permittees shall conduct Water body Assessments to determine, at a minimum: causes of problems in water bodies; what reaches should be protected; and what reaches can be restored.

- i. Permittees shall complete the Water body Assessments shown in Table #.2 within the five-year Permit term.

Table #.2 Required Water body Assessments

Program to Conduct the Water body Assessment	Water body to be Assessed	Watershed Area (mi²)
Alameda Countywide Clean Water Program	Martin Canyon tributary to Arroyo De La Laguna planning watershed	1.6
	Ward and Zeile Creek tributaries to the Lower Alameda planning watershed	21
	Initiate Vallecitos & Crandall or Stony Brook	7
Contra Costa Clean Water Program	Marsh Creek	94
	Alhambra Creek	17
	Mt. Diablo Creek	38
Fairfield-Suisun Urban Runoff Management Program	Ledgewood or Laurel	
San Mateo Stormwater Pollution Prevention Program	San Pedro Creek	8.0
	San Mateo Creek (below crystal springs dam)	4.5
	Cordilleras Creek	3.3
Santa Clara Valley Urban Runoff Pollution Prevention Program	Adobe/Matadero	
	A tributary to Guadalupe watershed, such as Los Gatos	
	Remaining Guadalupe watershed	
Vallejo	Rindler Creek / Blue Rock Springs Creek / Lake Chabot?	

- ii. Water body Assessment Elements
 Permittees shall conduct water body assessments as outlined in Table # 3 and considering the questions listed in Appendix C.

Table # 3 Water body Assessment Elements and Information Types

<p>At a minimum, water body assessments must consider the management questions described in Attachment # and determine the condition relevant to the following issues:</p>	<p>In addressing these elements, Permittees shall obtain and consider information regarding:</p>
<ul style="list-style-type: none"> • Hydrologic Processes and Channel Dynamics • Riparian Habitat Variation and Richness • Aquatic Habitat Variation and Richness • Landscape-Level Aquatic Habitat Connectivity • Aquatic Vertebrate Community • Aquatic Invertebrate Community • Human Health Risks 	<ul style="list-style-type: none"> • Historical (1800-1850) and Existing Land Use, Channel and Habitat Conditions • Historical and Existing Conditions of Aquatic Biota • Channel Habitat Type • Geomorphic Condition • Existing and Potential Beneficial Uses • Water Quality Conditions • Hydrology and Water Use • Riparian and Wetland Conditions • Sediment Sources and Types • Pollutant Sources and Types • Channel Type, Modifications and Trends • Other Pertinent Water Body or Watershed/Landscape Level Data/Information

- iii. Water body Assessment Reporting
 Permittees shall submit a Water body Assessment Report within four months of completion of each water body assessment. Water body Assessment Reports shall include a description of each element and issue listed in Table # 3; maps and descriptions of all monitoring locations; a thorough discussion of potential management measures that could be adopted and/or modified to improve water quality in the water body.

- h. Citizen Monitoring & Participation
- i. Permittees shall encourage Citizen Monitoring.
 - ii. In assessing water bodies, developing Monitoring Projects, and evaluating Status and Trends data, Permittees shall make reasonable efforts to seek out citizen and stakeholder information and comment regarding water body function and quality.
 - iii. Permittees shall demonstrate annually that they have encouraged citizen and stakeholder observations and reporting of water body conditions.
- i. Integrated Receiving Water Impacts Report
 No later than [4 years from date of issuance] Permittees shall prepare and submit an Integrated Receiving Water Impacts Report, which may also serve as the fourth year Status and Trends Monitoring Report. The Integrated Receiving Water Impacts Report may be prepared by the Regional Monitoring Group on behalf of all participating Permittees, or by the Stormwater Programs on behalf of

participating Permittees.²⁵ The report shall include, but not be limited to, a comprehensive analysis of the results of the data from each component of the monitoring program and other pertinent studies available. It should also include a budget summary for each monitoring requirement and recommendations on future monitoring. This report will be part of the next ROWD.

- j. **Monitoring Protocols and Data Quality**
All monitoring data must be SWAMP comparable, in terms of methods and quality. Minimum data quality shall be consistent with the latest version of the SWAMP Quality Assurance Management Plan 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. Data unaccompanied by statements on their quality, and whether they are acceptable, will be included in evaluations only with acknowledgement of unknown uncertainty.
- k. **Reporting Format Specifications**
With the exception of Electronic Data Reports, all monitoring reports shall include the following:
- A listing of volunteer and other non-Permittee entities whose data are included in the report;
 - The certified perjury statement described in Standard Reporting Requirements in Appendix C.

²⁵ Permittees who do not participate in the Regional Monitoring Group or in a Stormwater Program must submit an individual Integrated Receiving Water Impacts Report.

Appendix B
Applicability of Indicators in Water Body Types for Status & Trends Monitoring

NOTE: table below is a placeholder. It will be tied to the list of water bodies (column headings would then change) and the Status & Trends requirements, or deleted if not needed.

Definition of Water Body Types (if needed)

- Estuary –
- Estuary Lagoon –
- Tidal Slough –
- Reservoir –
- Lake –
- Perennial Stream –
- Intermittent Stream –

	Natural stream	Urban stream	Concrete channel/pipe	Lake or reservoir
Category/Indicator				
1. Aquatic Life Use Indicators				
a. Biological Assessment – Fish	Yes	Potential	N/A	potential
b. Biological Assessment – BMIs MANY SITES	Yes (also triad)	Yes (also triad)	Yes (also triad?)	Potential (as triad?)
c. General Water Quality (fixed)	Yes	Yes	Yes	Yes
d. Temperature (fixed)	Yes	Yes	Yes	Yes
e. Pollutants of Concern – Bedded Sediment	Yes (also triad)	Yes (also triad)	Potential (also triad?)	Potential (as triad?)
f. Toxicity – Water Column	Yes	Yes	Yes?	Yes
h. Toxicity – Bedded Sediment	Yes (also triad)	Yes (also triad)	Potential (as triad)	Potential (as triad?)
i. Chlorine (Free and Total)	Yes	Yes	Yes	Potential
j. Geomorphology – Cross Section and/or Longitud. Profile	Yes, where...?	Yes, where...?	N/A	N/A
k. Substrate Characterization – particle size classes and embeddedness	Yes	Yes	N/A	N/A
l. Stream Flow	Yes	Yes	Potential	N/A
2. Recreational and Multiple Use Indicators				
a. Pathogen Indicators	Yes	Yes	If accessible	
b. Trash Assessment – Baseline & Trends	Yes	Yes	Yes	Yes
c. Stream Survey (stream walk & mapping)	Yes	Yes	Partial/If accessible	N/A

Appendix C Possible Follow-up to Status & Trends Monitoring

NOTE: Two possible follow-up strategies are presented here for discussion.

I. One example – taken from Los Angeles County MS4 Permit

Follow-up Analysis and Actions

When results from the chemistry, toxicity, and bioassessment monitoring described above indicate urban runoff-induced degradation at a monitoring location, Permittees shall evaluate the extent and causes of urban runoff pollution in receiving waters and prioritize and implement management actions to eliminate or reduce sources. Toxicity Identification Evaluations (TIEs) shall be conducted to determine the cause of toxicity as outlined in Table #.2. Other follow-up activities which shall be conducted by Permittees are also identified in Table #.2. Once the cause of toxicity has been identified by a TIE, the Permittees shall implement the measures necessary to reduce the pollutant discharges and abate the sources causing the toxicity.

Table #.2 Triad Approach to Determining Follow-Up Actions

Chemistry Results	Toxicity Results	Bioassessment Results	Action
Persistent ²⁶ exceedance of water quality objectives (high frequency constituent of concern identified)	Evidence of a persistent toxicity ²⁷	Indications of alteration ²⁸	Conduct TIE to identify contaminants of concern, based on TIE metric. Address upstream sources as a high priority.
No persistent exceedances of water quality objectives	No evidence of persistent toxicity	No indications of alterations	No action necessary.
Persistent exceedances of water quality objectives	No evidence of persistent toxicity	No indications of alterations	Address upstream sources as a low priority.
No persistent exceedances of water quality objectives	Evidence of persistent toxicity	No indications of alterations	Conduct TIE to identify contaminants of concern, based on TIE metric. Address upstream sources as a medium priority.
No persistent exceedances of water quality objectives	No evidence of persistent toxicity	Indications of alterations	No action necessary to address toxic chemicals. Address potential role of urban runoff in causing physical habitat disturbance.

²⁶ Persistent exceedance shall mean exceedances of established water quality objectives, benchmarks, or action levels by a pollutant known to cause toxicity for two wet weather and/or two dry weather samples in a given year.

²⁷ Evidence of toxicity shall mean where more than 50% of the toxicity tests for any given species have a No Observed Effect Concentration (NOEC) of less than 100%.

²⁸ Indications of alteration shall mean an IBI score of Poor or Very Poor.

Persistent exceedance of water quality objectives (high frequency constituent of concern identified)	Evidence of persistent toxicity	No indications of alterations	If chemical and toxicity tests indicate persistent degradation, conduct TIE to identify contaminants of concern, based on TIE metric and address upstream source as a medium priority.
No persistent exceedances of water quality objectives	Evidence of persistent toxicity	Indications of alterations	Conduct TIE to identify contaminants of concern, based on TIE metric. Address upstream sources as a high priority. Address potential role of urban runoff causing physical habitat disturbance.
Persistent exceedance of water quality objectives (high frequency constituent of concern identified)	No evidence of persistent toxicity	Indications of alterations	Address upstream sources as a high priority.

II. This example of potential follow up actions (**limited to studies**) was proposed by a representative to SCVURPPP.

Think about relation to the trigger in Table 3.1. Focus on hydromod (baseline...) and POC source analysis and abatement (BMP effectiveness...) projects.

Monitoring Category	Example follow up actions
General Water Quality, Temperature	Evaluate the data and (a) conduct appropriate follow-up action, or (b) design and implement of a more refined spatial or temporal follow-up monitoring project, or (c) conduct a more integrative limiting factors analysis ²⁹ . Re-evaluate all follow-up actions.
Pollutants of Concern – in bedded sediment, Benthic community alteration, Toxicity in bedded sediment	Follow up actions for varying scenarios of results are specified in Attachment B, Table 5-1
Toxicity in Water Column	<ul style="list-style-type: none"> • Toxicity tests at higher dilutions to better quantify toxicity. • Use TIE to identify contaminants of concern. • Determine spatial & temporal extent of the toxicity.
Chlorine (Free and Total)	Resample, notify applicable potable-water agency and/or other possible sources such as nearby chlorine-using businesses, and attempt to determine the source of chlorine discharge. Refer Permittee to illicit discharge program.
Geomorphology – Cross Section and/or Longitudinal Profile	Recommend management action for evidence of ongoing anthropogenic causes of erosion &/or sedimentation.
Substrate Characterization – particle size classes and embeddedness	Recommend management action for evidence of ongoing anthropogenic causes of alteration of substrate that adversely affects beneficial uses.
Stream flow	Observe upstream source(s) or diversions. Link to illicit discharge

²⁹ Give a reference a method for limiting factors analysis.

	program-be more specific: what does this mean?.
Pathogen Indicators	Identify source using sanitary survey methodologies or microbial source tracking and recommend management action; Resample using increased spatial intensity and at greater frequency during high-use periods;
Trash Assessment – Baseline & Trends	Determine sources of trash and take management action regarding high priority sites. ³⁰ Evaluate effectiveness through follow up assessment.
Stream Survey	Identify and select Status and Trends monitoring locations; Identify sources of illicit discharges; Identify sources/causes of diversions; Identify sources of instability and other stream alterations; Identify management actions and priorities for more intensive evaluation.

³⁰ Permittee personnel familiar with trash sites through the Permittee’s jurisdiction, such as municipal maintenance personnel, shall prioritize trash sites for management action. **Reference the specific permit requirement for trash.**

Appendix D

Water Body Assessment - Management Questions and Example Data

These questions are to be considered in the context of a larger process of evaluation and prioritization that includes the following:

- Based on preliminary characterization and discussion with stakeholders, which management questions seem applicable to one or more portions of the watershed?
- Are there uncertainties or gaps in basic information that could affect this initial listing of issues and management questions for the watershed in question?
- What priority levels or interactions should be considered to coordinate the assessment plan among the multiple water body condition issues?
- For individual water body condition issues, what uncertainties or data gaps must be addressed in order to address the list of management questions?

Water body condition issue	Management/functional Questions	Examples of Data or Information Needs
Hydrologic Processes and Channel Dynamics	<p>To what extent are past and current changes in hydrology currently affecting this function?</p> <p>Are the water body channel dimension, pattern and profile stable?</p> <p>What are the flood peak conditions of the water body? Does flooding pose a hazard to human uses?</p> <p>What changes might improve hydrologic processes and channel dynamics? (so as to promote sustainable stream functioning and desired habitat features, and reduce anthropogenic increases in erosion and deposition)</p>	<p>Are there major dams, diversions or water imports to this system?</p> <p>What was the historic average daily stream flow for the late 1800's, early, mid and late 1900's?</p> <p>What is the average daily stream flow today?</p> <p>What were the 20, 50, and 100-year flood events, as predicted from an annual peak flow frequency analysis prior to development? What are they today?</p> <p>What was the bankfull flow prior to development? What is it today?</p> <p>What is the size of the watershed? What is the annual amount of rainfall it receives?</p> <p>What were the shape and size of the discharge hydrographs prior to development? What are they today?</p> <p>What are the bankfull or effective discharge flows at various locations on stream channels?</p> <p>Have bankfull or effective discharge flows changed over the years? What have been the past and recent changes in the cumulative frequency-and duration of potentially erosive discharge levels?</p> <p>What is the average annual flood flow? Has it changed over the years?</p> <p>What are the bankfull channel dimensions? What is the width/depth ratio of the bankfull channel?</p>

		<p>What is the average velocity of the water in the channel at the bankfull flow?</p> <p>What is the channel entrenchment ratio prior to development? What is it today?</p> <p>Is there any evidence of excessive channel erosion or deposition? If so, how much?</p>
Riparian Habitat Variation and Richness	<p>How do current riparian conditions affect beneficial uses?</p> <p>What changes might improve riparian habitat variation and richness to improve support for desired wildlife and/or recreational uses?</p>	<p>What are percentages of shade and sun, roughly quantified (using sample sites as appropriate)?</p> <p>At least rough quantification of cover available to characteristic riparian animals, e.g. frogs, salamanders, riparian nesting and roosting birds.</p> <p>At least rough quantification of variation in height of riparian vegetation.</p> <p>At least rough quantification of slope and nature of bank as it affects riparian habitat, e.g. how much is hardened, incised and nearly vertical, apparently unstable, bar, wetland or marsh, etc.</p> <p>What species of non-aquatic wildlife use or live in the riparian zone?</p>
Aquatic Habitat Variation and Richness	<p>How do current instream conditions affect beneficial uses?</p> <p>What could be done to increase aquatic habitat variation and richness so as to improve beneficial uses of the water body?</p>	<p>What are percentages of shade and sun over the water, roughly quantified, using sample sites as appropriate?</p> <p>At least rough quantification of slope and nature of bank, as it affects aquatic habitat: e.g. undercuts, bars, wetland or marsh conditions, instability/</p> <p>At least rough quantification of large woody debris or other material, including rock or concrete, that might provide cover or eddies.</p> <p>At least rough quantification of stream slope in various reaches.</p> <p>At least rough quantification of size, depth, and number of pools; riffles; and major substrate types e.g. (mud, sand, fine gravel, large gravel, rocks, boulders, concrete, aquatic vegetation including algae).</p> <p>At least rough quantification of temperature variations and variations in availability of dissolved oxygen that might affect stream life.</p>
Landscape-Level Aquatic Habitat Connectivity	<p>Are there major alterations or discontinuities to the natural stream continuum from the small, high gradient headwaters to the bottom of the watershed?</p> <p>What is the cumulative effect of local fragmentation or impacts to the stream continuum?</p> <p>If the water body is a tributary, how do these conditions affect habitat potential in the main stem?</p> <p>What could be done to increase aquatic</p>	<p>Where does the water body have hardened banks?</p> <p>Where does the water body have a hardened bottom? If hardened, has this bottom been re-covered by other substrate?</p> <p>Where does the water body flow through a closed culvert?</p> <p>What are the lengths and slopes of the segments described above?</p> <p>Where does the water body have vertical barriers such as dams, drops, and weirs, that might block fish migration?</p> <p>If the water body is a main stem, what length of tributaries are affected by the barriers above?</p>

	habitat connectivity in such a way as to favorably impact beneficial uses of the water body?	
Aquatic Vertebrate Community	<p>What existing species or guilds of related species are supported in the water body?</p> <p>What potential species or guilds of related species might be supported?</p>	<p>What fish, amphibian, or mammal species use this water body for feeding or habitat? (This is intended to include, for example, muskrat but not deer; ducks but not Swainsons thrush.)[[I disagree about including birds and terrestrial reptiles—their needs are more appropriately covered in riparian habitat]]</p> <p>What could be done to improve habitat for any of these species? for any special-status species? [[Clarify that the stormwater program assessment can identify major issues and information needs but development of full recovery plans for T&E species is outside the scope of NPDES permits]]</p> <p>What could be done to improve habitat for species not now found in the water body, but likely to have used it when it was in pristine condition, or likely to use it if it were reasonably improved?</p> <p>Are there reasons that such improvements might not be desirable? (What is good for Pacific chorus frogs, for example, may not be good for salmon.)</p>
Aquatic Invertebrate Community	<p>What existing species or guilds of related species are supported in the water body?</p> <p>What potential species or guilds of related species might be supported?</p>	<p>How do individual stream reaches score using a multi-metric Index of Biological Integrity for the Bay Area?</p> <p>How do these scores compare with the expected benchmarks for stream reaches of comparable size, position in the watershed and degree of watershed urbanization?</p> <p>Do individual metric scores or species presence/absence suggest particular stressors that may be affecting the community composition?</p>
Human Health Risks	<p>Do pathogens or pollutants pose serious risks for humans in the watershed through direct contact exposure?</p> <p>Do pollutants or pathogens from watershed sources pose risks to drinking water supplies?</p> <p>What are the magnitudes of these risks, their patterns of spatial and temporal occurrence?</p> <p>Do pollutants pose risks for humans through consumption of aquatic organisms?</p> <p>Which human populations or groups are most at risk?</p> <p>What could be done to reduce these risks?</p>	<p>Are there observations or quantitative measurements indicating sewage leaks or discharging to the environment?</p> <p>Do mosquitoes, rats, or other vectors occur in association with specific water bodies or drainage facilities? [[If mosquitoes are due to a few residents keeping spare tires in their yards, that is a public health issue but not a water body condition issue]]</p>

Notes: Column 3 should not be exhaustive, because full treatment in existing watershed manuals can run to >100 pages. If this table is instead meant to be illustrative, it should consider:

- Who is the intended audience at this stage of the process?
- What is a good information-to-size ratio for this audience (i.e. what is likely to be read and absorbed)
- What modifications and/or alternative presentations for this material would be appropriate for (a) final MRP permit language, (b) attachments or appendices to permit, and (c) documents to be incorporated by reference.

Appendix A List of Water Bodies

[This is from the list of water bodies in Basin Plan]

Hydraulic Unit /

COUNTY	WATER BODY	Water body Type
SAN MATEO COASTAL BASIN		
SAN MATEO COUNTY		
	Pacific Ocean (San Mateo, San Francisco)	Ocean
	Lake Merced	Lake
	Calera Creek (San Mateo)	Intermittent Stream
	San Pedro Creek	Perennial Stream
	San Vicente Creek	Perennial Stream
	Denniston Creek	Perennial Stream
	Arroyo de en Medio	Perennial Stream
	Frenchmans Creek	Perennial Stream
	Pilarcitos Creek	Perennial Stream
	Apanolio Creek	Perennial Stream
	Arroyo Leon Creek	Perennial Stream
	Mills Creek	Perennial Stream
	Pilarcitos Lake	Reservoir
	Purissima Creek	Perennial Stream
	Lobitas Creek	Perennial Stream
	Tunitas Creek	Perennial Stream
	San Gregorio Creek	Perennial Stream
	Clear Creek	Intermittent Stream
	El Corte de Madera Creek	Perennial Stream
	Woodruff Creek	Intermittent Stream
	Bogess Creek	Intermittent Stream
	Harrington Creek	Perennial Stream
	Alpine Creek	Perennial Stream
	Mindego Creek	Perennial Stream
	La Honda Creek	Perennial Stream
	Woodhams Creek	Perennial Stream
	Pomponio Creek	Intermittent Stream
	Pomponio Reservoir	Reservoir
	Butano Creek	Perennial Stream
	Little Butano Creek	Perennial Stream
	Pescadero Marsh	Coastal Lagoon
	Pescadero Creek	Perennial Stream
	Honsinger Creek	Intermittent Stream
	McCormick Creek	Intermittent Stream
	Hoffman Creek	Intermittent Stream
	Jones Gulch Creek	Perennial Stream
	Tarwater Creek	Perennial Stream
	Peters Creek	Perennial Stream
	Lambert Creek	Perennial Stream
	Fall Creek	Intermittent Stream
	Slate Creek	Perennial Stream

	Oil Creek	Perennial Stream
	Little Boulder Creek	Perennial Stream
	Waterman Creek	Perennial Stream
CENTRAL BASIN		
ALAMEDA		
COUNTY		
	Berkeley Aquatic Park Lagoon	Estuarine Lagoon
	Lake Temescal	Reservoir
	Temescal Creek	Intermittent Stream
	Claremont Creek	Intermittent Stream
	Strawberry Creek	Intermittent Stream
	Codornices Creek	Intermittent Stream
CONTRA COSTA COUNTY		
	Cerrito Creek	Intermittent Stream
	Baxter Creek	Intermittent Stream
	Old Mill Creek	
SOUTH BAY BASIN		
SAN MATEO COUNTY		
	Brisbane Lagoon	Estuarine Lagoon
	Guadalupe Canyon Creek	Perennial Stream
	Colma Creek	Perennial Stream
	San Bruno Creek	Intermittent Stream
	Unnamed Creek in San Bruno City Park	Perennial Stream
	Mills Creek	Perennial Stream
	Easton Creek	Perennial Stream
	Burlingame Lagoon	Estuarine Lagoon
	Anza Lagoon	Estuarine Lagoon
	Sanchez Creek	Perennial Stream
	Cherry Canyon Creek	Perennial Stream
	San Mateo Creek	Perennial Stream
	Polhemus Creek	Intermittent Stream
	Lower Crystal Springs Reservoir-	Reservoir
	Upper Crystal Springs Reservoir	Reservoir
	San Andreas Lake	Reservoir
	Marina Lagoon (Seal Slough)	Estuarine Lagoon
	O'Neill Slough	Estuarine Lagoon
	Borel Creek	Intermittent Stream
	Laurel Creek (San Mateo)	Perennial Stream
	Foster City Lagoon	Estuarine Lagoon
	Belmont Slough	Tidal Slough
	Belmont Creek	Perennial Stream
	Belmont Channel	Estuarine Lagoon
	Bay Slough (San Mateo)	Tidal Slough
	Steinberger Slough	Tidal Slough
	Phelps Slough	Tidal Slough
	Corkscrew Slough	Tidal Slough
	Smith Slough (San Mateo)	Tidal Slough
	Pulgas Creek	Perennial Stream
	Cordilleras Creek	Perennial Stream
	Deepwater Slough	Tidal Slough
	Bair Island Wetlands	Salt Marsh Wetlands

Redwood Creek - tidal (San Mateo)	Tidal Slough
Redwood Creek (San Mateo)	Perennial Stream
Arroyo Ojo de Agua	Perennial Stream
Westpoint Slough	Tidal Slough
First Slough (San Mateo)	Tidal Slough
Flood Slough (San Mateo)	Tidal Slough
Atherton Creek	Intermittent Stream
Ravenswood Slough	Tidal Slough

ALAMEDA COUNTY*

Oakland Inner Harbor	Estuary
Merritt Channel	Estuary
Lake Merritt	Lake
Glen Echo Creek	Intermittent Stream
Sausal Creek (Alameda)	Perennial Stream
Peralta Creek	Intermittent Stream
San Leandro Bay	Estuary
Lion Creek	Perennial Stream
Arroyo Viejo	Perennial Stream
Lower San Leandro Creek	
Cull Canyon Reservoir	
San Leandro Creek	Perennial Stream
Lake Chabot (Alameda)	Reservoir
Grass Valley Creek	Perennial Stream
Upper San Leandro Reservoir	Reservoir
Kaiser Creek	Perennial Stream
Buckhorn Creek	Perennial Stream
Redwood Creek (Alameda)	Perennial Stream
Moraga Creek	Perennial Stream
Indian Creek (Contra Costa)	Perennial Stream
San Lorenzo Creek	Perennial Stream
Don Castro Reservoir	Reservoir
Castro Valley Creek	Intermittent Stream
Cull Creek	Perennial Stream
Cull Canyon Reservoir	Reservoir
Crow Creek	Perennial Stream
Norris Creek	Perennial Stream
Bolinis Creek	Perennial Stream
Palomares Creek	Perennial Stream
Eden Canyon Creek	Perennial Stream
Hollis Canyon Creek	Intermittent Stream
Sulphur Creek (Alameda)	Intermittent Stream
Mount Eden Creek	Tidal Slough
North Creek	Tidal Slough
Old Alameda Creek	Tidal Slough
Ward Creek	Perennial Stream
Zeile Creek	Perennial Stream
Coyote Hills Slough	Tidal Slough
Alameda Flood Control Channel	Perennial Stream
Crandall Creek	Intermittent Stream
Dry Creek (Alameda)	Intermittent Stream

Alameda Creek Quarry Ponds	Reservoir
Alameda Creek	Perennial Stream
Stonybrook Creek	Perennial Stream
Sinbad Creek	Perennial Stream
San Antonio Reservoir	Reservoir
Indian Creek (Alameda)	Perennial Stream
San Antonio Creek (Alameda)	Perennial Stream
Lacosta Creek	Perennial Stream
Williams Gulch Creek	Perennial Stream
Arroyo de la Laguna	Perennial Stream
Vallecitos Creek	Intermittent Stream
Happy Valley Creek	Perennial Stream
Sycamore Creek	Intermittent Stream
Arroyo del Valle	Perennial Stream
Shadow Cliffs Reservoir	Reservoir
Lake Del Valle-	Reservoir
Colorado Creek (Santa Clara)	Perennial Stream
San Antonio Creek (Santa Clara)	Intermittent Stream
Arroyo Bayo (Santa Clara)	Intermittent Stream
Beauregard Creek	Intermittent Stream
Arroyo Mocho	Perennial Stream
Tassajara Creek	Perennial Stream
Arroyo de las Positas	Perennial Stream
Cottonwood Creek	Intermittent Stream
Collier Canyon Creek	Intermittent Stream
Cayetano Creek	Intermittent Stream
Altamont Creek	Perennial Stream
Arroyo Seco (Alameda)	Intermittent Stream
Alamo Canal	Intermittent Stream
Alamo Creek	Intermittent Stream
South San Ramon Creek	Intermittent Stream
Dublin Creek	Intermittent Stream
Martin Canyon Creek	Intermittent Stream
Smith Creek	Intermittent Stream

SANTA CLARA COUNTY

Calaveras Reservoir	Reservoir
Calaveras Creek	Intermittent Stream
Arroyo Hondo	Perennial Stream
Isabel Creek	Perennial Stream
Smith Creek	Perennial Stream
Sulphur Creek (Santa Clara)	Intermittent Stream

SANTA CLARA BASIN

San Francisco Bay South	Estuary
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ALAMEDA COUNTY

Newark Slough	Tidal Slough
Plummer Creek	Tidal Slough
Mowry Slough	Tidal Slough
Albrae Slough	Tidal Slough
Coyote Creek (tidal), Calaveras Point to Mud Slough	Estuary

Mud Slough
Laguna Creek
Lake Elizabeth-
Mission Creek
Sabrecat Creek
Canada del Aliso Creek
Agua Caliente Creek (Alameda)

Tidal Slough
Perennial Stream
Reservoir
Perennial Stream
Perennial Stream
Perennial Stream
Perennial Stream

SAN MATEO AND SANTA CLARA COUNTIES

San Francisquito Creek
Lake Lagunita
Felt Lake
Los Trancos Creek
Bear Creek (San Mateo)
Bear Gulch Creek (San Mateo)
West Union Creek
Searsville Lake
Sausal Creek (San Mateo)
Corte Madera Creek (San Mateo)
Alambique Creek
Martin Creek

***** DONE
Perennial Stream
Reservoir
Reservoir
Perennial Stream
Perennial Stream
Perennial Stream
Perennial Stream
Reservoir
Perennial Stream
Perennial Stream
Intermittent Stream
Intermittent Stream

SANTA CLARA COUNTY

Palo Alto Harbor
Mayfield Slough
Matadero Creek
Deer Creek (Santa Clara)
Charleston Slough
Barron Creek
Adobe Creek (Santa Clara)
Mountain View Slough
Permanente Creek
Hale Creek
Stevens Creek
Stevens Creek Reservoir
Swiss Creek
Guadalupe Slough
Moffett Channel
Calabazas Creek
Saratoga Creek
Bonjetti Creek
McElroy Creek
San Tomas Aquino Creek
Alviso Slough
Guadalupe River
Los Gatos Creek
Vasona Reservoir
Lexington Reservoir
Lake Elsmar
Austrian Gulch Creek
~~Los Gatos Creek~~
Ross Creek

Tidal Slough
Tidal Slough
Perennial Stream
Perennial Stream
Tidal Slough
Intermittent Stream
Perennial Stream
Tidal Slough
Perennial Stream
Intermittent Stream
Perennial Stream
Reservoir
Intermittent Stream
Tidal Slough
Tidal Slough
Perennial Stream
Perennial Stream
Perennial Stream
Perennial Stream
Perennial Stream
Tidal Slough
Perennial Stream
Perennial Stream
Reservoir
Reservoir
Reservoir
Perennial Stream
Intermittent Stream

Canoas Creek	Intermittent Stream
Campbell Percolation Pond	Reservoir
Los Capitancillos Percolation Ponds	Reservoir
Guadalupe Percolation Ponds	Reservoir
Guadalupe Creek	Perennial Stream
Pheasant Creek	Intermittent Stream
Guadalupe Reservoir	Reservoir
Rincon Creek	Perennial Stream
Los Capitancillos Creek	Intermittent Stream
Alamitos Creek	Perennial Stream
Lake Almaden	Reservoir
Arroyo Calero	Perennial Stream
Calero Reservoir	Reservoir
Almaden Reservoir	Reservoir
Jaques Gulch Creek	Intermittent Stream
Herbert Creek	Perennial Stream
Anderson Lake	
Barrett Canyon Creek	Perennial Stream
Herbert Creek	
Coyote Creek (tidal), Mud Slough to Standish Dam	Tidal Slough
Artesian Slough	Tidal Slough
Coyote Slough	Tidal Slough
Coyote Creek	Perennial Stream
Elizabeth Lake	
Agua Fria Creek*	Perennial Stream
Toroges Creek*	Perennial Stream
Scott Creek*	Perennial Stream
Lower Penitencia Creek	Perennial Stream
Berryessa Creek	Perennial Stream
Calera Creek (Santa Clara)	Perennial Stream
Arroyo de las Coches	Perennial Stream
Upper Penitencia Creek	Perennial Stream
Cherry Flat Reservoir	Reservoir
Arroyo Aguague	Perennial Stream
Halls Valley Reservoir	Reservoir
Lower Silver Creek	Perennial Stream
Thompson Creek	Intermittent Stream
Silver Creek	Perennial Stream
Fisher Creek	Intermittent Stream
Fremont Lagoon	
Sandy Wool Lake	
Cottonwood Lake	
Anderson Lake	Reservoir
San Felipe Creek	Perennial Stream
Las Animas Creek	Intermittent Stream
Packwood Creek	Perennial Stream
Hoover Creek	Perennial Stream
Otis Canyon Creek	Intermittent Stream
Guadalupe Reservoir	
Coyote Lake	Reservoir

	Canada de Los Osos Creek	Perennial Stream
	Soda Springs Canyon Creek	Perennial Stream
	Grizzly Creek	Intermittent Stream
SAN PABLO BASIN		
	San Pablo Bay	Estuary
CONTRA COSTA COUNTY		
	Rodeo Creek	Intermittent Stream
	Refugio Creek	Intermittent Stream
	Pinole Creek	Perennial Stream
	Garrity Creek	Intermittent Stream
	Rheem Creek	Intermittent Stream
	San Pablo Creek	Perennial Stream
	San Pablo Reservoir	Reservoir
	San Pablo Creek	
	Lauterwasser Creek	
	Briones Reservoir	Reservoir
	Bear Creek (Contra Costa)	Intermittent Stream
	Wildcat Creek	Intermittent Stream
	Jewel Lake	Reservoir
	Lake Anza	Reservoir
SUISUN BASIN		
	Carquinez Strait	Estuary
	Suisun Bay	Estuary
	Sacramento-San Joaquin Delta	Estuary and Perennial Stream
CONTRA COSTA COUNTY		
	Alhambra Creek	Perennial Stream
	Franklin Creek	Intermittent Stream
	Arroyo del Hambre	Intermittent Stream
	Peyton Slough	Tidal Slough
	Pacheco Pond	
	Pacheco Creek	Intermittent Stream
	Walnut Creek	Perennial Stream
	Grayson Creek	Intermittent Stream
	Pine Creek	Perennial Stream
	Galindo Creek	Intermittent Stream
	San Ramon Creek	Perennial Stream
	Tice Creek	Intermittent Stream
	Bollinger Creek	Intermittent Stream
	Las Trampas Creek	Perennial Stream
	Lafayette Creek	Intermittent Stream
	Lafayette Reservoir	Reservoir
	Hastings Slough	Tidal Slough
	Mt. Diablo Creek	Intermittent Stream
	Mitchell Creek	Intermittent Stream
	Donner Creek	Intermittent Stream
	Mallard Reservoir	Reservoir
	McAvoy Boat Harbor	Tidal Slough
	Mallard Slough	Tidal Slough
	Dowest Slough	Tidal Slough
	Kirker Creek	Intermittent Stream

New York Slough

Estuary

* Portions of Coyote Creek watershed are in Alameda County
Black Text - 1995 Basin Plan

9. Diazinon and Pesticide-Related Toxicity

*Actions specifically required in Diazinon and Pesticide-Related Toxicity Basin Plan Amendment.

BMP	Level of Implementation	Reporting Requirement
<p>* Adopt IPM policy or ordinance Include provisions to minimize reliance on pesticides that threaten water quality and require use of IPM in municipal operations and on municipal property</p>	<p>Adopt policy or ordinance no later than 18 months after adoption of permit—One-time action</p>	<p>What: Water Board wants to know that permittees have an ordinance or policy that includes provisions to minimize reliance on pesticides that threaten water quality and require use of IPM in municipal operations and on municipal property</p> <p>How: Send copy of ordinance or policy to Water Board</p> <p>Send updated ordinance or policy as appropriate</p> <p>Note adoption of ordinance or policy in future reports</p>
<p>*Implement IPM policy or ordinance Establish procedures to ensure implementation of IPM policy</p> <p>Use IPM practices/procedures</p> <p>Require that municipal employees rigorously adhere to integrated pest management practices</p>	<p>Establish written Standard Operating Procedures or equivalent for pesticide use that incorporate IPM</p> <p>Municipal employees rigorously adhere to IPM practices in daily operations</p>	<p>Report on agency use of diazinon replacements, including pesticides of concern for water quality (refer to table of pesticides of concern) as well as IPM practices used (including but not limited to monitoring, baiting, exclusion, and sanitation)</p> <p>Provide justification for any increase in use of pesticides of concern for water quality</p> <p>Provide copies of SOPs or equivalent to Water Board upon request</p>
<p>Training in IPM for staff *Train municipal employees to use integrated pest management techniques</p> <p>Train municipal employees both in agency's policy and in</p>	<p>Train municipal employees who apply pesticides (including over-the-counter pesticides) in IPM practices and the agency's IPM policy upon hiring and biannually thereafter</p>	<p>Report percentage of municipal employees who apply pesticides who have been trained in IPM</p> <p>Report training topics</p>

BMP	Level of Implementation	Reporting Requirement
specific IPM practices		Report type of training
Contract mechanisms to ensure IPM use *Require contractors to practice IPM	Hiring an EcoWise Certified provider would be one way to meet this requirement All contracts let or modified no later than 18 months after adoption of permit must include specifications requiring that contractors practice IPM Placeholder: Water Board and permittees need to consider options to ensure contract specifications are meaningful. What standards should municipalities use for specs? Should contract specs reference UC-Davis IPM definition? Follow up to ensure IPM use	Provide procurement documentation Report on contracts not amended/modified and why
Outreach		
Outreach		
Outreach at Point of Purchase Provide targeted information on proper pesticide use and disposal, potential adverse impacts on water quality, and less toxic methods of pest prevention and control	Participation in Our Water—Our World program or equivalent	Report activities completed, # of outreach materials distributed, # of attendees Document raised levels of awareness Report percentage of behavior change
Outreach to Residents Who Use or Contract for Structural and Landscape Pest Control 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	Incorporate IPM messages into general outreach Provide information to residents about Our Water—Our World Provide information to residents about EcoWise or equivalent certification program Coordinate with HHW programs to: *Facilitate appropriate pesticide waste disposal. *Conduct education and outreach to promote appropriate disposal.	Evaluate effectiveness by year 4 of the permit Option: Document increased percentages of residents hiring certified IPM providers.
Outreach to Pest Control Operators and		

BMP	Level of Implementation	Reporting Requirement
<p>Landscapers Work with DPR, County Ag. Commissioners, UC-IPM, BASMAA, the Urban Pesticide Committee, the EcoWise Certified Program, the Bio-integral Resource Center and others to promote IPM to PCOs and landscapers</p>	<p>Support and participate in Urban Pesticide Committee or equivalent</p>	<p>Document percentages of PCOs and landscapers reached and reductions in reported pesticide use</p>
<p>Outreach for New Development *Encourage public and private landscape irrigation management that minimizes pesticide runoff to storm drains.</p>	<p>Incorporate mechanisms into new and redevelopment permits to require irrigation management that minimizes pesticide runoff to storm drains. Provide information to developers</p>	<p>Evaluate effectiveness by Year 4 of permit</p>
<p>Monitor for pesticide-related toxicity *Monitor diazinon and other pesticides discharged in urban runoff that pose potential water quality threats to urban creeks; monitor toxicity in both water and sediment; and implement alternative monitoring mechanisms, if appropriate, to indirectly evaluate water quality . *Conduct or contribute to studies to address critical data needs</p>	<p>*Conduct a monitoring program (individually, jointly or through a regional effort) that answers the following questions: -Is the diazinon concentration target being met? -Are the toxicity targets being met? -Is toxicity observed in urban creeks caused by a pesticide? -How does observed pesticide-related toxicity in urban creeks (or pesticide concentrations contributing to such toxicity) vary in time and magnitude across urban creek watersheds, and what types of pest control practices contribute to such toxicity? -Are actions already being taken to reduce pesticide discharges sufficient to meet the targets, and if not, what should be done differently? *Design shall involve characterizing watershed, selecting representative creeks, identifying sample locations, developing sampling plans, and selecting appropriate analytical tests. Use Clean Estuary Partnership Monitoring Plan or equivalent All data collection shall be conducted in accordance with an approved QAPP *Chemical and toxicity tests shall be conducted, including at a minimum: -Water column toxicity -Sediment toxicity -Diazinon concentrations in water (until the diazinon concentration target is met consistently) -Concentrations of other pesticides that pose either</p>	<p>Provide data when necessary for regulatory decisions, or at least annually (may be done jointly with other cities) Submit data in SWAMP format</p>

BMP	Level of Implementation	Reporting Requirement
	potential water quality or sediment quality threats, as feasible	
Monitoring cont.	<p>Additional types of monitoring tools may be used to support and optimize conventional water and sediment monitoring. For example, monitoring in storm drain systems or near application sites may be useful in selecting creek sampling strategies because pesticide concentrations are easier to detect nearer to the pesticide application site. Efforts to monitor parameters that can serve as surrogates or indicators of pesticide-related water quality conditions may moderate the need for more comprehensive water quality monitoring. While some toxicity and pollutant monitoring will always be necessary, extensive monitoring will be less important if other information is collected that can be used to evaluate the potential for toxicity or specific pollutants to occur in water. Alternative monitoring information can also help focus water quality monitoring efforts and mitigation actions. Such monitoring could include reviewing pesticide sales and use data for the Region, pesticide fate and transport data, and public attitudes regarding pesticides and water quality. If undertaken, such monitoring may seek to answer the following questions:</p> <ul style="list-style-type: none"> -What pesticides pose the greatest water quality risks? -How is the use of such pesticides changing? - Are existing actions effective in reducing pesticide discharges that threaten water quality? <p>What approach is best for monitoring toxicity and pesticides in urban creek water and sediment?</p>	
<p>Track and participate in relevant regulatory processes *Track U.S. Environmental Protection Agency pesticide evaluation and registration activities as they relate to surface water quality and, when necessary, encourage</p>	<p>Track and participate in regulatory decisions (may be done jointly with other permittees, such as through CASQA & BASMAA)</p> <p>As appropriate, prepare and submit comment letters on</p>	<p>List participation efforts</p> <p>Provide data when necessary for regulatory decisions, or at least annually (may be done jointly with other cities)</p>

BMP	Level of Implementation	Reporting Requirement
<p>the U.S. Environmental Protection Agency to coordinate implementation of the Federal Insecticide, Fungicide, and Rodenticide Act and the Federal Clean Water Act and to accommodate water quality concerns within its pesticide registration process</p> <p>* Assemble and submit information (such as monitoring data) as needed to assist the California Department of Pesticide Regulation in ensuring that Bay Area pesticide applications comply with water quality standards</p>	<p>U.S. EPA re-registration and other actions relating to pesticides of concern for water quality</p> <p>As needed, work with DPR on re-evaluations and other actions, including comment letters as appropriate</p>	
<p>Work with County Agricultural Commissioners Work with County Ag. Commissioners to ensure they actively enforce pesticide laws for over-the-counter products</p>	<p>Inform County Ag. Commissioner of water quality issues relating to pesticides</p>	<p>*Report violations of pesticide regulations (e.g., illegal uses)</p> <p>Summarize follow-up actions</p>
<p>Evaluate implementation of source control actions relating to pesticides *Study the effectiveness of the control measures implemented, evaluate attainment of the targets, identify effective actions to be taken in the future</p>	<p>By Year 4, evaluate efforts of all program actions relating to diazinon and pesticide-related toxicity</p>	<p>Review mechanisms annually and conduct evaluation once during permit cycle</p> <p>Report summary of evaluation results</p>

10. Pollutant of Concern Provisions for TRASH

Control Measures for Trash. To remedy and/or prevent impairment or threat of impairment by trash, permittees shall work with the other municipal stormwater management agencies in the Bay Area to implement a plan (Trash Plan) to identify, assess, and significantly reduce trash found in urban runoff through municipal management measures. There are two components to the Plan – a component targeting trash in urban tributaries and a component targeting trash entering the Bay from urban storm drains. The Trash Plan shall include actions to:

a. For trash in urban tributaries

- i. Conduct two wet weather and two dry weather baseline trash assessments using the Rapid Trash Assessment Method (RTA, version 8) in the lower reaches or upstream portion of the tidal reach of all major (need to define, also for Monitoring Provision) tributaries flowing through urbanized watersheds (may just need to sit down and map these!). Each assessment should be spaced at least one month apart. For site selection, place emphasis on those stream sites that may be impacted by trash in stormwater runoff from industrial and commercial land use areas, or from intensive public access (parks, schools, homeless encampments, commercial facilities, arterial roadways) near creek channels.
- ii. Compute all trash assessment parameters for the surveyed sites, and submit report with the results of the trash baseline characterization in urban areas throughout the Bay in the year 2 annual report, and each year following.
- iii. Implement necessary control measures to ensure that the following performance standards are achieved by year 4, with noted progress by year 3 annual report:
 - I. The dry season trash accumulation rate is less than or equal 1 piece per 100 foot per day. Most sites surveyed during Water Board evaluation (SFBRWQCB 2005) of the RTA had dry season accumulation rates below this level. Sites which had rates above this level showed evidence of localized littering that shall be addressed.
 - II. The wet season trash accumulation rate is reduced by 50% for those sites with wet season trash accumulation rates greater than 2 pieces per 100 foot per day. This is the mean accumulation rate of the data collected across all sites and season in the regional data collection (SFBRWQCB 2005).
 - III. The number of items found is reduced by 50% (applies to those sites where baseline assessments found 300 or more items. This is the average, across all sites and seasons of trash collected per 100 foot reach of stream in the regional data collection (SFBRWQCB 2005).
- iv. Conduct wet weather and dry weather follow-up assessments using the Rapid Trash Assessment Method (version 8) for all sites for which baseline assessments were conducted.

Submit report containing the results of the follow-up tributary trash monitoring every year, beginning in the year 3 report. For those sites not meeting the performance standard, submit a plan of action to achieve the performance standard to be implemented in the next permit term.

b. For trash conveyed in urban storm drains to the Bay

- i. Conduct baseline assessments using the following methodology taken from the Los Angeles River Trash TMDL.
 - I. Conduct wet Season (November-June) baseline trash assessments in all urban storm drains to the Bay. Data will be collected over a period of at least two years.
 - II. Report data in a single unit of measure that is reproducible and measures the amount of trash, irrespective of water content (e.g., compacted volume based on a standardized compaction rate, dry weight, etc.). The permittees may select the unit, but all permittees must use the same unit of measure.
 - III. During wet weather, all sampling devices will be emptied within 72 hours of every precipitation event of 0.25 inch. During dry weather, sampling devices will be emptied and analyzed every three months in the absence of precipitation. The permittees may exclude vegetation from their reported discharge. However, all monitoring data must be reported uniformly (either with or without vegetation).
- ii. Submit a report during year 4 that evaluates compliance with the tributary trash performance standards and reports the results of the urban storm drain assessment. Evaluate what performance standards are attainable in each type of system under particular circumstances of watershed characteristics or other factors. Evaluate options for performance standards or effluent limits during subsequent permit terms.

11. Pollutant of Concern Provisions for Mercury

In accordance with Provision C.x and Findings xx and xx of this Order, the Permittees shall implement control programs for pollutants that have the reasonable potential to cause or contribute to exceedances of water quality standards or Basin Plan objectives. The control program for mercury is detailed in the following table. Permittees shall perform the control measures and accomplish the reporting on those control measures according to the instructions and schedule in the following table.

For All Actions not requiring full implementation throughout region

All permittees have a responsibility to ensure that actions involving special pilot or desktop studies are accomplished in such a manner that results have regional applicability. Refer to the language elsewhere in the permit regarding ways to share responsibility (individual municipality, regional grouping of municipalities, or by county).

Category of Control Measure	Level of Implementation	Control Measure Tasks	Reporting Requirements and Schedule
1. Pollution Prevention/Source Control/Erosion Control			
1.1 Collection and Recycling of Mercury containing materials (thermostats/switches/bulbs)	Full Implementation throughout region	1. Evaluate implementation challenges and lessons learned regarding collection and recycling mandated through UWR by surveying affected businesses and buildings. Develop recommendations for ways in which program can facilitate proper collection and disposal conducted through such efforts. Focus attention on medium and large businesses and municipal facilities. Lowest priority is residential component.	Submit report on the evaluation and recommendations in Year 1 report .
	Full Implementation throughout region	2. Implement recommendations developed through step 1 report.	
1.2.1 Evaluate managing Hg-containing materials and wastes during construction, including building demolition and improvement (e.g., light bulbs, switches, etc.) activities. The goal is to determine whether municipalities should implement this type of program.	Report (prefer one regional effort)	1. Evaluate potential presence of POCs (including Hg and PCBs) at construction sites, current material handling and disposal regulations/programs (e.g., municipal ordinances, RCRA, TSCA) and current level of implementation.	Submit results of evaluation of current regulations, level of implementation, and regulatory gaps in Year 1 report .
	Report (prefer one regional effort)	2. Develop sampling and analysis plan to evaluate POCs at construction sites (includes research on when, where and which construction materials potentially contained PCBs and Hg).	Submit sampling and analysis plan in Year 2 report .
	Pilot Sampling Plan (prefer one regional effort).	3. Implement sampling and analysis program.	Submit with Year 4 report the results and recommendations for next steps. Evaluate results of the sampling and analysis to determine the need for a pilot program to manage Hg-containing material and wastes during building demolition and improvement.
1.2.2 Construction site erosion control. The goal is to ensure that current construction site stormwater pollution programs minimize or prevent discharges of sediment and potentially associated particle-bound POCs.	Full Implementation throughout region	1. Confirm that existing construction site erosion control programs are fully implemented. Evaluate the level of success/effectiveness of current program. Provide rationale for whether program should be maintained at current level, expanded, improved in specific ways, scaled back or discontinued.	Submit report containing this evaluation and recommendations in Year 1 report .
2. Drainage-focused investigation and abatement			

2.1 Investigate and abate on-land drainages with elevated Hg concentrations	Pilot Studies in multiple locations	1. Conduct desktop/GIS study in which the data layers are: geologic formations and known mercury mines, potential air sources, past and current landuse, measured concentrations, location of metal cleaners and small recyclers. Suggested concentration screen is 2 ppm (normalized to % fines).	Report detailing selection of small number of pilot study areas based on desktop analysis. Report should also identify sampling sites within the case study regions (complete by end of Year 1).
		2. For selected pilots locations, groundtruth the results from step 1 by conducting an Ettie-like recon in the drainage. Look in storm drains and conveyances. Test sediments in storm drains and conveyances to characterize the extent and magnitude of concentrations. Answer whether or not results of the sampling and analysis indicate that an abatement program is needed?	A report on the spatial extent, concentrations, storm drain characteristics for the pilot sites. This report can also start to sketch out recommendations for which sites require further characterization work or abatement
		3. Identify funding and responsible parties (same as PCBs)	Report on proposed remedial activities, funding, and agency oversight
		4. Conduct Abatement program	Report results of pilot program effectiveness and lessons learned by end of Year 4. based on level of success of the case studies, maintain, expand, or scale back the number of studies or discontinue
3. Soil/Sediment Control			
3.1 Increased routine sediment management practices - Evaluation and enhancement.	Report (can be regional product)	1. Prepare report to explore ways to obtain better pollutant removal and other benefits through enhancing existing routine maintenance (inlet cleaning, catch basin/pump station cleaning, street sweeping). Enhancing includes increased efforts, retrofits, or	Submit Report at end of Year 2.
	Pilot Studies in multiple locations	2. Implement specific measures from submitted report and begin implementation in Year 3.	Report effectiveness of enhanced practices in Year 4 Report.
4. Stormwater Treatment			
4.1 Stormwater runoff treatment retrofits for fine sediment control	Report (prefer one regional effort)	1. Identify locations that present opportunities to install treatment systems (i.e. detention basins, sand filters, infiltration basins, wetlands) along with an assessment of the best option for those locations. This assessment should identify potential sites draining a variety of landuse types throughout all program areas and discuss feasibility/economic issues.	Report on candidate sites and proposed treatment type for those sites. Report should include assessment of at least 15 sites spanning program areas. Complete by Year 1 - all programs
	Pilot Studies in multiple locations	2. Based on first stage report, select sites to perform pilot studies . Conduct pilot studies in selected locations. Pilots should be conducted such that they span treatment types and drainage characteristics.	Report status/results/lessons learned from pilot studies in Year 4 report.
4.2 Stormwater treatment by POTWs	Report (can be regional product)	1. Prepare list of existing pump stations in the region and evaluate what they drain and the feasibility of routing to POTWs. The purpose is to identify candidate opportunities. Also work with BACWA to work out program structure, including cost sharing agreements. Must work with BACWA on developing this information. Evaluate drainage areas, flow volume, contaminant removal benefit and timing of routing issues.	Submit report on the list of pump stations, their drainages and feasibility considerations for routing to POTW for each pump station. Submit in Year 1 .

		During first permit term, the programs should be able to demonstrate a 25% load reduction or achievement of a load avoided goal totaling 20 kg/year (this is 25% of the load avoided necessary to reach the load allocation).	
7.2 Methyl Mercury Monitoring	Pilot Study in Multiple Locations	1. Conduct monthly methylmercury monitoring at 5 lower watershed sites in several (5) drainages for 1 year. The objective of the monitoring is to investigate a representative set of drainages and obtain seasonal information and to assess the magnitude and spatial/temporal patterns of methylmercury concentrations. Total mercury must be measured at the same time.	Report on site selection rationale and monitoring results in Year 2 report .

12. Pollutant of Concern Provisions for PCBs

In accordance with Provision C.x and Findings xx and xx of this Order, the Permittees shall implement control programs for pollutants that have the reasonable potential to cause or contribute to exceedances of water quality standards or Basin Plan objectives. The control program for PCBs is detailed in the following table. Permittees shall perform the control measures and accomplish the reporting on those control measures according to the instructions and schedule in the following table.

For All Actions not requiring full implementation throughout region

All permittees have a responsibility to ensure that actions involving special pilot or desktop studies are accomplished in such a manner that results have regional applicability. Refer to the language elsewhere in the permit regarding ways to share responsibility (individual municipality, regional grouping of municipalities, or by county)

Description of Action and Objectives	Level of Implementation	Control Measure Tasks	Reporting Requirements and Schedule
1. Pollution Prevention / Source Control			
1.1 Removal of PCBs and PCB-containing equipment:			
1.1.1 Evaluate existing PCBs and PCB-equipment removal programs. The goal is to determine whether municipalities should supplement existing programs.	Develop a regional pilot project.	1. Research and evaluate current regulations and programs (e.g., DTSC, TSCA, RCRA) and level of implementation.	Submit report evaluating current regulations/programs and levels of implementation, identifying shortfalls, and providing recommendations for next steps in Year 1 report.
1.1.2 Incorporate PCBs and PCBs-equipment identification/removal into existing stormwater program facility inspections. The goal is to remove PCBs or remove PCB-equipment and properly dispose/recycle.	Implement a pilot project.	1. Compile and adapt existing information on types of equipment and facilities that may contain PCBs. Evaluate whether most or all such facilities are included in existing stormwater program inspections.	Develop outreach materials, training materials and inspection checklist in Year 2 report.
		2. Pilot scale training of facility inspectors to identify potential PCBs and PCB-equipment.	
		3. Implement pilot PCBs and PCB-equipment identification/removal programs.	Submit report on effectiveness of pilot program effectiveness in Year 4 report.
1.2 Management of construction activities:			

Description of Action and Objectives	Level of Implementation	Control Measure Tasks	Reporting Requirements and Schedule
<p>1.2.1 Evaluate managing PCB-containing materials and wastes during building demolition/remodeling (e.g., window replacement) activities. The goal is to determine whether municipalities should implement this type of program.</p>	<p>Develop and implement a regional pilot project.</p>	<p>1. Evaluate potential presence of POCs (including PCBs) at construction sites, current material handling and disposal regulations/programs (e.g., municipal ordinances, RCRA, TSCA) and current level of implementation.</p>	<p>Submit report evaluating current regulations and level of implementation and identifying shortfall in Year 1 report.</p>
		<p>2. Develop sampling and analysis plan (includes research on when, where and which construction materials potentially contained PCBs).</p>	<p>Submit a sampling and analysis plan in Year 1 report.</p>
		<p>3. Implement sampling and analysis program.</p>	<p>Submit a report with results and recommendations for next steps in Year 2 report.</p>
		<p>4. Develop/select proposed BMPs to reduce or prevent discharges of PCBs during building demolition/remodeling. The BMPs will focus on methods to identify, handle, contain, transport and properly dispose of PCB-containing building materials.</p>	<p>Submit a report of BMPs in Year 3 report.</p>
		<p>5. Develop a model implementation program and pilot test BMPs, including developing model municipal regulatory controls/policies and a program to train and deploy inspectors.</p>	<p>Submit a report on the results of pilot program effectiveness in Year 4 report.</p>
<p>1.2.2 Evaluate construction site erosion control. The goal is to ensure that current construction site stormwater pollution programs minimize or prevent discharges of sediment and potentially associated particle-bound POCs. <u>This is unlikely to be a big deal for PCBs at most construction sites. This might be an issue since this is the only action on this list in category 1 that is an actual action. All other Category 1 items are paper exercise.</u></p>	<p>Develop a regional pilot project.</p>	<p>1. Evaluate existing construction site erosion control programs for potential release of PCBs.</p>	<p>Submit a report evaluating program effectiveness and recommending improvements, if needed in Year 1 report.</p>
<p>2. Investigation and Abatement of Areas with Elevated PCBs in Soils/Sediments</p>			
<p>2.1 Drainage-focused Activities</p>			
<p>2.1.1 Investigate and abate on-land drainages with elevated PCBs in soils and/or sediments. The goal is to identify and abate PCB source areas, including private properties, public right-of-ways and stormwater conveyances with accumulated sediments.</p>	<p>Implement a project in each county.</p>	<p>1. Interview municipal staff and review municipal databases, other agency files, and other available information to identify potential PCB source areas and areas where sediment accumulates, including within stormwater conveyances.</p>	

Description of Action and Objectives	Level of Implementation	Control Measure Tasks	Reporting Requirements and Schedule
		2. Conduct surveys of the drainage to further identify potential source properties, using a checklist of attributes associated with past or current use of PCBs. Examine sediment accumulation areas and evaluate mobilization potential.	Submit a report on suspect properties and sediment accumulation areas in Year 1 report.
		3. Test sediments and soils from suspect properties and/or conveyances for PCBs to help identify where abatement efforts should be focused.	Submit a report on sampling and analysis results in Year 2 report.
		4. Identify/evaluate funding and/or responsible parties to perform abatement, abatement options, and which agencies and regulatory programs should provide oversight for abatement activities (e.g., USEPA, CERCLA, DTSC, State CAA, municipal ordinances). Identify areas for expedited abatement based upon loading potential including factors such as PCB concentration, mass of sediment and mobilization potential) and/or human health thresholds such as CHSSLs ₂ .	Submit a report on proposed remedial activities, funding, agency oversight and schedule in Year 3 report.
		5. Conduct abatement program. ³	Submit a report results of pilot program effectiveness in Year 4 report.
3. Soil / Sediment Control			
3.1 Routine sediment management practices:			
3.1.1 Using existing information evaluate the frequency of routine sediment management practices including street sweeping and maintenance of stormwater conveyance facilities (e.g., storm drain inlets, pump stations, channels, detention facilities). The goal is to evaluate the cost-effectiveness relative to reducing pollutant loads of increasing current typical frequencies.	Implement in each county.	1. Complete ongoing desktop studies using existing information to evaluate the cost-effectiveness relative to reducing pollutant loads of increasing current typical frequencies.	Submit a report that evaluating maintenance practice frequency based on existing data and providing recommendations for next steps, if needed in Year 1 report.

Description of Action and Objectives	Level of Implementation	Control Measure Tasks	Reporting Requirements and Schedule
3.1.2 Evaluate existing information on high-efficiency street sweepers. The goal is to evaluate the cost-effectiveness of high-efficiency street sweeping relative to reducing pollutant loads.	Develop a regional pilot project.	1. Compile and evaluate existing information on street sweeper efficiency .	Submit a report evaluating existing information on the cost-effectiveness of using high-efficiency street sweepers and, if needed, providing recommendations for follow-up studies in Year 1 report.
Add another row as a placeholder to implement 3.1.1 and 3.1.2 if deemed worthwhile.			
4. Stormwater Treatment			
4.1 Stormwater runoff treatment retrofits for fine sediment control:			
4.1.1 Evaluate existing information on stormwater treatment retrofits in context of all BMPs for PCBs and other particle-bound pollutants. The goal is to determine whether stormwater treatment retrofits are a potentially cost-effective method to address PCBs and other particle-bound pollutants, and if so, to compile information to inform pilot-testing design.	Develop a regional pilot project.	1. Research and evaluate existing information on stormwater treatment retrofits in context of all BMPs for PCBs and other particle-bound pollutants.	Submit a report that evaluates existing information on stormwater treatment retrofits in context of all BMPs for PCBs and other particle-bound pollutants and, if needed, compiles information to inform pilot-testing design in Year 1 report.
4.1.2 Install treatment systems. The goal is to use stormwater treatment retrofits to remove PCBs from stormwater discharges.	Develop a regional pilot project.	1. Identify locations that present opportunities to install treatment systems (i.e., detention basins, sand filters, infiltration basins, wetlands) and assess the best treatment option for those locations. This assessment should identify potential sites draining a variety of landuse types throughout all program areas and discuss feasibility/economic issues.	Submit a report on candidate sites and proposed treatment type for those sites. Report should include assessment of at least 15 sites spanning all program areas and provide recommendation for five sites for pilot studies in Year 1 report.
		2. Perform pilot studies. Pilots should span treatment types and drainage characteristics (e.g., particle size distribution).	Submit a report results of pilot program effectiveness in Year 4 report.

Description of Action and Objectives	Level of Implementation	Control Measure Tasks	Reporting Requirements and Schedule
<p>3. Add row to Implement on a large scale if appropriate.</p>			
<p>4.2 Stormwater treatment by POTWs:</p>			
<p>4.2.1 Route stormwater discharges to POTW. The goal is to use POTWs to remove PCBs and other pollutants from stormwater discharges.</p>	<p>Develop a regional pilot project.</p>	<p>1. Prepare list of existing pump stations in urbanized areas, evaluate drainage area for the presence of PCBs and evaluate the feasibility of routing to POTWs. The purpose is to identify candidate opportunities. Work with BACWA to work out program structure, including cost sharing agreements.</p>	<p>Submit a report on the list of pump stations, their drainages and feasibility considerations with routing to POTW for each pump station in Year 1 report.</p>
		<p>2. Implement pilot studies in 3 to 4 locations to represent a range of conditions and land uses.</p>	<p>Submit a report results of pilot program effectiveness in Year 4 report.</p>
<p>3. Add row to Implement on a large scale if appropriate.</p>			
<p>5. Other Activities</p>			
<p>5.1 Development of a risk reduction program</p>			
<p>5.2 Fate and transport studies</p>	<p>Implement in each county.</p>	<p>By participating in RMP or equivalent, conduct or cause to be conducted studies aimed at better understanding PCBs fate, transport, and biological uptake in San Francisco Bay and tidal areas.</p>	<p>Reporting by RMP or equivalent program (as completed).</p>

Description of Action and Objectives	Level of Implementation	Control Measure Tasks	Reporting Requirements and Schedule
5.3 Consult with Caltrans regarding Caltrans portion of allocation	Implement throughout region.	Develop an equitable allocation-sharing scheme in consultation with Caltrans to address Caltrans roadway and non-roadway facilities in the program area.	Submit a report the details to the Water Board in Year 1 report.
6. Monitoring Activities			
6.1 Estimating stormwater loads or loads avoided	Implement in each county.	Develop a monitoring system to quantify either PCBs loads or loads reduced through treatment, source control, and other management efforts. Perform in conjunction with Task #2..	Submit a PCB monitoring plan in Year 1 report.
	Implement in each county.	Demonstrate progress toward (a) the interim loading milestone, or (b) attainment of the program area allocations, by using one of the following methods: 1) Quantify the annual average PCBs load reduced by implementing control measures; 2) Quantify the PCBs load as a rolling five-year annual average using data on flow and water column PCBs concentrations; or, 3) Quantitatively demonstrate that the PCBs concentration of suspended sediment that best represents sediment discharged with urban runoff is below the suspended sediment target. This language does not work well for PCBs: e.g. no sediment target and expensive water column analytical method. I'll work on this.	Submit a PCB monitoring result report in Year 4 report.

Notes:

- 1 - Steps are in chronological order and should be completed within the first four years of the five-year permit term, unless a step is cancelled following a decision point.
- 2 - The schedule is based on evaluating each BMP on a technical and standalone basis.
- 3 - Potential abatement options include the following:
 - Soil/sediment removal and treatment or proper disposal.
 - Capping to prevent pollutant mobilization.
 - Paved surface cleaning (e.g., high-efficiency street sweeping or power washing with capture and proper disposal of rinsate).
 - Stormwater treatment.
 - Removal of sediments at point of discharge and treatment or proper disposal.

13. Pollutant of Concern Provisions for Copper

In accordance with Provision C.x and Findings xx and xx of this Order, the Permittees shall implement control programs for pollutants that have the reasonable potential to cause or contribute to exceedances of water quality standards or Basin Plan objectives. The control program for copper is detailed in the following table. Permittees shall perform the control measures and accomplish the reporting on those control measures according to the instructions and schedule in the following table.

Goal of Control Measure	Permit Provisions	
	Control Measure Actions	Reporting Requirements and Schedule
1. Architectural Copper		
1.1 Collect Copper Wastewater During Construction		
1.1.1 Prevent storm drain discharges of waste solutions generated from cleaning and treating copper architectural features. These treatments occur when a roof is installed.	1. Complete a municipality-specific update to accepted best management practices for wastewater from building surface cleaning activities to provide specific instructions for collecting, testing to determine waste classification, and managing solutions from cleaning & treating architectural copper features.	Submit a report containing municipality-specific instructions in the year 1 report.
	2. Establish procedures for ensuring and enforcing compliance. Each municipality shall select option (a) or (b). <i>Option (a):</i> Coordinate enforcement with copper roof building permit issuance. Provide BMPs when building permit is issued for copper roof installation. Inspect a percentage of sites to ensure compliance with BMPs. <i>Option (b):</i> Annual training of copper roof installers about required BMPs and routine enforcement of illicit discharge provisions of permit.	In the year 2 report, notify Water Board of selected option. If Option (b), submit training program plan for annual training contacts with at least 95% of copper roof installation companies annually. For either option, design program to achieve at least 100% compliance within 2 years.
	3. Beginning in year 3, implement selected program.	In the year 4 report, report percent of installations inspected and compliance rate or percent of copper roof installers trained - depending on option chosen.

Goal of Control Measure	Control Measure Actions	Reporting Requirements and Schedule
	4. Prepare evaluation to assess MEP update for next permit term.	In Year 4 report , evaluate effectiveness of the control measures for this source to determine if updates are necessary for next permit term. For example - if compliance rates are not adequate, how might control measures be modified to improve compliance? What additional inspections or enforcement may be necessary.
1.2 Washwater management from copper roofs		
Require mandatory washwater management for copper roofs. Direct discharges to stormdrains of washwaters will be prohibited by ordinance 1.2.1 Develop model ordinance language 1.2.2 Adopt ordinances to control washwater from copper roofs	1A. Develop model ordinance language for prohibiting the discharge of washwater from copper architectural features	In year 2 report , submit model ordinance language. This can be one regional product.
	1B. Or, certify that legal authority already exists to accomplish the required washwater management without developing the ordinance.	In year 2 report , submit a schedule and plan for adopting the model ordinance OR report on the nature of the existing legal authority to accomplish the required management and a plan for implementing/enforcing that authority.
		In year 3 , report on adopted final ordinances and submit copy of adopted ordinances, (if option 1A). Report on progress on implementing/enforcing the existing legal authority (if option 1B).
	2. Adopt municipality-specific ordinance (if implementing option 1A).	In year 4 report , This report shall include consideration of additional or revised measures to update MEP findings for next permit term. This evaluation should address the whether or not the control measures put in place for this source are adequate for the next permit term and what more should be accomplished in the next permit term to address this source.
2. Copper-Containing Pesticides		
2.1 Pool, Spa, and Fountain Algaecide Control Measures		
2.1.1 Prohibit pool, spa, or fountain discharge containing copper to stormdrain. Require Installation of Appropriate Sewer Discharge Connections for Pools, Spas, and Fountains and that backwash be discharged to the sewer.	1A. Develop model ordinance language for prohibiting storm drain discharges of swimming pools, spas, and fountains.	In Year 2 report , submit model ordinance language. This can be one regional product.

Goal of Control Measure	Control Measure Actions	Reporting Requirements and Schedule
	1B. Or, certify that legal authority already exists to prohibit such discharge without developing the ordinance.	In year 2 report , submit a schedule and plan for adopting the model ordinance OR report on the nature of the existing legal authority and a plan for implementing/enforcing that authority.
	2. Adopt municipality-specific ordinance (if implementing option 1A).	In year 3 , report on adopted final ordinance. the ordinance and submit copy. (if option 1A) or on progress on implementing/enforcing the existing legal authority (if option 1B).
		In year 4 report This report shall include consideration of additional or revised measures to update MEP findings for next permit term. This evaluation should address the whether or not the control measures put in place for this source are adequate for the next permit term and what more should be accomplished in the next permit term to address this source.

3. Vehicle Brake Pads

The objectives of the control measures in this section are to avoid, minimize, or mitigate the amount of copper originating from automobile brake pads reaching the Bay via Urban Runoff. The control measures will include efforts aimed at avoiding/minimizing the release of copper from the brake pads by reducing the amount of copper on the pad. There are also control measures aimed at mitigating the impacts of copper that is released in the program areas.

3.1 Source Control of copper from automobile brake pads - a possible outcome of the Brake Pad Partnership may be an agreement by brake pad manufacturers to voluntarily reduce the amount of copper in original equipment automobile brake pads.

3.1.1 Participate in the Brake Pad Partnership (BPP) process and track upcoming decision point regarding brake pad copper content at conclusion of prop 13 study	1. Participate in BPP and track decision point expected in 2007 re potential actions by manufacturers to reduce copper content.	In year 1 or year 2 report - depending upon progress of the Brake Pad Partnership project, report on outcome in yearly report after decision point in this project.
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3.2 System Design, Operation, and Maintenance - efforts to avoid/minimize the amount of copper reaching the watersheds will not be completely effective. Therefore, efforts aimed at minimizing the amount of copper reaching the Bay via urban runoff conveyances will also be necessary as part of the control program satisfying MEP.

Goal of Control Measure	Control Measure Actions	Reporting Requirements and Schedule
3.2.1 Implement enhanced system design, operation, and maintenance efforts in a number of locations for copper control.	1. Each program will conduct a focused implementation pilot test in at least one location to enhance collection system design, operation, and maintenance. Appropriate locations are those likely to be affected by brake pad wear debris. The purpose of these pilot tests is to minimize the amount of brakepad-associated copper reaching the Bay. These pilots may involve retrofits, street sweeping, cleanouts, etc. Pilots to be performed in years 2 -4.	In year 4 report , report on design of pilot tests along with effectiveness and prospects for increasing efforts throughout region.
3.3 MEP update report		
3.3.1 Prepare report to update MEP	1. Prepare evaluation of the effectiveness of addressing copper from brake pads. Based on outcomes of 3.1-3.2, the programs will know whether additional or expanded efforts are necessary and will know the prospects for controlling this source through system improvements.	In year 4 report , submit the effectiveness evaluation for controlling brake pad copper. The evaluation will include consideration of additional pollution prevention, treatment controls, and enhancements to system design, operation and maintenance enhancements based on outcomes of pilot tests.
4. Industrial Sources		
4.1 Ensure compliance with BMPs for control of copper where it is used consistent with adequate industrial stormwater inspection and enforcement.	1. Identify industrial sources using copper (plating facilities, metal finishers, auto dismantlers)	Include in Annual Report as highlighted excerpts from Industrial Inspection reporting.
	2. As part of inspections component of industrial stormwater, ensure that proper BMPs are in place to minimize discharge of copper to stormdrains, including consideration of roof runoff caused by deposition of copper from ventilation systems on site.	In Year 4 , report on steps 1 and 2 (status of BMP implementation and compliance) as well as consideration of MEP updates to control measures for this source for next permit term.

14. Exempt and Conditionally Exempt Non-Stormwater Discharges

1. Exempt Non-Stormwater Discharges		
Task Description	Level of Implementation	Recording/Reporting
<p>a. The following unpolluted discharges shall be exempted from prohibition of non-stormwater discharges:</p> <ul style="list-style-type: none"> i. Flows from riparian habitats or wetlands; ii. Diverted stream flows; iii. Flows from natural springs; iv. Rising ground waters; and v. Uncontaminated groundwater infiltration. 	<p>The non-stormwater discharges list in Task “a” of this section shall be exempted unless they are identified as sources of pollutants to receiving waters.</p>	<p>No reporting required</p>
<p>2. Conditionally Exempt Non-Stormwater Discharges: Permittees shall effectively prohibit the following non-stormwater discharges into their storm drains unless such discharges are either authorized by a separate NPDES permit or are not in violation of water quality standards by implementing appropriate Performance Standards and BMPs for conditionally exempt non-stormwater discharges to reduce pollutants to the maximum extent practicable. Performance Standards and BMPs shall in all cases include adequate monitoring and reporting by the discharging responsible party to the Permittee to verify no pollutant impact from the Exempt Non-Stormwater Discharge, if a treatment BMP is employed.</p> <p>[What follows in highlight is the language from the Alameda permit without the references to Management Plans]</p> <p>b. Conditionally Exempted Discharges: The following non-stormwater discharges are not prohibited if they are either identified by the Permittees or the Regional Board as not being sources of pollutants to receiving waters or if appropriate control measures to minimize the adverse impacts of such sources are developed and implemented accordance with Provision C.XX.c.:</p> <p>c. The Permittees shall identify and describe the categories of discharges listed in C.XX b. which they wish to exempt from Prohibition A.1 in periodic submissions to the Regional Board. For each such category, the Discharger shall identify and describe as necessary and appropriate to the category either documentation that the discharges are not sources of pollutants to receiving waters or circumstances in which they are not found to be sources of pollutants to receiving waters. Otherwise, the Discharger shall describe control measures to reduce pollutants that will eliminate the adverse impacts of such sources, procedures and Performance Standards for their implementation, procedures for notifying the Regional Board of these discharges, and procedures for monitoring and record management.</p> <p>d. Permit Authorization for Exempted Discharges</p> <ul style="list-style-type: none"> i. Discharges of non-stormwater from sources owned or operated by the Permittees are authorized and permitted by this Order, 		

14. Exempt and Conditionally Exempt Non-Stormwater Discharges

if they are in accordance with the conditions of this provision and the Plan.

ii. The Regional Board may require dischargers of non-stormwater other than the Permittees to apply for and obtain coverage under an NPDES permit and comply with the control measures developed by the Discharger pursuant to Provision C.XX. Non-stormwater discharges that are in compliance with such control measures may be accepted by the Discharger and are not subject to Prohibition A.1.

iii. The Discharger may propose, as part of their annual updates to the Plan under Provision C.6 of this Order, additional categories of non-stormwater discharges to be included in the exemption to Discharge Prohibition A.1. Such proposals are subject to approval only by modification of this permit.

<p>a. Pumped Groundwater, Foundation Drains, Water from Crawl Space Pumps and Footing Drains</p> <p>i. Dischargers shall prohibit discharge of untreated polluted groundwater to storm drains.</p> <p>ii. Dischargers shall properly treat polluted groundwater before discharge.</p> <p>iii. Dischargers shall comply with existing discharge requirements to protect water quality.</p> <p>iv. Dischargers shall notify and report to the Water Board and local agencies before creating a new discharge location of unpolluted groundwater to storm drains.</p> <p>v. Appropriate BMPs to render</p>	<p>i. Discharge of untreated polluted groundwater into waters of the State is prohibited. Dischargers shall ensure the discharges from the categories cited in Task “a” of this provision are consistent with the requirements described below.</p> <p>ii. Discharges shall implement sampling, treatment (if required and necessary), monitoring and discharge protocols to prevent pollutant discharges to waters of the State. Sampling parameters may include, but not limited to, pH, temperature, conductivity, chlorine residuals, total suspended solids, heavy metals, oil and grease, semi-volatile and volatile organics and pesticides. (Sampling parameter lists and requirements may be modified based on the nature of the discharge and land use history of a project site.)</p> <p>iii. Dischargers shall sample and analyze water samples using approved EPA Methods (e.g., (a) EPA Method 160.2 for total suspended solids; (b) EPA Method 8015 Modified for total petroleum hydrocarbons; (c) EPA Method 8260 or equivalent for volatile organic compounds; and (d) EPA Method 3005 for metals.</p> <p>iv. Dischargers shall monitor discharges on the first two consecutive days of dewatering, and once a month thereafter at a minimum,</p>	<p>i. Dischargers shall submit workplans for polluted groundwater discharges dischargers that require monitoring, treatment, and discharge permit from the Water Board.</p> <p>ii. Discharges that require Water Board approval shall be subject to submittal of monitoring report.</p>
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14. Exempt and Conditionally Exempt Non-Stormwater Discharges

<p>pumped groundwater exempt may include: filtration, settling, coagulant application with no residual coagulant discharge, minor odor or color removal with activated carbon, peroxide addition or other minor treatment.</p>	<p>and more frequently if necessary. If a pumped groundwater discharge is established as unpolluted, no monitoring is required unless new indications of pollution are observed.</p> <p>v. Dischargers shall maintain turbidity of discharged water below 50 NTUs for discharges to dry creeks or storm drains. If receiving water is above 50 NTU, discharge will not exceed background turbidity by more than 10%.</p> <p>vi. Dischargers shall maintain pH of discharged water within the range of 6.5 to 8.5.</p> <p>vii. Discharges from dewatering activities shall only be allowed to storm drain collection systems if there are no other feasible disposal alternatives (e.g., disposal to sanitary sewer).</p> <p>viii. Dischargers shall control and maintain discharge of unpolluted or treated groundwater to prevent erosion at the discharge point; and at a rate that avoids scouring of banks and excess sedimentation in the receiving water body.</p> <p>ix. Dischargers shall notify local authorities and interested regulatory agencies prior to discharge or diverting stream flows.</p> <p>x. Discharge of treated groundwater shall be authorized by the Water Board. Such discharges shall meet water quality standards consistent with the existing effluent limitations in the NPDES General Permit for “Discharge or Reuse of Extracted and Treated Groundwater Resulting from the Cleanup of Groundwater Polluted by VOCs”.</p>	
<p>b. Irrigation Water, Landscape Irrigation, Lawn and Garden Watering</p>	<p>See Provision, regarding pesticide / diazinon Pollutants of Concern.</p>	
<p>c. Air Conditioning Condensate</p> <p>i. Where feasible, Dischargers shall discharge condensate to ground.</p>	<p>i. Discharges from air conditioning condensate shall only be allowed to storm drain collection systems if there are no other feasible disposal alternatives (e.g., disposal to sanitary sewer or landscaped areas). If discharges are allowed to the storm drain collection</p>	<p>Dischargers shall report planned major direct discharges from commercial and industrial</p>

14. Exempt and Conditionally Exempt Non-Stormwater Discharges

<ul style="list-style-type: none"> ii. Dischargers shall implement effective BMPs to control and maintain discharge rate from air conditioning condensates to avoid scouring and sediment transport at receiving water body. iii. Dischargers shall report planned major direct discharges from commercial or industrial cooling towers or facilities unless already permitted under separate NPDES permits 	<p>system, the Dischargers shall use a pipe or trough to direct the flow. Permittees shall not allow discharges to run across parking lots or other paved surfaces where it may come in contact with pollutants prior to reaching the storm drain.</p> <ul style="list-style-type: none"> ii. Discharges to the storm drain collection systems shall not be allowed if the condensate has been treated with algae inhibitors, corrosion control chemicals or other additives. iii. For large, new air conditioning units, Dischargers shall direct condensate wastewater to the sanitary sewer. Direct discharges of condensate to storm drains shall be prohibited unless adequate treatment measures are in place to meet water quality standards. iv. All waste anti-algal or descaling agents shall be properly disposed of at certified solid waste disposal facilities. v. Permittees shall develop and distribute outreach materials to businesses and homeowners to implement the BMPs described above for discharge or disposal. 	<p>cooling towers or facilities unless already covered under NPDES permit.</p>
<p>d. Planned and Unplanned Discharges from Potable Water Sources Including but not Limited to Water Conveyance Systems and Hydrant Flushing</p> <ul style="list-style-type: none"> i. Where feasible, Dischargers shall avoid or minimize direct discharges from potable water sourced to water courses. ii. Dischargers shall implement appropriate dechlorination and dechloramination BMPs to minimize direct and indirect impacts associated with such discharges to waters of the State, and render chlorine and chloramines pollutant 	<ul style="list-style-type: none"> i. Dischargers shall check and clear potential flow path and sweep up leaves and litter in flow path to reduce pollutant dischargers to receiving water courses. ii. Dischargers shall clean out storm drain inlets/catch basins where discharges may enter. iii. If proper reuse of discharges is infeasible, Dischargers shall direct flow to pavement and protect landscaped areas (unpaved areas) from erosion. iv. Dischargers shall install flushing diffusers with dechlorination tablets so that discharges meet water quality standards. v. To meet effluent limitations, Dischargers shall install structural barriers (e.g., silt sacks/sand bags with dechlorination tablets) to neutralize the discharge to meet water quality standards. 	<ul style="list-style-type: none"> i. For discharges in excess of 50,000 gallons [placeholder: check against General Permit for water treatment plants], Dischargers shall report either to local POTWs if discharged to sanitary sewer or to Water Board if discharged to storm drains and other water courses. ii. All unauthorized and/or unplanned discharges shall be

14. Exempt and Conditionally Exempt Non-Stormwater Discharges

<p>concentrations below aquatic toxicity levels.</p> <p>iii. Dischargers shall report discharge incidents and implemented BMPs to municipalities and the Water Board.</p>	<p>vi. If discharge volume is more than 50,000 gallons [placeholder: check against General Permit for water treatment plants], Dischargers shall consider discharging it to sanitary sewer by obtaining approval from appropriate POTWs.</p> <p>vii. For discharges in excess of 50,000 gallons [placeholder: check against General Permit for water treatment plants]and where discharge to sanitary sewer is not accessible or feasible, Dischargers shall notify Water Board. They shall demonstrate that discharges from water lines and potable water sources are monitored for chlorine residuals, total suspended solids, temperature, pH, and conductivity to ensure discharges meet water quality standards.</p> <p>iii. Dischargers shall record discharge flow rate, volume, and duration and that the flow rate is controlled to prevent sediment transport prior to their discharge to the storm drain, as necessary.</p> <p>ix. For unplanned discharges, Dischargers shall immediately implement correction control measures or reduce the discharge flow, as possible while proceeding with repairs. Dischargers shall also implement BMPs for erosion and chlorine discharge controls.</p>	<p>immediately notified and reported to local municipalities and Water Board within 24 hours after the incident. The report shall include full assessment of the incident and corrective actions taken to abate and mitigate the problem.</p>
<p>e. Individual Residential Car Washing</p> <p>i. Permittees shall discourage individual residential car washing within their jurisdictional areas.</p> <p>ii. Permittees shall encourage individual car washing at commercial car facilities by promoting targeted public outreach activities.</p>	<p>i. To reduce pollutants from residential car washing discharges, Permittees shall conduct targeted public outreach to residents. Such public outreach messages may include, but are not limited to (a) having cars washed at commercial facilities that are connected to the sanitary sewer; (b) not using soap; (c) minimizing water use; and (d) washing cars over landscaped areas.</p>	
<p>f. Discharges of Flows from Emergency Fire Fighting Activities</p> <p>i. Dischargers shall minimize direct</p>	<p>i. During emergency fire fighting situations, priority of efforts will be directed towards life, property, and the environment (in descending order). Fire fighting personnel shall control the pollution threat from their activities to the extent that time and</p>	

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<p>discharges of flows from emergency fire fighting activities to storm drain where applicable.</p> <p>ii. Dischargers shall implement BMPs for erosion and sediment controls where feasible.</p>	<p>resources allow. Efforts may include, but are not limited to, the plugging of the storm drain collection system for temporary storage and the proper disposal of water according to jurisdictional requirements.</p>	
<p>g. Swimming Pool, Hot Tub, Spa, and Fountain Water Discharges.</p> <p>i. Permittees shall prohibit and enforce against direct unauthorized and unmanaged discharges from these facilities to storm drain.</p> <p>ii. Dischargers shall implement appropriate BMPs to reduce pollutant levels prior to discharge.</p> <p>iii. Dischargers shall report authorized major discharges (\geq 1000 gal.) to the Water Board and local municipalities.</p> <p>iv. Filter backwash discharge to the storm drain is prohibited. Dischargers shall properly dispose of filter backwash from operations of pools and spas.</p>	<p>i. Discharges from swimming pools, hot tubs, spas and fountains shall only be allowed to storm drain collection systems if there are no other feasible disposal alternatives (e.g., disposal to sanitary sewer or landscaped areas).</p> <p>ii. Where feasible, Permittees shall ensure that new or remodeled swimming pools, hot tubs, spas and fountains within their jurisdictional areas are connected to the sanitary sewer.</p> <p>iii. In areas where discharge to the sanitary sewer is not accessible or feasible, Dischargers shall demonstrate that discharges from swimming pools, hot tubs, spas and fountains are dechlorinated; and that the flow rate is controlled to prevent sediment transport before their discharge to the storm drain, as necessary.</p> <p>iv. Dischargers shall ensure that discharges do not contain copper-based algaecide products which have the potential to violate water quality standards and degrade beneficial uses of receiving water bodies.</p> <p>v. Where discharge to land is the only option, Dischargers shall obtain approval of the property owner of the place of discharge prior to discharge.</p> <p>vi. Dischargers shall ensure that landscape discharges shall not occur on saturated soils and shall monitor the discharge rate to avoid runoff from reaching nearby waterways.</p> <p>vii. Dischargers shall prohibit discharge of water that contains chlorine residual or other pollutants to storm drain collection systems or water bodies.</p>	<p>i. Dischargers shall report authorized major discharges (\geq 1000 gal.) to the Water Board and local municipalities that the discharges are in compliance with water quality objectives.</p>

14. Exempt and Conditionally Exempt Non-Stormwater Discharges

	<p>viii. Filter backwash waste materials shall be collected and disposed of to appropriate disposal facilities or an upland area.</p> <p>ix. Where feasible, Dischargers shall upgrade pools to have automated cleaning systems that treat and recycle filter backwash.</p>	
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Separate issue from Conditionally Exempt Discharges
 Suggest it belongs with ICID

Baseline List of BMPs	Level of Implementation	Recording/Reporting
<p>Permittees shall prohibit unauthorized discharges from mobile cleaning activities to storm drains. (e.g., pressure washing, carpet cleaning and any company that generates waste wash water). Such discharges shall only be allowed to sanitary sewer with the approval of local POTWs.</p>	<p>i. Dischargers shall use existing BASMAA guidance as a starting point to regulate and enforce dischargers from mobile cleaning activities.</p> <p>ii. Municipalities shall look for ways to make the certification process more stringent and a “level playing field” between contractors who are on the BASMAA list.</p>	

15. Annual Reports

a. Annual Reports

The Permittees shall submit an Annual Report to the Regional Board by September 15 of each year, documenting the implementation of the Permit Requirements through the Permittees' permit required activities during the previous July 1 to June 30 fiscal year. Required reporting is specified in the Provisions of this Order.

As part of the Annual Report process, each Permittee shall evaluate the effectiveness of the activities completed during the reporting period.

The annual report shall be submitted in electronic format. Each Permittee shall provide a signed statement of reporting accuracy including the standard statement that the report is submitted with the understanding that false statements are subject to perjury penalty. Signatures statements may be submitted non-electronically in the absence of electronic signature protocol between the Permittees and the WaterBoard staff.

16. Modifications to this Order: This Order may be modified, revoked or reissued prior to the expiration date by the Water Board in accordance with and as authorized by the Water Code and Title 23 of the California Code of Regulations on waste discharge requirements and by 40 C.F.R. §§ 122.41(f), 122.62, 122.63, 122.64. For example, this Order may be modified to:

- a. Address changed conditions identified in required reports or other sources deemed significant by the Water Board;
- b. Incorporate applicable requirements of statewide water quality control plans adopted by the State Board or amendments to the Basin Plan, including total maximum daily loads; or
- c. Comply with any applicable requirements, guidelines, and/or regulations issued or approved under Section 402(p) of the CWA, if the requirement, guideline, or regulation so issued or approved contains different conditions or additional requirements not provided for in this Order; and
- d. Consider any other federal or state laws or regulations that became effective after adoption of this Order.

17. Each of the Permittees shall comply with all parts of the Standard Provisions contained in Appendix A of this Order.

18. This Order expires on XXX, 200X, five years from the date of adoption of this Order by the Regional Board. The Permittees must file a Report of Waste Discharge in accordance with Title 23, California Code of Regulations, not later than 180 days in advance of such date as application for reissuance of waste discharge requirements.

19. Order Nos. XXXX and XX-XXXX are hereby rescinded.

I, Bruce Wolfe, Executive Officer, do hereby certify that the foregoing is a full, true, and correct copy of an Order adopted by the California Regional Water Quality Control Board, San Francisco Bay Region, on XXXXX, 2007.

Bruce Wolfe
Executive Officer

APPENDICES: Definition of Terms
 Table 1. Summary of Annual and One-Time Reporting Requirements

STANDARD PROVISIONS

ATTACHMENT A - Municipalities and Major Open Creeks and Water bodies the Region